

90
J764
1990a

The Decision-making Framework for Transportation in the 1990s

**A report
to Governor Jim Florio
from the
Transportation Executive Council
Tom Downs, Chairman**

September 26, 1990

New Jersey State Library

The Decision-making Framework for Transportation in the 1990s

**A report
to Governor Jim Florio
from the
Transportation Executive Council
Tom Downs, Chairman**

September 26, 1990

Table of Contents

Executive Summary	3
I. Profile of NJ's Transportation Network	6
II. The 1990s: A New Era	11
Opportunities	13
Challenges	19
III. Policies for the New Decade	27
IV. Financial Resources	39
Appendix	
Local Outreach	i

Executive Summary

Background

The economic realities of the 1990s demand a strategy for transportation investment that will lead and shape development rather than react to growth. In an era when agencies must preserve and rebuild the systems constructed during the last several decades, there will not be enough money for many investments previously considered essential. Yet the increasing dominance of the global economy will make transportation ever more critical to the success of businesses and the New Jersey quality of life. Thus, the transportation investments made in this decade will play a major role in determining the attractiveness and economic success of New Jersey in the 21st century.

Indeed, the stakes are high enough and resources scarce enough that the state can no longer afford to have the various transportation agencies pursuing narrow, independent investment strategies. The state's collective investments must now form a larger, strategic, whole and not be simply an assortment of unrelated improvements.

For this reason Governor Jim Florio created the Transportation Executive Council (TEC) consisting of the chairs of each of the major transportation authorities as well as several key cabinet officers. Through Executive Order No. 10, the TEC is charged with developing an integrated and strategic statewide transportation investment plan.

In this first report to the Governor, the Council describes the economic and environmental context in which the transportation agencies will operate in the coming decade, and the primary opportunities and challenges that will drive transportation investments. Based on this, the TEC sets forth 10 policies that will be used to develop and shape transportation investments in the coming decade. Subsequent reports will detail individual strategies and projects linked to these policies.

Policy Themes

These policies mark the first time that the transportation agencies in the state have agreed on a common framework within which to develop their capital programs. The framework itself also represents a significant departure from past planning efforts. The policies clearly place infrastructure preservation as the number one priority. But with equal clarity the report indicates that simply preserving the status quo is not enough for New Jersey. The Council calls for investment in several strategic opportunities that can leverage the economic competitiveness of the state. Recognizing that resources are not available to do both, the Council sets forth a series of financial strategies aimed at increasing the state's flexibility in using available funds, controlling operating costs, and expanding resources, primarily by lifting the Transportation Trust Fund spending limit.

The proposed policies also reflect the increasingly complex values of the people of New Jersey who value mobility but equally value a high quality living environment. The policies call for greater emphasis on moving people rather than vehicles; greater investment in transit to serve intra-New Jersey travel and greater focus on using transportation to lead development in our cities where systems are in place to support new growth. Finally, the report, perhaps for the first time,

identifies goods movement and tourism as high priority transportation investment targets for the coming decade.

Report Summary

Several factors converged in the 1980s to fuel unprecedented growth which pushed New Jersey's economic frontiers into previously rural areas and clogged its roads and highways with traffic congestion. However, the economic trends of the 1990s suggest slower economic growth, less speculative investment in either housing or office construction and consequently a slowing of suburban sprawl and rush hour congestion. This slowdown may provide the needed opportunity to catch up on system maintenance and plan investments that will lead and shape future growth.

At the same time there are **five areas of strategic opportunity** where transportation investments made early in this decade can make a critical difference in New Jersey's competitiveness in the 21st century and in its quality of life.

- The logistics revolution of the previous decade will force high stakes competition for global gateway commerce in the early 1990s. With proper investment, New Jersey is well positioned to gain a greater share of this commerce.

- With the baby boom hitting its peak earning years there will be a greater emphasis on short duration leisure travel. A focus on relieving "get-a-way congestion" will help New Jersey capture a growing share of this growing market.

- Atlantic City is on the cusp of national and international success or possible decline. Transportation investments aimed at tapping a national and international market will help insure success.

- The market in some of New Jersey's urban areas appears to be sufficiently ripe to make infrastructure investments that will lead development to areas that can be supported by public transit and other public infrastructure.

- Electronic toll and highway management technology has moved from the laboratory to the road. Now is the time to experiment and invest in these systems to attack the congestion on our roads.

However, **eight challenges** must be met if New Jersey is to seize these opportunities.

- The network is aging faster than funds are available to repair it.
- The network is physically and operationally fragmented.
- Traffic congestion is threatening the state's quality of life.
- There are more jobs than workers.
- The environment is fragile and environmental considerations will drive and constrain transportation investments.
- The energy supply is uncertain.

- Public transit users must get a fair shake.

• Transportation funding is inadequate to maintain and renew the existing system and meet the challenges and opportunities of the 1990s.

To meet these challenges and exploit the opportunities in ways that are consistent with New Jersey's dual values of mobility and environmental quality, the Transportation Executive Council formulated **10 policies** that will guide the development of 1990s investments:

- Make system preservation the top priority and increase investments accordingly.
- Attack congestion without encouraging inappropriate land use.
- Make strategic investments to shape growth and leverage economic opportunity.
- Improve goods movement.
- Use transportation investments to tap a larger labor pool.
- Enhance recreational and tourism travel.
- Invest in connections.
- Move more people, not more vehicles.
- Integrate transportation and environmental goals.
- Improve planning coordination with county, local and private interests.

Finally the Council assessed the resources available to meet the challenges and opportunities. It found that while the authorities generally had adequate resources to meet both system preservation needs and modest investments for enhancements, growth in operating expenses and a slowing in traffic (and therefore revenue) growth was eroding what had been an exceedingly strong financial base. Moreover, the enhancements that are affordable must be part of the master strategy set forth here if their value to the state is to be fully realized. There is, however, a substantial gap between the strategic needs of the NJDOT and NJ TRANSIT and the revenue available to meet those needs.

In view of this overall gap, the Council sets forth **six financial strategies** aimed at closing it.

- Lift the Transportation Trust Fund cap to support increased investment.
- Seek greater funding flexibility.
- Control operating cost increases.
- Advocate restructured federal funding formulas.
- Increase cost-sharing with private sector.
- Make tough capital program decisions.

I. Profile of New Jersey's Transportation Network

New Jersey is served by a transportation network that is much more than roads and bridges. There are commuter and freight rail lines, ferries, commercial and general aviation facilities, buses, a subway system, large and small ocean ports and a wide array of special transit services, among others. Together, these transportation systems make up a network which serves the people of the state and connects New Jersey to the region and the world.

To help understand the vastness and complexity of New Jersey's transportation network, the following chart shows a few examples of the total use of the network each year.

Freight	
Ports	15 million long tons
Truck	123 million tons
Rail freight	19 million tons
Newark International Airport	1 million long tons
Passengers	
NJ TRANSIT bus/rail	160 million
PATH	60 million
Private bus companies	55.5 million
PATCO	14.6 million
Newark Subway	4 million
Vehicles	
Garden State Parkway	300 million
NJ Turnpike	200 million
Vehicle Miles Traveled	
ALL NJ ROADS	60 BILLION*
*the most heavily traveled in the nation	

The largest and most visible component of the transportation network is the **highway and bridge** system including over 6,000 bridges. Almost 34,000 miles of highways, toll roads, county roads and local streets crisscross New Jersey, linking the largest cities to the most remote hamlets. Every year New Jerseyans travel almost 2 million miles per mile of road. By contrast, Californians travel just about 1.2 million miles per mile of road annually. This volume gives New Jersey's roads a higher traffic density than those in any other state. It makes connecting the various systems vital to the efficiency of the total network.

Ownership and responsibility of New Jersey's roads and bridges is divided as follows:

Jurisdiction	Road Miles	Bridges
State	2,248	2,419
Municipalities & Counties	30,864	2,322
Independent authorities	351	1,158
"Orphan"*	—	152
TOTALS	33,463	6,051

*without clear ownership or jurisdiction

The state's **bus and rail systems** are extensive. Both NJ TRANSIT and Amtrak offer commuter service intra- and interstate. NJ TRANSIT serves 20 of the state's 21 counties, operating 1,868 buses over 154 routes and 12 rail lines serving 160 stations. More than 130 private bus operators are also active in 19 counties, most of them providing intra- or intercity service.

The **aviation** segment of New Jersey's transportation infrastructure consists of 574 airports, heliports and other aeronautical facilities, including 54 public use airports, most of which are privately owned and operated. Several of the public use airports are able to handle commercial passenger jet traffic. Newark International and Teterboro are operated by the Port Authority of New York-New Jersey. The Atlantic City airport serves the South Jersey region.

New Jersey has two large **water ports**, the publicly-owned deep-water marine terminal facilities in Port Newark/Elizabeth and Bayonne/Jersey City in the north and those along the Delaware River at Philadelphia to the south. In southern New Jersey, there are several public and private marine terminals in Camden, Gloucester City and Pennsauken. These facilities handle container, bulk and break bulk cargo.

The 1,330 miles of track comprising the rail freight system is another important piece of New Jersey's transportation system. More than 80% of the service is operated by Conrail but a number of shortline rail freight operators have emerged to take over service previously offered by Conrail or its predecessors. In addition, the northern part of the state is served by the New York, Susquehanna & Western and the Delaware & Hudson. The NY, S & W has emerged as an important local distributor and a major gateway for goods entering the state.

The goods imported into our rail, air and water ports are carried almost exclusively by truck over a vast array of roads in New Jersey.

New Jersey's Transportation Agencies

The complex transportation network that exists in New Jersey today began on the Indian paths, agricultural routes and tall ship ports of Colonial America. Different agencies of varying size and financial capability, transportation authorities and commissions, now operate separate systems that were established to serve specific needs that surfaced in past decades.

State

NJDOT and NJ TRANSIT. With antecedents dating back to the late 1600s, in 1966 New Jersey was the first state in the nation to create a Department of Transportation (NJDOT) to bring together under one agency the responsibility for coordinating and planning the highway, bus, rail and aviation components of the statewide transportation system.

NJDOT has jurisdiction over 2,248 miles of highway and 2,419 bridges. The NJDOT also monitors and licenses 574 aviation facilities statewide, including 54 public-use airports. In addition, the Department supports and monitors the programs of New Jersey's six transportation management associations which promote ridesharing alternatives to the single passenger commute.

To better serve bus and rail users, NJ TRANSIT was created in 1979 and is now the fourth largest public transit agency in the nation. NJ TRANSIT serves 290,000 bus and rail riders daily, including 13,000 passengers who ride the 4.3-mile-long Newark City Subway each day.

South Jersey Port Corporation. Created in 1968, this corporation operates two marine terminals in Camden. It handles 2.5 million long tons of cargo annually, with a \$1.5 billion direct economic impact on the surrounding area.

Bi-state port authorities

PANYNJ. The Port Authority of New York and New Jersey (PANYNJ) was established by bi-state compact in 1921. Its jurisdiction covers a 25-mile radius from the Statue of Liberty and includes four bridges and two tunnels crossing the Hudson River and serving more than 200 million vehicles a year. Nearly 72 million riders use its bus terminals annually and almost 57 million riders use the Port Authority Trans-Hudson (PATH) rail system.

The PANYNJ operates four airports, including Newark International Airport (NIA) and Teterboro, through which pass more than 74 million passengers a year and nearly 2 million short tons of cargo. Newark is the fastest growing international airport in the nation. Another 13 million long tons of cargo are processed through the Port Authority's marine terminals.

The PANYNJ also operates two heliports, a passenger ship terminal and rail and truck freight terminals and contracts for a trans-Hudson ferry service.

DRPA. The Delaware River Port Authority, created in 1951, operates four trans-Delaware toll bridges and the Port Authority Transit Corporation (PATCO), a rail system between Camden County and Philadelphia. PATCO serves approximately 40,000 commuters daily. More than 87 million vehicles cross the DRPA bridges each year.

The DRPA's charter gives it a wide range of potential responsibilities including the authority to acquire, build and operate marine terminals, if approved by both Pennsylvania and New Jersey Legislatures. To date, however, the actual port-related activity has been solely in the field of ports promotion. The World Trade Division promotes the ports of Philadelphia worldwide.

Toll and other road authorities

NJ Turnpike. The New Jersey Turnpike Authority, established in 1948, operates a 142-mile multi-lane road stretching from the Delaware Memorial Bridge to I-95 at the George Washington Bridge. The agency maintains 444 bridges, 13 service areas, and a thousand-space park and ride lot. The Turnpike carries more than 185 million vehicles annually.

Garden State Parkway. The New Jersey Highway Authority was created in 1952 to build and operate the 173-mile Garden State Parkway. Originally conceived of as the primary route from northern New Jersey and New York to the Jersey Shore, the Parkway runs from Cape May to Montvale. The 4-to-12 lane road has 488 bridges and carries more than 329 million vehicles a year. Most of the traffic, particularly in northern New Jersey, is commuter and short-trip traffic. The Authority also operates 18 commuter parking facilities, an arts center and a park and ride lot in Holmdel.

Expressway. The New Jersey Expressway Authority, created in 1962, runs the Atlantic City Expressway, which spans 42 miles from Route 42 in the west to Atlantic City in the east. The 4-to 6-lane roadway has 55 bridges and carries more than 42 million vehicles annually. It also operates a 2,400-space intercept parking area in Pleasantville near Atlantic City.

The Palisades Interstate Park Commission, established in 1937, operates 11.5-miles of road and 15 bridges on its New Jersey portion. More than 20 million vehicles travel this route annually.

Bridge authorities

The Delaware River Joint Toll Bridge Commission was established in 1934 and operates 20 bi-state bridges over the Delaware from Sussex to Burlington Counties. More than 100 million vehicles use these crossings annually.

The Cape May County Bridge Commission was created in 1938 to operate five toll drawbridges, one toll-free drawbridge and two toll-free fixed bridges. Local and tourist traffic account for virtually all of the six million vehicles that cross its bridges annually.

The Burlington County Bridge Commission, created in 1948, operates two bi-state toll bridges, five toll-free bridges and seven miles of road which serve more than 33 million vehicles per year.

Delaware River and Bay. The Delaware River and Bay Authority was set up in 1962 through a compact between Delaware and New Jersey. The Authority's Delaware Memorial Bridge serves almost 25 million vehicles each year. The Cape May-Lewes Ferry carries approximately 350,000 vehicles annually — just over one million commuters and tourists — across the Delaware Bay.

The Transportation Executive Council

In the past few years many in New Jersey have come to realize that if the original missions of each of the state's transportation agencies continue to be pursued without concern for the total network, the very people they serve will suffer from deteriorating services, air quality and overall quality of life, all of which can negatively affect the economy.

Because of this, Governor Jim Florio identified the coordination of transportation services as one of the priorities of his new administration. On June 6, 1990, in a historic move, he called the chairpersons of all transportation agencies together for the first time and charged them with the goal of designing a statewide agenda for all projects and jurisdictions.

Governor Florio created the Transportation Executive Council (TEC) by an executive order that requires its members to provide statewide recommendations on overall transportation policy, capital and operating investments and related fiscal matters.

The TEC is chaired by the Commissioner of Transportation. The executive order also established a Technical Advisory Group (TAG) comprised of the executive directors of the Council members to support the work of the TEC.

The first report: A decision-making framework

This is the first report to the Governor from the TEC. It presents the policies and recommendations that establish the framework for the TEC to use to make future transportation decisions. Subsequent reports will provide specific recommendations on projects within this framework.

The recommendations in this report were drawn from several simultaneous efforts. The TAG examined and analyzed the status of the state's current transportation services, from both the operating and capital sides and from regional perspectives. Its members met with representatives of New Jersey's 21 counties and seven largest municipalities to gain a better understanding of local needs and priorities.

This report also includes an overall financial assessment. It is the first time this has been attempted for all of the agencies. Each of the agencies and authorities is required to prepare and submit to the Commissioner of Transportation by the end of the year strategic business plans with clearly stated missions, goals, objectives, financial projections, capital programming criteria and performance indicators.

In the years to come, the TEC will continue to provide reports and recommendations to the Governor to ensure that the citizens of New Jersey derive the greatest benefit from the transportation network.

II. The 1990s: A New Era

The economic realities of the 1990s demand a strategy for transportation investment planning and decision-making. Transportation policy must shape and guide development, rather than react to growth. In an era when agencies must preserve and rebuild the systems constructed during the last several decades, there will not be enough money for many investments previously considered essential. Yet, the transportation investments that are made in this decade will play a major role in determining the economic success of New Jersey in the 21st century. In a global economy, transportation will be critical to the success of businesses and quality of life. Extremely difficult choices will have to be made.

The stakes are high enough and resources scarce enough that the state can no longer afford to have the various transportation entities pursuing narrow, independent investment strategies. The state's collective investments must now form a larger whole and not be simply an assortment of unrelated improvements.

Economic Trends

The '90s will not emulate the '80s either in growth of population and labor force or in the economy. Because factors that came together in the '80s are unlikely to converge again, forecasts must not be made from statistics from this past decade. For example, while jobs grew at the rate of 100,000 during the mid-'80s, the '90s are expected to see one half to one third of that rate. Slower economic growth will be the norm, with growth projections ranging from a low of .5% to a high of 1.5% annually.

Slower Suburban Growth. For the first time in the postwar era, the bottom of the housing market is eroding. The housing market may be substantially restrained and thus pressure for continued suburban development may be reduced. There will be more 35- to 54-year olds, the so-called "baby boom" generation, in the '90s, while the number of people in their 20s will decline by about 13.5%. The housing cycle will change because of the smaller number of young households placing less demand for "starter homes," and yielding slower sales of homes owned by 35- to 54-year olds and those ready to retire. Coupled with the tighter credit of this decade, these factors will result in less speculative expansion in undeveloped areas.

Nonetheless, experts say that growth in housing may continue in some areas of the state. They include the "Golden Triangle" of Routes 73, 70 and 38 in Burlington and Camden Counties and along Route 55

in Gloucester County. New industries, new highways, and affordable housing may prolong the housing boom in these locations.

Despite a declining demand for starter homes, it is important to note that not everyone could purchase a home during the boom of the '80s. Lower income families for whom most homes in the '80s were unaffordable and smaller single person households may generate considerable demand for affordable housing in the '90s. Several factors, especially zoning patterns, suggest that housing for these groups is likely to be available in the more developed areas of the state.

More discretionary income for leisure travel. New Jersey is already a high income state with incomes 133% of the national average. Workers in the 35- to 54-year age bracket are in their peak earning years. Expectations are that savings and discretionary income will increase, leading to more leisure travel. This will put even greater pressure on the highways leading to regional weekend vacation attractions and shopping areas.

No new growth corridors for office development. New Jersey, like the rest of the nation, is entering the '90s with a high office vacancy rate, a finance industry in the process of restructuring, and increasingly restrictive environmental regulations. These factors have led experts to predict a decline in speculative office development. With vacancy rates of up to 35% in many places, there is sufficient office space for the next five years. For these reasons, no new growth corridors are likely to emerge. Many believe that the bulk of the '90s economic infrastructure — office complexes, warehouses, and hotels — already exists. Growth will occur, but it will be a filling in and rounding out of existing developed areas. For example, the PANYNJ predicts that 25% of all job growth in Hudson, Bergen and Essex Counties in the '90s may take place on the Hudson River Waterfront.

Growth in international trade. In contrast to the slowdown of office development, international trade is expected to grow. New Jersey is in an excellent position to capitalize on the strength of the European marketplace and the changes which have taken place in goods movement. Its ocean ports and international airport provide an advantage to increase participation in the worldwide economy. The globalization of manufacturing and marketing, coupled with the ease with which businesses can shift plant and office locations, have made the economic stakes for any one region or state higher than ever before in competing for gateway trade.

Transportation Trends

Slower suburban growth, increased leisure travel and the growth in the goods movement industry which have been forecast for the '90s will have important implications for transportation in New Jersey.

Slower growth in vehicle miles traveled (VMT). The time when the number of vehicles grew three times faster than the number of people has passed. Historically, VMT has reflected the growth in number of

vehicles but future traffic increases may be tied more closely to population and employment increases, which are projected to grow quite slowly. In New Jersey, the licensed driver to registered vehicle ratio is .97, essentially one car for each driver.

Slower VMT growth means slower growth in traffic congestion. It also means slower growth in revenue. Much of the transportation system is funded by its users, either through fares and tolls or through motor fuel taxes. In the '80s, as energy costs declined and the real cost of driving stabilized or decreased, toll revenues and motor fuel tax revenues increased with dramatic increases in demand often staving off the need for significant toll or tax increases. As VMT growth rates slow, and if gasoline prices continue to increase due to uncertain fuel supplies, revenues from tolls and motor fuel taxes will level off or drop. This has serious implications both for NJDOT and for the authorities.

Slower growth in rush hour congestion. The number of workers entering the job market has declined. With fewer people entering the labor force there will be substantially slower increases in the rate of growth (not to be mistaken for an easing) of rush hour congestion.

Growth in leisure travel. With a large segment of the population in its peak earning years, leisure travel will increase. This will put pressure on already acutely congested vacation getaway routes and cause increased demand for air service.

An opportunity to renew the system and shape growth. With some relief from surging growth in rush hour traffic the opportunity exists to focus on critically needed rehabilitation as well as investment that will lead and shape growth rather than respond to it.

Opportunities

Rather than focus on the narrow concerns of their own agencies, the conditions of the new decade will demand that decision-makers look at transportation problems from a new perspective that considers the impacts of their actions on the entire network and on the competitive position of the state.

To make these decisions, the state's transportation leaders addressed some fundamental questions about the future and their roles:

- "Where does the state want to be at the beginning of the next decade?"
- "What are the key opportunities and how can transportation investment make a difference?"
- "What are the challenges to the transportation system and the larger economy?"

- "Where can transportation investment be most productive?"

In response, five opportunities where transportation investment can make a difference in achieving prosperity for New Jersey were identified.

1. Gain a greater share of global gateway commerce.

The expanding global economy will drive much of the domestic economic growth in the '90s. New Jersey's geographic location, along with its substantial air, marine, rail and highway infrastructure, puts it in a unique position to capture an increasing share of this worldwide commerce. Even today these factors have made shipping and distribution New Jersey's fourth largest industry.

The decade of the '80s witnessed a profound change in logistics — how shippers and carriers move goods from one location to another, warehouse and distribute them. Just as the doors to the new global market began opening in the early '80s, the federal government deregulated the maritime, rail and trucking industries. The realignments in these industries resulted in the integration of maritime, trucking and railroad companies into unified, flexible and efficient transportation conglomerates.

American manufacturers also began to catch up with the international logistics revolution. Shippers began to realize the costliness of outmoded facilities and inventory systems and turned to "just-in-time" delivery to reduce expenses. This, combined with the internationalization of assembly lines and "outsourcing" of parts from overseas for domestic assembly, changed how America, and New Jersey, does business. Because of its ports, excellent highway system and rail potential, New Jersey is poised to benefit from these changes, and in the coming decade is positioned to claim an even greater major share of the exploding distribution business associated with the new worldwide marketplace.

A great deal of the growth in global commerce during the '80s came from the Pacific Rim much of which came through the western ports. The New York, Susquehanna and Western Railroad's "mini-bridge" operation has made New Jersey an "inland port" for Pacific Rim trade coming into the West Coast ports, and rail systems have put nearly half the United States within a one or two day delivery. In addition, New Jersey has one of the world's largest container ports at Port Newark/Elizabeth, and one of the most productive break bulk handling facilities in the South Jersey Port Corporation. In the rapidly expanding air cargo market, Newark is the region's fastest growing hub.

The '90s appear to offer significant opportunities for Atlantic Coast ports of entry with new trading opportunities coming from the Soviet Union, the opening of Eastern Europe and the trade unification of the European Common Market in 1992. Moreover, some of the Far Eastern manufacturing is shifting to Malaysia and the Indian subcontinent; new

locations which can easily ship to the Atlantic ports via the Suez Canal. However, the new logistics will require fewer ports of call (load-centering) and depend instead on ground transportation for a wider distribution. This will be pivotal to the success or failure of many ports in the coming decade.

Likewise, smaller, higher value products, international assembly lines, and just-in-time delivery have made air cargo the fastest growing segment of the goods movement industry. The early part of the '90s will see many carriers establish primary and secondary hubs that are likely to become the primary "ports" of the 21st century.

To take advantage of these opportunities and position New Jersey as a premier gateway for global commerce in the coming century, several issues will have to be faced in the next few years.

- Most of New Jersey's gateway facilities are located in the oldest, most densely populated and congested urban centers: Camden, Newark and Elizabeth. Their infrastructure is among the oldest and most outdated and may diminish the attractiveness of the gateways.
- Land for warehousing in these areas is scarce and expensive, yet critically necessary.
- Many of the facilities need substantial capital redevelopment to improve productivity, add capacity, improve service and lower costs.
- Freight railroads require expanded terminal capacity. Sites for such facilities are not readily available in the congested North Jersey area.
- As one of the few states with two marine ports, in the coming decade New Jersey must create an intrastate strategy to increase the state's market share.
- The harbors need to be dredged for modern vessels and equipped with electronic navigation aids.
- Demands on airspace at primary airports will make it ever more critical to maintain and improve reliever airports.

2. Attract tourists.

New Jersey ranks as the fifth largest travel and tourism market in the nation. Travel and tourism is the third largest industry in the state, accounting for \$13.6 billion in spending in 1988.

Several factors suggest that New Jersey can win a substantial share of the growing leisure travel market. In a softer economy, with two people working in most households, many experts predict a continued trend toward shorter vacations and long weekends. Since New Jersey's recreational areas are located within 300 miles of a quarter of the nation's

population, the state has an opportunity to become a prime destination for short duration vacations for the Northeastern United States and Eastern Canadian market. However, reduced traffic congestion on Thursdays, Fridays and Sunday nights is critical to making New Jersey destinations more attractive to a larger number of visitors.

Increasing the size of the tourism industry depends upon the success of several efforts.

- Collecting as much data on tourist "rush hours" as has been collected on commuter rush hours.
- Launching a coordinated, recreational-travel oriented planning and project development effort.
- Giving key vacation routes higher priority for future operational and capital improvements.
- Developing creative solutions to manage recreational traffic, thinking beyond traditional traffic management techniques and constraints.
- Improving communications and signs, especially in the vicinity of regional gateways and other areas where travelers are unfamiliar with the transportation system.
- Developing and improving essential ground transportation connections at national and international gateways.

3. Expand Atlantic City's draw.

Atlantic City is poised on the cusp of real success or possible decline. There has been only limited success in making Atlantic City a national and international destination. Legalization of gambling in Atlantic City was intended to create a "Las Vegas East" entertainment complex, which would have a national and international market. Only part of that vision has been realized. While Atlantic City casino revenues have grown to \$12.8 billion (88% of the annual Las Vegas revenue), 80% of the visitors are from within a 300- to 500-mile radius. Furthermore, the focus of most visitors is the casinos themselves. Atlantic City has not become a family vacation resort or a major convention center.

The number of visitors to the city declined for the first time in 1989. The casino industry itself is overbuilt for its current customer base and is highly leveraged. The current competition for the narrow geographic market that Atlantic City casinos now reach can undermine this base further. In addition, outside competition is developing as other areas of the nation explore the benefits of legalized casino gaming. Atlantic City is only four or five years ahead of new entrants and must capture an expanded national/international market.

Atlantic City must diversify its visitor appeal by developing a competitive convention center, including additional hotel space and other resort attractions and must tap a wider market through substan-

tially improved and expanded commercial service at the airport. It is critical to relieve existing traffic congestion and provide adequate surface transportation capacity in the Atlantic City region. In the long run, the Atlantic City area also needs to exploit opportunities such as the proposed expansion of the FAA technical center. This could attract a number of aviation-related industries and research parks to further diversify the economy.

4. Shape development with investments.

The urban areas in New Jersey offer a distinct advantage in supporting new growth.

- They have an existing dense transportation infrastructure including public transit.
- There is sufficient population density to support good transit service.
- The existing transportation services reach a wide labor pool.

While this has always been true, the market conditions of the '90s coupled with the investment policies of the *Preliminary State Development and Redevelopment Plan* offer an opportunity to lead and shape some of the economic development in areas where it can be cost-effectively supported by transportation and other public infrastructure.

Four areas have been identified as having special potential because of the ripeness of their real estate market, the planned public and private investment in the areas and their proximity to national and international gateways. They are: Newark, Camden, the Hudson River Waterfront and the Meadowlands.

Newark and Camden have rich transportation networks that at one time supported greater populations. The boom of the '80s appears to have triggered the restructuring of these cities' economies from manufacturing to service bases and initiated a revitalization process. Newark in particular can expect continued growth and development because of its proximity to the rapidly expanding Newark International Airport and its other global gateway, Port Newark/Elizabeth. With Newark's position on the Northeast Corridor rail line and other high capacity transit links, it offers a major advantage to employers: more than five million workers live within a 45 minute commuting distance by public transportation.

Now is the time to complete this redevelopment and lead economic growth to areas served by environmentally sound and energy efficient transportation services.

The Hudson River Waterfront's projected 17.6 million square feet of office and retail space and 19,700 housing units over the next 15 years have earned it the distinction of being called New Jersey's newest city. Its economy has become linked increasingly with the development of the nearby Meadowlands where 56 million additional square feet of development over the next 20 years has been projected. The economic forces

behind this concentration of real estate development are strong and will continue, albeit at a slower pace in the '90s. Part of the advantage of this area is its location close to Manhattan. Another part is the nearby extraordinary concentration of transportation facilities which, with appropriate additions, could give employers an extensive laborshed from which to draw.

However, public infrastructure investment did not keep pace with private sector development in the '80s. The existing transportation infrastructure capacity that was designed primarily for Manhattan commuting has been outstripped. Strategic investment in environmentally acceptable transit links can provide needed capacity for continued high density development that the market appears ripe to support.

- Key connections must be constructed to make New Jersey's Philadelphia- and Manhattan-oriented transit systems better serve the transportation needs of New Jersey employers.
- Existing transit infrastructure must be revitalized and operationally improved to provide more efficient service.
- Access to developed areas from the regional highway system must be improved.
- Investments must be made in improving critical transportation links from the global gateways to central business districts (CBDs).

5. Use "smart" technology.

Several technologies are available today which promise to provide some relief for two of New Jersey's most painful travel experiences: waiting in toll lanes and getting caught in unexpected delays.

Electronic Toll Traffic Management (ETTM) technology has developed enough to become a congestion management tool in this decade. With ETTM, drivers can pay their toll without stopping at a booth by using a transponder, a machine-read electronic tag. To be effective, the different toll facilities must install compatible technology so that motorists need only one tag. The goal is to be a one tag state by the end of this decade.

Greater opportunities to manage traffic electronically also exist. **Intelligent vehicle/highway systems (IVHS)** have the potential to stretch existing highway capacity and make congested facilities operate more reliably. Improved traffic management involves the use of computerized traffic signal systems, highway advisory radio, variable message signs and in-vehicle navigation systems. When integrated on a regional basis, with real-time interaction between the traffic control system and the driver, these technologies can manage the flow of highway traffic the same way that a rail network or the air space in the vicinity of an airport is managed. However, to take advantage of this promising technology, the infrastructure must be developed in our roadway systems today, and it must be managed as a single network.

- The technology for ETTM and IVHS is at a critical stage in its development. Now is the time to lay the foundation for implementation by incorporating design features in appropriate projects.
- Risks inherent in early investment in these technologies must be taken.
- The labor and institutional problems associated with integrated highway management must be taken on and resolved.

Challenges

1. The network is aging faster than funds are available for repairs.

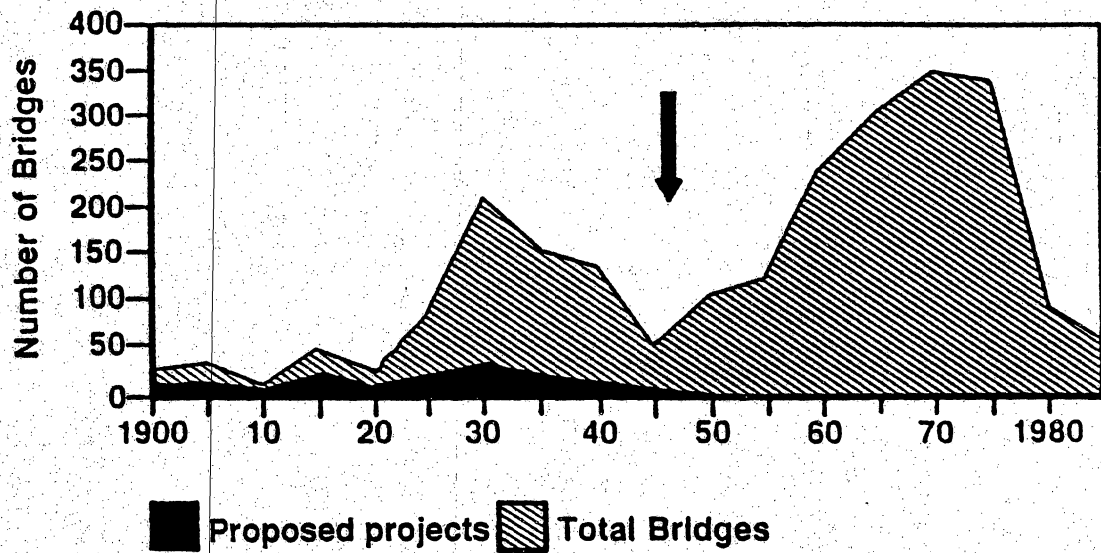
New Jersey is fortunate to have no disasters that can compare with New York's Williamsburg and Schoharie Bridges. However, there are less dramatic examples which demonstrate infrastructure needs: the closing of the Jackson Street Bridge in Newark, the Harrison Street Bridge in Princeton and the Allenwood-Lakewood Road Bridge in Wall Township; the disrepair of orphan bridges; and the weight restrictions or truck bans on myriad other spans.

Because many of the high capacity roads that New Jerseyans use are relatively new (e.g., the Atlantic City Expressway, the Turnpike, and the Parkway), there is a misperception that an infrastructure tragedy could not happen here. Unfortunately, the '90s will be the decade when New Jersey's infrastructure bill comes due. The network as a whole is aging.

The most vivid illustration of this is the bridge problem. On the NJDOT system, the majority of the bridge improvements currently programmed address structures built before 1945. As shown in the graph below, these projects represent only a very small proportion of the state's pre-war bridge inventory. As the age of any given bridge increases, the rate of deterioration and the need for corrective action increases. This does not even begin to address the preservation needs of the large number of NJDOT bridges built since 1945.

NJDOT and the counties control the vast majority of the state's deficient bridges, as shown in Figure 1, but similar problems are faced on the other transportation authorities. Many of the state's bridges, especially along the Atlantic Coast and in the tidal estuaries, are extremely vulnerable to salt water deterioration. Others, even if structurally sound, are functionally obsolete. The Cape May County Bridge Commission, for instance, is responsible for one bridge that is over 60 years old, three 50-year old bridges and another that is more than 40 years old. A number of "orphan" railroad bridges require reconstruction. NJDOT, the counties and municipalities also have most of the deficient pavement as Figure 2 shows. Bridges, highways, rail cars, ferries and buses all have limited useful lives and those useful life spans will come to a close in this decade. The facilities must be maintained, repaired, rehabilitated and eventually replaced if the network is to

Addendum to Page 19
Decision-making Framework
for Transportation in the 1990s



continue to operate safely and efficiently. Maintaining pavements in good condition, especially under New Jersey's unusually heavy traffic loads, requires constant investment.

Figure 1
Deficient Bridges

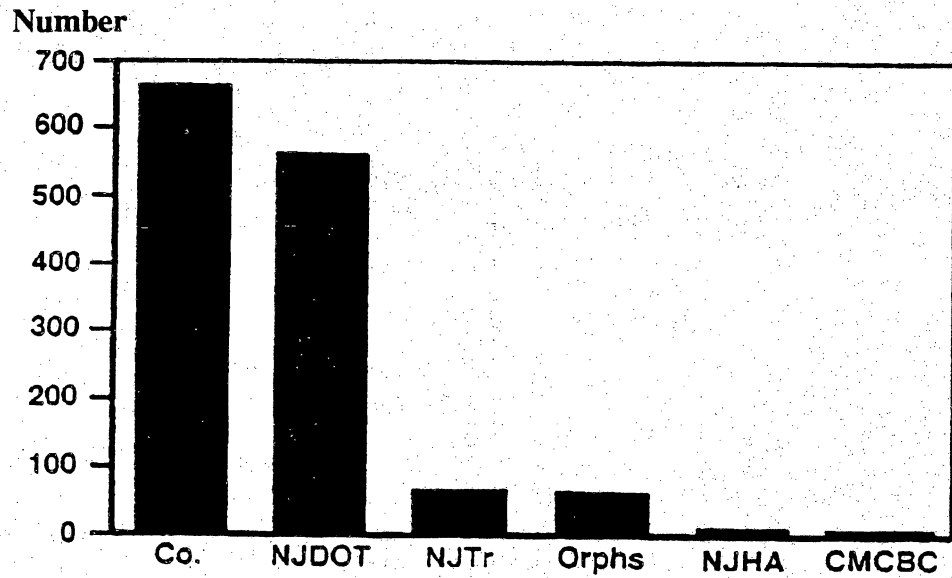
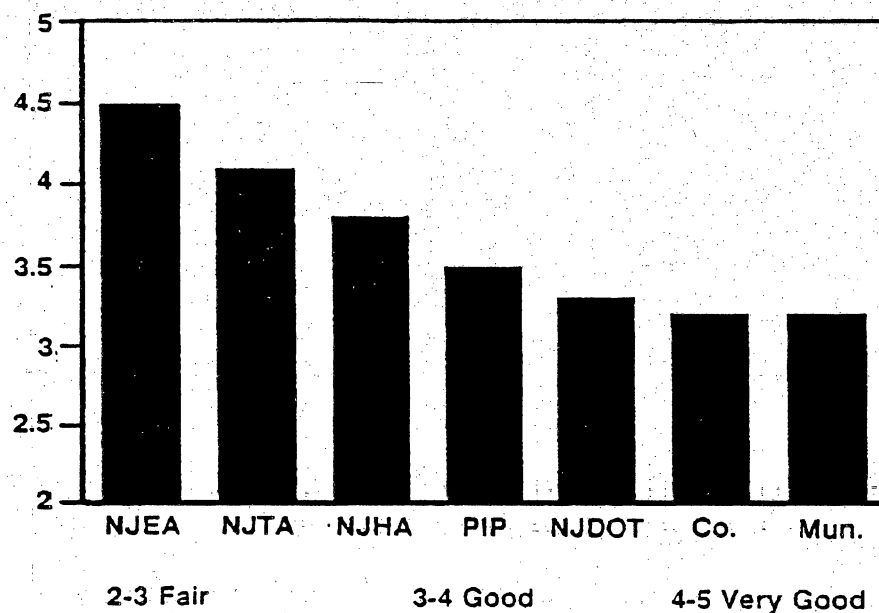


Figure 2
Average Pavement Condition



2. The network is fragmented.

For an infrastructure whose replacement value is conservatively estimated at more than \$50 billion, it is vital to maintain the various components of the network to avert system failure.

New Jersey's transportation network is fragmented both physically and operationally. There is no good reason to have less than adequate linkages simply because of jurisdictional lines. Portions of the interstate highway system (i.e. I-295, the Trenton Complex, and I-287) are still under design or construction, forcing motorists to use inadequate local streets. There are logical connections between systems, such as between Route 1 and the Turnpike, or between the Parkway and I-78, or between the Expressway and the Turnpike or Route 30, that are difficult or nonexistent. In some cases, signing is inadequate and in others a new transit fare or toll is required for each leg of a journey. Institutional barriers preclude full use of the state's extensive rail track network and ground connections are inadequate between cities and air and marine terminals.

As consumers demand a more seamless transportation network, and transportation dollars are stretched, synergistic investments and the integration of various systems through strategic connections and unified operations will become critical.

3. The suburbs are congested.

The legacy of the unprecedented growth of the '80s is suburban congestion and it is choking New Jersey's quality of life. Turnpike traffic grew by as much as 8.5% percent in some years while the Expressway recorded annual increases of as much as 7.6%. NJ TRANSIT saw growth rates as high as 12% a year on its trains during the middle of the decade. Some of the worst effects were felt on the state's smaller roads.

Alan Schwartz and George Sternlieb in their report, *New Jersey Growth Corridors*, estimate that 80% of the state's urbanized population resides in the suburbs and almost 84% of the work force is employed there as well. These percentages dwarf the corresponding national estimates of 48% and 45% respectively.

Campus-style suburban office development drew literally thousands of commuters to what had been relatively lightly used "rural" and exurban links. The traffic on Route 1 in Mercer and Middlesex Counties and Route 73 in Camden and Burlington Counties reflect this phenomenon. Both of these routes have seen increases in traffic of 4.5% per year for the past several years. This is higher than the approximate 1.5% statewide average growth per year on all state highways. Similar increases occurred on local roads too. The Sussex Turnpike (County Route 617) in Morris County, for example, has sustained traffic growth rates as high as the ones mentioned above for state routes.

Once these roads reach capacity, congestion is worsened by breakdowns and accidents. There is no room to handle a disabled vehicle. An accident which may take 15 minutes to clear can result in a full hour of severe congestion before traffic flow is restored. People miss meetings or planes and waste hours in unexpected delays. In NJDOT's 1987 "Eagleton Survey of New Jerseyans' Opinions About Transportation, Growth

and Development," almost four of every 10 commuters (38%) responded that they had changed the time they travel to or from work because of congestion. A key challenge of the '90s will be managing congestion in ways that will maintain the quality of life.

4. There are more jobs than workers.

The decline in the number of younger workers in the next 10 years is likely to be more severe in this region than in the nation as a whole, according to T.M. Crone, regional economist of the Federal Reserve Bank of Philadelphia. In addition, the national scope of this trend makes it unlikely that the state can import great numbers of workers from other regions of the United States, especially with the substantial differential in the cost of living in this area. New Jersey, New York, Pennsylvania, and to some extent, Delaware and Connecticut, are competing for the same labor pool.

With fewer people entering the work force in the '90s, attracting employees to New Jersey jobs will be more challenging. Indeed, importing labor from across the state's borders and tapping key pockets of underemployment will be vital to New Jersey's economic well-being in the '90s. Suburban jobs are attracting workers from New Jersey cities and nearby New York and Philadelphia. Already Rockland County, New York and Monroe County, Pennsylvania, provide workers for Bergen County and Morris County jobs. Brooklyn and Queens in New York City are providing workers for the Hudson River Waterfront. There are also significant pockets of underemployment in the cities. Many of these workers were left unemployed because their jobs moved to the suburbs. Transportation can play a role in helping New Jersey employers tap a larger labor pool in the coming decade.

5. The environment is fragile.

The '90s will be a decade in which the environment will have a greater impact on transportation policy than ever before. Environmental forces will both drive and shape transportation investments.

The need to meet clean air standards and reduce fuel consumption in an energy short economy will drive many investment initiatives. New Jersey exceeds the national ambient air quality standards for ozone statewide and 15 sites exceed CO standards. In its recent annual report on the results of daily air pollution monitoring over the last three years, EPA cited 96 metropolitan areas having the worst air quality. Between 1987 and 1989, the New York-New Jersey-Connecticut region ranked fourth and the Philadelphia, Pennsylvania-New Jersey-Delaware region ranked sixteenth for federal ozone violations. Figure 3 indicates the magnitude of ozone standard violations in New Jersey in 1988.

The solutions to these and other transportation problems will be shaped by environmental constraints. Approximately 20% of New Jersey is wetlands (Figure 4) and many of the most congested areas were formerly sites of industries that left the surrounding land contaminated with hazardous wastes. Most of New Jersey is also densely settled, making many improvements disruptive to the existing community life.

Figure 3
1988 Ozone Exceedences
by Site

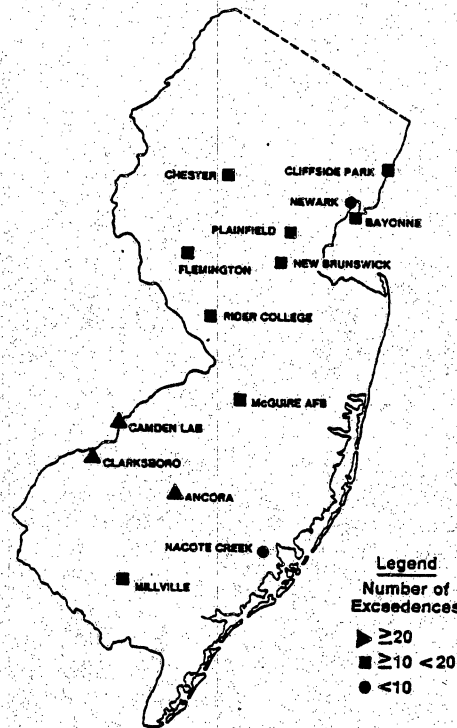
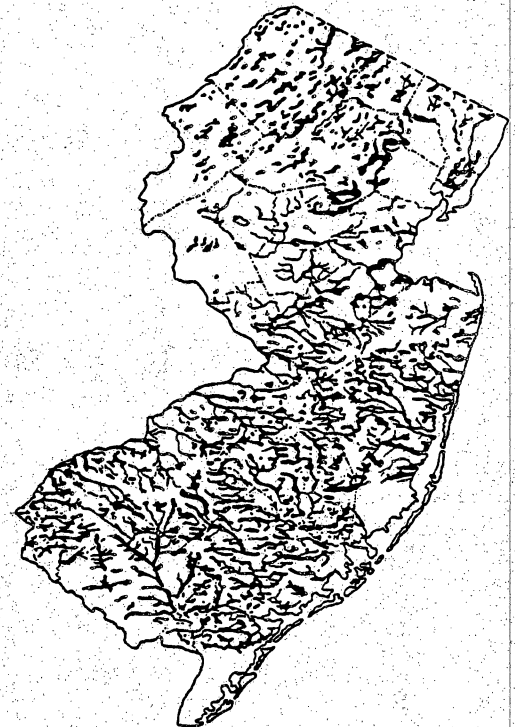


Figure 4
Wetlands



Environmental issues will not only shape transportation solutions, they add millions of dollars to project costs and lengthen project implementation often by a decade or more. This will only intensify in the coming years unless the transportation community is willing to quickly abandon environmentally unsound projects and unless those involved in the regulation of the environment "de-layer" and streamline the permitting process without reducing its effectiveness.

6. The energy supply is uncertain.

The nation is excessively dependent upon foreign sources of petroleum. The decline in the real cost of gasoline during the '80s lessened consumer demand for fuel efficient vehicles which, in part, has resulted in less fuel efficient cars for the last two model years. Even if recent events in the Persian Gulf had not taken place, the nation and New Jersey would still face the potential for disruptions in energy supply and increases in price.

For New Jersey's economy to make the transition to the 21st century, it will have to have a more diverse and independent energy supply. In the transportation sector, that will depend on

- aggressive use of fuel efficient vehicles
- cost-efficient transition to the use of alternatively fueled vehicles.
- greater investment in and use of transit and ridesharing.

**7. Transit users
deserve a
fair shake.**

Environmental and energy constraints will force us to rely ever more heavily on public transit and other alternatives to the single passenger vehicle. This sentiment was expressed at virtually all the TAG meetings. However, some circumstances, practices and policies put these alternatives at a substantial disadvantage to driving alone.

- Congestion hinders buses, carpools and vanpools even more than single passenger automobiles.
- Fuel efficient vehicles and slow growth in gasoline prices (the real cost of gasoline is about what it was in 1961 after inflation adjustments), tolls, taxes and other driving costs reduced the cost of driving over the last decade, while transit fares have increased faster than inflation.
- Parking offers a higher tax credit to employers than transit fares. As a result, employers have been willing to build employee parking lots for single passenger vehicles, but unwilling to subsidize transit passes or vanpool operations.
- Since the inception of the New Jersey Transportation Trust Fund in 1984, state capital dollars have been allocated to highway projects versus transit at a rate of roughly 2:1.
- Zoning ordinances often prohibit high density housing and office development near public transit hubs.

To make high occupancy travel a real option in the '90s, these obstacles will have to be eliminated.

**8. Funding is
inadequate.**

Perhaps the biggest challenge is finding the funding needed to repair and rebuild an aging infrastructure, reduce congestion and make the strategic investments of the '90s. Even after deciding which infrastructure component to maintain and which to let go, the need for infrastructure renewal alone will consume current revenue streams.

This is also true at the local level. The local outreach meetings indicated that county and municipal governments are spending 50 to 90% of their transportation dollars simply to renew infrastructure. Nonetheless, after a careful prioritization, county governments conservatively estimated \$2 billion in unmet local needs either in infrastructure renewal or congestion relief, not including substantial additional needs for projects that have not yet been costed out.

A recent study of bridge needs in North Jersey alone showed that almost 84% of the region's bridges require some level of improvement, with a total price tag of \$1.35 billion. Another study carried out by the Bi-State Transportation Forum showed \$2 of infrastructure needs in the northern part of the state for every dollar that was being spent.

A conservative estimate generated by another study indicated that for the foreseeable future the annual cost of eliminating the backlog of deficiencies on highways would be \$200 million a year for state highways and \$150 million a year for local roads. Bridge needs are even more staggering. The estimated cost of eliminating the backlog of bridge deficiencies is \$2 billion for the state system and \$1 billion for local systems. Orphan bridges may need an additional \$100 million.

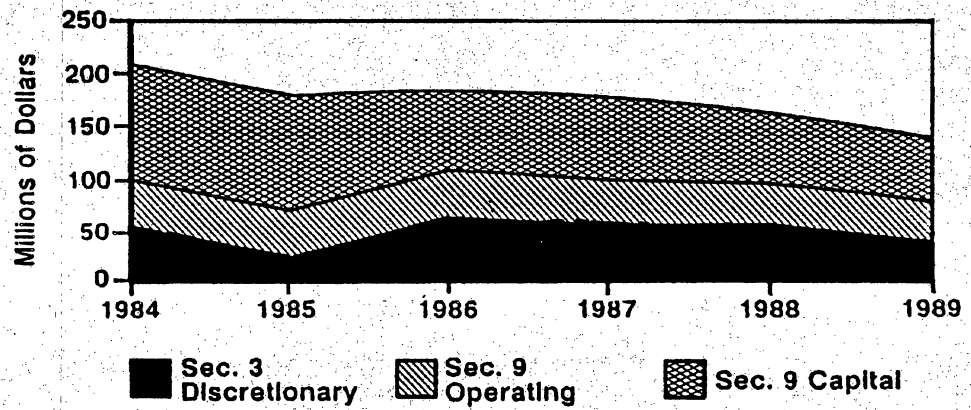
To put these numbers into perspective, NJDOT spends \$250 million a year for all infrastructure renewal, including highways and bridges. A state contribution of approximately \$100 million a year above operating assistance is needed just to preserve the existing public transit system.

The resource shortage stems from several factors:

- **Reduced buying power .** Today's dollars can purchase about 32% of what those same dollars could purchase two decades ago. Revenue increases have not kept pace with inflation.
- **High Cost of Construction in New Jersey.** According to data collected by FHWA, New Jersey costs for both bridge and highway projects are among the highest in the nation. The \$100 per square foot cost for bridge replacement in New Jersey is twice the national average. Nationally \$100 million could purchase about 26 hypothetical, standard highway projects. In New Jersey it could construct only 16. These higher costs stem from high land and relocation expenses, the premium hourly wages, and materials.
- **Reduced Federal Public Transit Assistance.** Federal resources available to support public transit operations have declined (Figure 5). That decline has had to be made up by state funds and increased fares. Funds spent for operating assistance are not available for capital projects.

There are, however, exceptions among the transportation entities to this resource-short picture. The New Jersey Turnpike, for example, has resources to launch significant capacity enhancement. Overall, however, New Jersey does not have sufficient resources to maintain its network and take on new opportunities and challenges. This makes the adoption of a common, strategic investment strategy of paramount importance. It will mean different choices and aggressive cost control. It will also mean developing a strategy for increased revenues.

Figure 5
Federal Transit Programs
NJ Apportionments
FY 1984-1989



SOURCE: NJDOT, NJ TRANSIT

III. Policies for the New Decade

The policies that shape New Jersey's investments will determine how the transportation opportunities and challenges of the '90s are met. The policies which led to the construction of the existing segments of the transportation network were based on the values of previous generations.

Since then, however, values have become more complex. There is a greater understanding of the hidden costs of unimpeded mobility, whether in the quality of air, the degradation of small town life, or the upsetting of the delicate ecological balance. People have also gained a better understanding of the real monetary costs of maintaining the systems they built.

Moreover, motorists no longer view their trips as single system trips. More often than not, a commute involves the use of an authority bridge or toll road, a state highway, possibly a park and ride, and for some a train or a bus. As commuters have become more quality conscious consumers, they are beginning to demand that these systems work together to provide a hassle-free trip for them rather than a smooth operating system for the operator. Time and reliability have become important, whether it be for the trucker making a just-in-time delivery, or the businessperson driving to a "make or break" meeting.

These vastly more complex values will form the foundation of the policies that shape the investment strategies of the '90s. For example, in the past, policy has dictated that when traffic congestion reached a certain level, highways would be widened to accommodate demand. New policies will resist this traditional reaction and suggest solutions that will stretch the capacity of the existing right of way, and provide greater people, if not vehicular, movement.

Where in the past, railroads have been allowed to build competitive links with a deliberate lack of connectivity between the lines, or where today various highway authorities might implement differing electronic toll devices as the technology becomes available, new policies will demand connectivity between the systems whether through investment in major connections among the various commuter rail lines or the insistence that New Jersey become a one tag electronic toll facility state.

Ten policies will guide transportation investment in the '90s. These policies will be used by the TEC to formulate and prioritize transportation investments. The resources necessary to implement these strategies must be identified and pursued at the state and federal levels to renew the state's transportation infrastructure and support the strategic opportunities that will assure New Jersey its continued economic strength and leadership position in the nation and the world.

In recommending these policies, it is noted that it often takes five to ten years to develop a project for construction. Most of the projects that are currently ready for construction were conceived a decade ago within the context of a different set of values. It would be disruptive to subject every project in the project development pipeline to a reevaluation. Therefore, the capital budgets for most of the transportation organizations over the first several years will include some projects that have been developed over the last several years and some projects that are more reflective of the policies outlined below.

Policy One. Make system preservation the top priority; increase investments accordingly.

Transportation agencies will make system preservation a non-discretionary investment. They will spend increasing amounts of scarce capital dollars on maintaining and preserving the existing system. The policy means that bridge deck replacement or a safety improvement will take priority over some of the more high profile projects that capture public attention. It means that unless there are significant increases in the overall pool of money available for transportation investments, there will be even less money available for capacity expansion projects. Two key factors will work in favor of this policy.

- **A softer economy.** A softer economy during the first part of the '90s will enable the public sector to get a much better dollar value for work contracted in the first three or four years of the decade. Many authorities and the NJDOT report bids five to twenty-five percent lower than bids received one or two years ago. Infrastructure renewal projects can be advertised relatively quickly, sometimes without extensive design and environmental review.
- **Slower congestion growth.** Now that some of the development pressure has dissipated and growth rates have slowed, the time is right to address system preservation needs.

In adopting this priority, however, it must be acknowledged that some of the infrastructure was built to serve a need that is no longer current. Maintaining the system requires the same selectivity as expansion.

It must be recognized that system preservation work, particularly major rehabilitation and reconstruction projects on principal arterials, will result in some inconvenience and delay for travellers. There will be substantial efforts to mitigate the impact of this work on the travelling public. However, potential inconvenience may be used to change people's attitudes and habits. If people can be convinced to carpool or try public transit during highway repair work, the habit begun during a temporary inconvenience may become permanent.

Policy Two. Attack congestion without encouraging more single passenger vehicles and inappropriate land use.

The growth of the '80s left acute congestion on many roads. Roads designed for relatively small traffic volumes, often with low design standards and inadequate traffic controls, are now clogged with traffic. This congestion must be relieved to preserve New Jersey's quality of life.

However, it is not possible from a monetary, an environmental or a land use perspective, to widen many of these roads. To do so would lead to more development which in turn would add additional traffic, and eventually a return to today's congestion levels. Not only would the same congestion problems exist, there would be further erosion of open space, farm land and ecologically sensitive areas that are so critical to the quality of life in New Jersey. Few people would argue, for example, that New Jersey cannot afford a 12-lane highway on Route 1 even though that is what demand projections warrant. Similarly, the time has come to get off the sprawl/highway widening spiral by looking to new means of moving more people without spurring inappropriate land use.

The state cannot build its way out of this congestion. Demand must be managed as well. This calls for investment in public transit and ridesharing as well as working with employers to change commuter patterns.

In Policy 8 below, several approaches to achieving this goal are outlined. Also needed is the consistent implementation of the emerging *Preliminary State Development and Redevelopment Plan* which calls for clustering development and will go a long way toward achieving this goal.

Policy Three. Make investments that shape growth and leverage economic opportunities in strategic locations.

After addressing the system preservation needs and congestion problems, very few dollars will be available for what might be termed

"new" investment. These extremely scarce dollars must be targeted on strategic objectives to expand the state's economic potential and lead the location of economic growth to areas that can be both economically and environmentally supported.

Major new capacity transportation investments will be focused on those areas of the state where the transportation and other infrastructure can best support expansion and where the market is ripe enough to warrant aggressive investment.

The use of public/private partnerships and joint development will remain an important investment strategy. However, the availability of private sector money will not drive public investment to support inappropriate land use. In the previous chapter, five areas were identified as having the market potential, strategic location and available infrastructure to yield significant economic dividends from transportation investments made in this decade. These included Camden, Newark, the Meadowlands, Atlantic City and the Hudson River Waterfront. On a smaller scale, there are numerous other areas of the state where strategic transportation investment can lead and shape growth.

Policy Four. Improve goods movement.

The previous chapter identified the high stakes competition that will be played out in the '90s to capture marine shipping and air cargo hub operations. New Jersey is well positioned in this competition if several strategic goods movement investments and policies are adopted.

The first step is making goods movement a driving force in the investment policies of the authorities and the state which will involve opening up dialogues among the port, truck and railway operators and the public investors. At ports it will also mean adopting an investment strategy that minimizes competition between the Delaware River and New York harbor ports while aggressively investing to enhance their strengths: container transport in Port Newark/Elizabeth and break bulk transport at the Delaware ports in New Jersey.

Further, just as the state cannot afford excessive competition among its New York harbor and Delaware River ports, the competition of the '90s will be too stiff to afford competition among the port operators on each side of the Delaware. The time has come to unify the marketing, promotion, investment and operating strategies of the Delaware ports to magnify their overall competitive position on the North Atlantic. However, in formulating a unification strategy, New Jersey must advance its goal of developing a world class break bulk handling port while minimizing competition with Port Newark/Elizabeth.

To achieve this goal, South Jersey ports will require substantial investments in berth capacities, rehabilitation and expansion, channel dredging,

the addition of warehouse capacity and improved truck and rail links.

The competitive position of the Newark/Elizabeth ports will depend on :

- increasing rail competition serving the area, and addressing the related issues of double-stack rail clearance, severe lack of terminal space and new passing sidings to permit greater use of existing tracks.
- improving rail access to portside.
- adding warehouse capacity.
- deepening channels and addressing the disposal of dredge spoils.
- maintaining high quality highway access to the ports.

Several factors have converged to make **air cargo** the fastest growing segment of the goods movement industry and most experts agree that the industry is still in its infancy. The hubs that are developed in the next decade are likely to become the major commerce gateways of the 21st century. Protecting New Jersey's current position and expanding on it will depend on maintaining excellent highway access around primary airports, expanding nearby warehouse capacity, protecting reliever airports and mitigating flight pattern noise impacts.

New Jersey depends on **trucks** and, to a lesser extent, **shortline railroads** to distribute goods. Shortline railroads may well be adversely impacted by the softening economy to the point that some may not survive. While the state has an interest in maintaining local freight service, it cannot subsidize operations. Instead it can facilitate appropriate mergers that save vital service.

The primary issues in the truck industry will be congestion and the productivity of longer, heavier trucks. Major goods movement routes should receive priority in system preservation and in some instances consideration should be given to priority truck lanes. There should also be increased efforts to encourage nighttime delivery as well as the use of ETTM for trucks in toll facilities.

Larger trucks pose a particular problem for New Jersey. More than 90 percent of the state's port traffic is carried by truck and longer, wider, heavier trucks make those ports competitive, particularly if other ports are supported by bigger trucks. New Jersey is currently one of the few East Coast port states that does not allow overweight permits for ocean-bound containers.

It is also aggressive in controlling overweight vehicles. In spite of their competitive advantage, larger trucks pose real risk on older nar-

rower roads and bridges and they cause disproportionate pavement deterioration. New Jersey will be best served in this dilemma by aggressively seeking federal control of truck size and weight to even the competitive playing field.

Policy Five. Use transportation investments to tap larger labor pools.

Earlier in this report it was noted that there will be significantly fewer people entering the labor force than a decade ago. Attracting employees to New Jersey jobs will be a major challenge in the '90s whether they come from pockets of underemployment within the state or from neighboring states.

The role of transportation investment will be to provide the links that make such mobility possible. In some cases, that will require a changed emphasis in mission. For example, much of the infrastructure of the public transit system is oriented toward the central business districts that bracket the state. Without abandoning this crucial market, increased emphasis and investment are needed to promote more intrastate transit commuting and permit interstate reverse commuting.

A good example is the NJ TRANSIT's Route #73 bus, which had a route starting in the suburbs of Essex and Morris Counties and ending in the central business district of Newark. Ridership began to decline, particularly as office development began to spread to the suburbs. The #73 Route was then reversed and restructured to carry workers from center city to suburban office development. Ridership decline reversed and the route became successful.

Other possibilities include the Secaucus Transfer Station, which would allow a commute from Jersey City to Secaucus without leaving the state and would establish a new transportation hub serving the Meadowlands. In an effort to serve congested areas adjacent to rail lines, shuttles could be used to carry commuters from train stations to selected high density suburban employment sites. Developer-financed bus service, in which private interests underwrite operating losses of the provider until the route becomes self-supporting, has great potential to deliver workers to jobs.

Policy Six. Enhance recreational and tourism travel.

Tourism is one of the strategic opportunities of the '90s. Transportation planning, however, often ignores the fact that systems which show little congestion during the peak commuting hours can choke further development of the tourism industry on weekends in peak season. A major planning and project development effort will be launched focusing specifically on peak tourism travel to the state's primary playgrounds.

This does not necessarily mean significant road widening. It does, however, mean making more creative use of existing roads by operating one-way street pairs (in Atlantic City or on the approaches to Cape May, for example) or reversible lanes (on Routes 206 and 15 in Sussex County, for example) to move a surge of traffic in or out of an area. Reversible signal timing can also be helpful. Although the techniques may be similar to those employed in solving suburban congestion problems, the objective is substantially different.

Policy Seven. Invest in connections that make systems work together as one network.

The investment policies of the last several decades have yielded several high-quality, but relatively independent, systems operated by many separate agencies. Each has pursued investment policies focused on building and operating a single system. The challenge and the opportunity of the '90s will be creating new capacity from synergistic connections among these systems. In some instances, such as I-287, I-295/195/129, it is simply a matter of building a missing link within a system.

In other cases, such as the I-78/Garden State Parkway interchange, it is a matter of completing what is now "half a link." Other examples may include a link between Route 1 and the Turnpike, a connection between the Atlantic City Expressway and Route 30 or a link between Route 55 and the Garden State Parkway.

In the case of NJ TRANSIT, this policy may involve constructing connections between what were once separate rail lines.

This policy will mean planning system improvements that are compatible with the surrounding network. For example:

- The Turnpike cannot afford to widen its system if the surrounding local roads cannot accommodate the increased traffic attracted by the widening;
- The PANYNJ, the Turnpike and the Parkway cannot afford to pursue one ETTM system while the DRPA, the DRJTBC and the Atlantic City Expressway pursue another; and
- The Delaware River bridge authorities will have to coordinate on toll collection and other operations to ensure better use of existing bridge crossing capacity.

It will also involve the aggressive development of links to various systems including, but not limited to:

- the Secaucus Transfer;

- the Waterfront Connection;
- joint ticketing for customers shared by DRPA and NJ TRANSIT;
- Park and ride lots;
- Dedicated lanes for bus riders, car- and vanpoolers; and
- Greater investment in improved road access and rail links to ports.

Policy Eight. Move more people, not more vehicles.

This is the most powerful of the new policy directions. It affects where and how new capacity money is spent and has substantial implications for authorities whose revenue bases rely on vehicles rather than passengers.

This policy is driven by the need to comply with clean air standards, uncertain energy supplies and environmental constraints to traditional solutions. Major road widenings will be undertaken sparingly. When the capacity of highways is increased, every effort will be made to ensure that the capacity is not consumed by single-passenger peak hour vehicles.

This policy also implies greater investment in public transit services. If these investments are to be effective, travel time, cost and employer subsidy for auto versus transit commuting will have to be equalized.

In addition, the following strategies must be used more often.

- **Rush hour lanes.** When roads are widened, strong consideration will be given to using that capacity for transit and car- and vanpools during rush hours. Such an approach would be supported by strategically located park and ride and/or transportation centers and increased suburban transit service.
- **Greater use of reversible lanes.** Many highways and bridges carry from 70 to 80 percent of their traffic in one direction during peak hours. Before committing to major widening projects, it is important to explore the use of reversible lanes despite possible increased operating expenses.
- **Better traffic management.** Many highway systems now operate at capacity and therefore suffer disproportionately from an accident or breakdown. It has been estimated that under these circumstances an aggressive incident management program can recoup as much as a third of the system's capacity. This requires sophisticated monitoring and a high degree of coop-

eration among many jurisdictions' enforcement teams. Operations such as TRANSCOM, which monitor and manage traffic congestion in the northern New Jersey/New York metropolitan region, should be expanded and established in other densely travelled portions of the state.

- **Smart highways and streets** . Increasingly, the capacity of highways will have to be managed like the air space at air ports and trains on rail corridors. Both involve sophisticated electronic communication equipment between vehicles and a control center.

This kind of technology is becoming available for the management of highways. Highway planning needs to anticipate the full implementation of this technology beginning with experimentation using the technology that exists in managing congested corridors. Examples of where this technology could be effective include the I-80/Route 46, George Washington Bridge and Cross Bronx Expressway corridors or the Route 1&9/Garden State Parkway and Turnpike corridors.

Within cities, traffic flow can be substantially improved with the implementation of fully computerized traffic signal control systems. Atlantic City, Camden and Newark, for example, could benefit from these applications.

- **Taking ridesharing seriously.** Everyone supports ridesharing but few are willing to do it. The problem is not unlike the recycling issue. Everyone talked about it in the '70s and early '80s; few did it. As New Jersey reached the end of its landfill capacity, recycling became one of the least expensive ways to preserve it.

The transportation infrastructure in suburban areas faces the same limits. Ridesharing is the least expensive and most effective means of stretching the capacity of the transportation system.

New Jersey is one of the few states that has made substantial investments in transportation management associations. Over the last three years NJDOT has invested \$1.8 million to support their formation and operation. Nevertheless, these organizations are based on promotion and persuasion, the limits of which may fall short of the need in the '90s.

Unless employers focus as much attention on getting their employees to work in a cost-effective manner as they do on getting their goods and services to market, ridesharing as a strategy will never reach its potential. Legislation should encourage employers to undertake a variety of programs to

support car- and vanpooling at their employment sites. Transportation agencies must help employers develop innovative approaches to such programs. Likewise, municipalities and development districts like the Hackensack Meadowlands should implement trip reduction ordinances similar to that enacted by North Brunswick.

- **Greater transit investments.** Capacity expansion investments will become increasingly oriented toward expanding transit and other high occupancy services. However, it is important to recognize that the \$100 million per year that NJ TRANSIT currently receives from the Transportation Trust Fund only covers system preservation investments. NJ TRANSIT's capital need amounts to an **additional \$200 million** a year to make significant expansion in system capacity and sustain its system preservation efforts. This alone approximates the limits of all trust fund dollars available for highways and public transit.
- **Make public transit a competitive alternative.** To make these services attractive, a variety of values, policies and practices must change to level the playing field for public transit. Employers and businesses must adopt parking policies that assume dependence on transit. One parking space per employee should not be the rule.

Transportation pricing policies must make transit fares competitive with highway tolls to moderate highway demand and reward ridesharers and transit patrons. This could include peak period or congestion pricing at toll facilities as well as forgiving bus tolls at certain facilities.

- **Coordination of land use and transportation investments .** This long-held goal has the potential of becoming a reality in the '90s. The *Preliminary State Development and Redevelopment Plan* guidelines, which espouse clustering of development so that it can be more easily served by the transportation infrastructure, are going through the cross-acceptance process at the county and state level and are moving closer to overall acceptance.

The State Highway Access Management Code will allow better management of traffic generated by development along state highways. Transportation Development Districts permit the development of public/private partnerships to improve the transportation infrastructure for high growth areas in a rational manner.

Policy Nine. Integrate transportation and environmental goals realistically and efficiently.

Seizing the economic opportunities of the '90s, overcoming current congestion problems, and bringing the state into compliance with clean air standards will be among the driving forces behind the transportation investment agenda. Preserving water supply, wetlands, wildlife, dwindling open space and farmland, improving air quality and addressing environmental cleanup issues will be major criteria guiding those investment decisions.

As required by law, wetlands will be avoided or replaced when developing transportation projects. However, it is important to reduce the costs associated with wetlands protection. These environmental goals can be aggressively pursued through wetlands banking, and when appropriate, advance land acquisition to preserve less environmentally sensitive land for transportation purposes.

Improved mobility must be balanced against the noise that it often imposes on surrounding neighbors, whether it be from airplanes, highways, or railroads. In some cases, noise can be mitigated by erecting noise barriers, by creating new flight patterns or by improving equipment and methods. A recent inventory of noise barriers performed by the Federal Highway Administration places New Jersey fifth in the country with 35.4 miles of barrier constructed. Ranking barrier costs, New Jersey is second at \$61 million behind California which has spent \$180 million. In many cases, difficult choices will have to be made in consultation with those whose lives are affected.

Many of these mobility, environmental, and quality of life goals can be achieved if they are meaningfully integrated into the respective planning efforts of each entity **from the beginning**. To assist in this effort, the NJDOT should develop a computerized geographic database that identifies hazardous and other environmentally sensitive locations throughout the state. This information can be woven expeditiously into the project development process.

Conversations with authority, county, and city officials revealed unanimous concern over the **time and cost** involved with the multiple layers of environmental review. There were frequent examples of several million dollars being spent for environmental reviews to satisfy one agency or another over a period of years, only to find that one of the permitting agencies ultimately turned the project down.

An effort must be made to coordinate transportation planning so that environmental agencies see a whole picture of the environmental effects of the project. Then, efforts must be initiated to streamline the review process through more effective communication and coordination, thereby reducing the case-by-case judgment calls.

Policy Ten. Improve planning coordination with county, local and private interests.

The preceding paragraphs have described several policies which will begin to steer investments in new directions. Unlike old policies and projects in which an individual agency took a lead in financing and implementing a particular policy, these policies and the strategies they engender **require** collaborative planning, implementation and operation. With the exception of the TEC and TRANSCOM, no forum exists to carry out the strategies planned here collaboratively on a day-to-day basis. The TEC will serve as the forum to launch implementation of the plans and policies described here, committing sufficient resources to insure their successful implementation.

However, the need for system integration does not stop with the major state and bi-state authorities. Since the era of building major systems such as airports, railroads, highways and ports has passed, most improvements to the transportation network will be of smaller scale. They will involve fine-tuning, developing new connections among systems, and implementing programs and operating procedures to make better use of existing systems.

A primary concern raised in discussions with county and local officials is the lack of coordination between their investment decision-making and that of state agencies or authorities. There is now little institutional capability to plan at regional levels collaboratively with county, private and municipal interests. Without creating new layers of bureaucracy, such forums and networks will have to be found.

IV. Financial Resources

For the first time New Jersey has taken a comprehensive look at the total transportation institutional and financial situation in the state and developed a set of policies that are intended to guide all investments. Policies need adequate financial resources for implementation. Several financial policies are set forth in this chapter to help ensure that all available resources are used to carry out the policies defined in this report.

Since this is the first time that the state's total transportation investments and resources have been reviewed and assembled into a single program, it is important to establish the current levels of revenue and expenditures for both operating and capital programs. By doing this, it is possible to examine the current allocation of resources and to determine where there might be a need to shift emphasis to address today's policies and priorities. Additionally, it will be possible to determine the best approaches to funding the full program for the state taking all sources of funds into account.

The draft business plans submitted by each of the transportation agencies outline proposed capital and operating levels for the period 1991 through 1994. These plans have been reviewed and as a result a number of issues are being raised with each agency.

Capital program decisions will be restricted by limited resources as described in Chapter II. Additionally, policies of the past have separated the various agencies and even transportation modes making the development of a coordinated investment strategy very difficult. There remain numerous statutory and legal constraints to achieve complete flexibility in using funds for the highest priority regardless of mode or institution.

Notwithstanding the constraints, there are several opportunities to improve the financial capacity for transportation investment in the state. Establishing and following well-defined investment strategies which are geared to implementing the state's policies and maximizing every dollar available for transportation investment will be necessary if the policies are to be successfully implemented. To operate and deliver the programs and projects called for in this policy statement will require a new level of flexibility and cooperation among the many agencies responsible for elements of the transportation system in New Jersey. This is especially true in the financial area.

Capital programs

Each transportation agency has submitted a business plan encompassing the period 1991-1994. The four-year total of all agencies' submissions is almost \$8 billion. This would translate into an annual program of some \$2 billion. For 1990, the annual capital programs for all transportation agencies was \$1.3 billion. The current level of capital investment is substantially lower than the annual level which would be necessary to support the combined programs as submitted. The four-year program levels as submitted by each agency are shown below along with their 1990 programs.

Proposed Capital Programs

(in millions)

	1990	1991-94
NJDOT	\$ 616	\$4,066
NJT	229	2,758
NJTA	277	915
NJHA	124	156
NJEA	3	11
DRPA	62	396
DRBA	17	110
DRJTBC	3	34
TOTAL	\$1,331	\$8,445

Revenues

Revenues available for capital investment are established to be approximately \$5.9 billion. On the basis of the programs presented there would be a revenue shortfall of approximately \$2.7 billion unless changes are made to the programs, new flexibility is permitted in the application of funds for priority projects, and all available resources are permitted to be applied to the overall program.

Estimated shortfall

(in millions)

Estimated Resources	\$5,745
Submitted Program	\$8,445
Estimated Shortfall	\$2,699

The revenue estimate includes funds from federal transportation programs, bond proceeds of the various agencies, the Transportation Trust Fund and excess operating revenue which is available for capital purposes. A number of assumptions have been made for the revenue estimates, including the use of traffic growth projections provided by the individual agencies. Since these estimates may be higher than current trends warrant, the estimates are likely to be conservative. Moreover, no new taxes are included in the revenue estimates.

**Current
revenues and
operating
expenditures**

With regard to federal funds, the current levels have been assumed for the 1991-94 period. Since the highway and transit programs are due to be reauthorized in 1991, it is difficult to project federal funds beyond 1991. New Jersey's share of the federal highway formula programs currently averages about \$300 million per year. This estimate assumes continuation of current levels of highway funding with adjustment for full funding for completion of the interstate and for interstate transfer projects. Federal transit funding has averaged \$145 million per year for the past five years (1986-90). For federal transit funding approximately \$120 million per year has been assumed for capital projects. (This includes federal funds for both NJ TRANSIT and the Delaware River Port Authority.) This reduction is based on the overall reduction in the transit grant program and the shift to greater competition nationally for limited rail rehabilitation funding. Additionally, federal funding for new starts provides a lower share of the total cost than for rehabilitation.

New Jersey has traditionally relied on funds from the Port Authority of New York and New Jersey for a share of the cost of certain projects located within the port district. No funds have been assumed in developing this estimate.

The Transportation Trust Fund is the source of state funds for the capital program for the NJDOT and NJ TRANSIT. This fund was created by the legislature in 1984 and is supported by revenues from the state motor fuel tax, motor vehicle registration fees, and payments from the turnpike, highway and expressway authorities. The Trust Fund Authority may fund the transportation program through a combination of debt and pay-as-you-go funding. To date, \$386 million of debt has been issued and \$252 million is outstanding. Revenue flowing into the trust fund has averaged \$330 million per year for the period FY 1985-89. In 1988 the legislature limited the annual state appropriations from the Transportation Trust Fund to \$365 million per year. This limitation has led to a considerable build up of balances which are currently at \$424 million.

Funding the operations of the state's transportation agencies varies by agency. NJDOT and NJ TRANSIT receive their funding from legislative appropriations and federal transportation programs. The toll authorities have the power to set tolls, issue debt, and undertake capital construction projects. In the past, there has been relatively little oversight or control of the independent agencies from the elected state government, save for legislative oversight and, for most authorities, the relatively blunt instrument of the gubernatorial veto. NJ TRANSIT does not have the ability to issue debt and its capital and operating budgets are submitted as part of the transportation department's annual budget request. There are several other small agencies which operate transportation facilities within the state as well.

To determine the future capabilities of these agencies, the past trends for both revenue and expenses have been examined. In both instances the trends raise a number of questions as to the ability of the independent agencies to provide major increases of revenue for the overall state transportation program.

In looking first at the operating revenues, the agencies currently project \$1.2 billion for the current operating year (1990-91). This figure represents a combination of general fund appropriations, tolls, investment income, federal funds and fares. Generally speaking, the operating revenues are used to cover the regular operating expenses of each of the agencies. For those agencies which generate their own revenue, any excess operating revenue may be applied to capital projects.

Revenues for the toll agencies experienced average growth rates in excess of inflation for most of the 1980s. Growth rates were highest at the Highway Authority, due to a toll increase in 1989, averaging slightly more than 11% per year. Toll increases accounted for much of the revenue gains at several of the other agencies as well. The Expressway Authority experienced the lowest growth rate, 5.5%. This was still higher than the increase in the NJ Consumer Price Index for the same period, 4.5%. At NJ TRANSIT, revenues rose at an average annual rate of 6.2% between 1985-89. This trend has slowed in 1990 and is expected to continue at a lower rate of growth.

In every instance, the revenue projects for each agency are expected to grow at substantially reduced rates for the period 1991-1994. As stated in Chapter II, the rate of traffic growth is projected to slow. This will affect the growth in toll and fuel tax revenue. Additionally, it is expected that the auto fuel economy will improve, reducing the revenue growth. In the case of the Turnpike, the drawdown of the bond funds will substantially reduce interest income which has been the major source of their revenue growth. Additionally, revenue from their concessions is projected to level off. Factors affecting the growth in toll revenues for several authorities include the health of the casino industry, summer weather conditions, and the potential for pollution problems at the shore. The reduction in growth rates for revenue translates directly into the ability to finance less in the way of capital investment.

The past and projected revenue trends for the 1985-94 period are shown below. As can be seen, for every agency the rate of growth is substantially lower for the upcoming period than it was for the preceding period.

Average Annual Revenue Growth Rates

Agency	1985-89 Actual	1990-94 Projected
NJT	6.2%	3.0%
NJTA	6.4%	1.6%
NJHA	11.2%	5.6%
NJEA	5.5%	2.7%
DRPA	7.6%	5.3%
DRBA	10.6%	1.8%
DRJTBC	21.9%	1.8%

One implication of these reduced growth rates is that there will be less revenue available to be applied for capital purposes.

In reviewing the operating expenses (1985-89) for each of the major transportation agencies in the state there are several areas worth noting. First, with one exception expenses increased faster than the rate of inflation. At the Turnpike and Highway Authorities, growth in operating expenses exceeded the rate of revenue growth thereby reducing the level of funds available for capital investment.

For most of the authorities, high costs for police and administration drove up overall expenses. At the Highway Authority, takeover of the state portion of the Parkway added to cost increases. However, despite significant scrutiny of their operations and cost containment measures, expenses still increased at an average of 12.2% per year.

Expenses are projected to continue their upward trend, but at a lower rate for the period 1990-94. Growth in the NJDOT operating budget will be lower than the projected inflation for the next two years. After adjusting for inflation, NJDOT will actually spend less, in real dollars, in 1991 than it did in 1985. The table below shows the growth rates by agency for the two periods, 1985-89 and 1990-94.

Operating Expenses Average Annual Growth Rates

	1985-89	1990-94
NJDOT	7.9%	2.8%
NJT	5.6%	7.4%
NJTA	9.8%	7.0%
NJHA	12.2%	7.0%
EA	4.3%	9.0%
DRPA	5.8%	5.3%
DRBA	8.2%	13.5%
DRJTBC	10.9%	5.1%
NJ Consumer Price Index	4.5%	5.5%

Controlling operating expenses will be an important element in managing the overall needs of the state's transportation systems.

**Policies
to provide
appropriate
and necessary
investment**

In order to implement the policies outlined in this report it will be necessary to make changes both in the programs and in the funding resources. There are a number of steps which, if taken, would help to close the gap without the need for additional taxes.

1. Lift the Transportation Trust Fund cap in order to support increased investment.

The funding capacity of the New Jersey Transportation Trust Fund Authority (TTF) is constrained both by the revenues appropriated to it, and by the \$365 million cap established by the state legislature. Revenue generated from the motor fuels tax and from other fees is placed in the TTF and can be used to fund transportation projects, either on a current basis or leveraged through the issuance of debt. At the current time, \$252 million in debt has been issued out of \$1.7 billion authorized. Balances have been accumulating in the fund and now represent \$424 million.

TTF revenue is not highly leveraged, leaving substantial discretion as to the size and funding method of the capital program which can be undertaken. Lifting the cap would permit a substantially expanded program without the need for any increase in revenues.

2. Seek greater funding flexibility.

Ideally, New Jersey's transportation funds should be able to be used without regard to source to fund the highest priority projects from a statewide perspective. While existing bond covenants create limitations regarding the use of bond funds from the various authorities, there is the potential to reassess project funding responsibility and eligibility through changes to current statutes and/or bond resolutions. Similarly, TTF resources should be permitted to fund certain capital maintenance expenses which would provide long-term savings and extend life cycles, particularly for NJ TRANSIT. This concept is being seriously considered by the Urban Mass Transportation Administration as part of their proposal to reauthorize the Surface Transportation Assistance Act.

Additionally, since it is likely that the federal highway program will permit the use of federal funds on certain toll facilities, the state should put itself in the best position to maximize on this new flexibility, if provided.

3. Control operating cost increases to ensure the best use of all available revenue.

The growth rate of operating expenses at a number of the transportation agencies, particularly for police services, is clearly disturbing. If allowed to continue, operating costs could seriously erode the ability of the state to make those investments that are crucial to continuing economic progress.

It will be vital for each agency to manage its operating expenses with far greater restraint than has been the record of the past. The TEC should establish a target level of growth for operating expenses for all agencies. The level would be determined based on both the operating and capital requirements for all of the agencies and an examination of the total transportation program in the state.

4. Advocate restructured federal funding formulas.

New Jersey will work closely with federal transportation officials and legislators to reshape federal highway and public transit programs to match the policies and goals of the state's capital program. For instance, there should be increased flexibility in the use of federal funds between modes. Highway programs and funding formulas should be revised to reflect New Jersey's policies of reducing air pollution, improving energy conservation and reducing overall trips, through the construction of priority rush hour lanes, reversible lanes, park and ride facilities, and technologies to manage congestion.

Public transit programs should recognize the basic requirement to preserve a satisfactory state of repair and provide resources accordingly. The federal Aviation Trust Fund should fund off-airport roadway and public transit services and systems which primarily serve airports. Finally the level of federal funding should be commensurate with the resources being generated.

5. Increase cost-sharing with private sector.

When investments are consistent with the policies defined earlier, greater efforts to develop public/private partnerships to expand the resources available for transportation projects will be undertaken.

6. Make tough capital program decisions.

If there are not sufficient resources, New Jersey can ill afford to continue business as usual. The state's ability to "win" in the 21st century will depend on its ability to make smart proactive investments and to decide not to make other investments or to lower levels of service. Investments will need to be made on the basis of statewide priorities rather than those of individual agencies. This process will involve painful choices, but must be faced with the knowledge that the strategic decisions will provide more rewards in the long run.

APPENDIX

Local Outreach Process Summary

The Transportation Executive Council, charged with making recommendations to the Governor on overall transportation policy, capital and operating investments, and related fiscal matters, sought a wide range of views on future investment decisions.

As part of the beginning work of the Transportation Executive Council (TEC), **each county and the seven largest cities (Jersey City, Paterson, Newark, Atlantic City, Camden, Elizabeth, and Trenton)** were asked to provide information about their capital investments and to review the capital plans of the agencies which function in their area. The information was gathered through meetings conducted in June and July. Each county/municipality was asked to provide an outline of major transportation issues, goals, and problems in their area, and a listing of any additional capital needs that they thought were important.

This appendix summarizes some of the issues which emerged as part of those discussions. It focuses specifically on the issues or goals which were most common throughout the state or to the particular region. **Nine overall themes** emerged from the discussions which are important to highlight.

1. There was general recognition that the **days of major road building in New Jersey are over**. To underscore how widespread this belief is, it is important to note that each county and municipality listed among its major issues the development or enhancement of public transit, paratransit or the creation of other transportation management systems.

In general, there was recognition that in order to decrease congestion, people need to move out of their cars. Furthermore, county and municipal officials across the state agreed that resources must be focused on public transit where densities permit, and alternative means of public transit where there is not enough density to support it.

2. A large majority of the counties and municipalities understand the importance of **system preservation and maintenance**. There was widespread recognition that as a means of reducing congestion, upgrades and capacity improvements on existing road and transit systems are needed. While virtually all municipal and county transportation investments are focused on system preservation or operational improvements, the need for these improvements far outweighs the resources available.

Over the next five years, the counties and municipalities plan to spend approximately \$1.5 billion for improvements to their own transportation systems. Additional transportation improvements which were identified as critical needs without identified funding sources available, total over \$2.5 billion — nearly double the combined local capital investments planned over the next five years.

3. Many of the counties and municipalities talked about the importance of **increased funding and reliable funding**. While increased funding was clearly a major issue, reliability of funding was also stressed. Reliability in funding focuses on the completion of missing links in the system and of being able to have a clearer understanding of the so-called "pipeline" process, projects under consideration. Clearly, state agencies have not explained that process well and it is a process that, as they move forward with their capital plan development, they should keep other levels of government informed about.

4. In a number of areas, **railroad right of way preservation** is an emerging issue. Counties and municipalities view these rights of way as an opportunity to provide for future transportation or recreational needs.

5. A major emphasis was placed on **improving state highway corridors**. The development along these corridors, and the resulting traffic and congestion, have been continuing sources of frustration for county and municipal officials. These are corridors which must be targeted for improvements.

6. There was a strong emphasis on **synchronizing planning efforts and investment** along all levels of government and the private sector.

7. **Intermodal connections** are beginning to be recognized as important. Not only in most developed counties (such as Essex), but also in rural counties (such as Warren). In many cases, intermodal connections for the more rural counties involved the development of park and ride lots which would give people access to transit facilities that would take them to their work destination.

8. **Deteriorating, out-of-date, undersized bridges** are a major impediment to traffic flow and are increasingly becoming a financial burden for local governments.

9. The need to have improvements to our transportation system recognized as a public benefit, particularly when **balanced with environmental regulations**, emerged as an extremely important issue. There is a thread that runs through nearly every individual report that expresses frustration with the inability to move transportation projects forward because of an increasingly complex and lengthy environmental permitting and review process.

In conclusion, local and county governments have made a strong **commitment to regional transportation planning**, have recognized the importance of developing alternatives to highway travel, and have developed their own capital programs for transportation investments. However, very limited resources and lack of clearly defined programming goals by other units of government and authorities, impede the ability of counties and municipalities to develop their own transportation programs as fully as they might.

