Goods Movement

New Jersey's fourth largest industry

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

April 16, 1991

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Goods Movement

New Jersey's Fourth Largest Industry

As a hub for both domestic and international trade, New Jersey has the potential to lead the nation in goods movement. Shipping, receiving, warehousing and distribution combined constitute the fourth largest industry in the state.

This report, the fifth in the Transportation Executive Council (TEC) series, outlines New Jersey's policies toward the goods movement industries and identifies the strategic opportunities and challenges that will help New Jersey capture a larger share of the global trade transport market in the 1990s.

The expansion of the global economy has been a boon to New Jersey's goods movement industry in some respects. Our ports are well positioned to handle the huge influx of goods flowing into the country. They are supported by an expanding supply of warehouse space and an extensive highway and rail distribution system.

Northern New Jersey's rail terminals have become a vital part of the increasingly popular "land bridge" concept, in which goods are shipped by boat from the Far East to the West Coast, and across the United States to the East Coast by rail, where they are ultimately distributed nationally and internationally. The increase in rail business has meant that New Jersey's losses at its sea ports as a result of manufacturing shifts to the Pacific Rim nations (i.e., Korea, Japan, Taiwan) are at least partially offset by its gains in the rail freight industry. Although the ports of Philadelphia have not fared as well, New Jersey has managed overall to retain its status as a gateway to the growing Pacific Rim trade.

An Industry Overview

Marine Cargo

New Jersey's already established and active freight facilities provide a solid base from which to capitalize on the rapidly expanding opportunities in goods movement. The state's three ports present significant economic development opportunities. The port industry has become a high investment, high risk, highly competitive business, but its rewards in terms of fueling the economic engine of the state are enormous. Among the nation's largest ports, more than twice the size of any other North Atlantic port, the Port Authority of New York and New Jersey (PANYNJ) estimates that port business accounts for 180,000 primary and secondary jobs and well over $17.7 billion in economic activity (2.4 percent of the gross regional product).

Similarly, in Camden, the South Jersey Ports Corporation (SJPC) alone accounts for 18,000 primary and secondary jobs and generates a total economic impact on the region of $1.2 billion annually. Private operators increase that activity even more. The SJPC has done exceedingly well in its efforts to become a niche port, one specializing in such bulk and break bulk commodities as fruit, steel, lumber and scrap metals. The SJPC is one of the ten most productive ports on the North Atlantic coast. It currently operates at capacity and occasionally must turn business away. Among the most congested and antiquated of ports, the SJPC is nonetheless among the most successful in its class.

Substantial opportunities still exist to expand business in these niche markets. The Port of Salem, although currently underutilized, could also attract significant development because of its position as one of New Jersey's three Foreign Trade Zones, a designation which entitles importers to preferential federal tax treatment.

Air Cargo

The greatest dollar value of goods imported into the New Jersey/New York region is handled not through water ports but through airports. The internationalization of assembly lines and a growing dependence on "just-in-time" delivery has made air cargo the rising star of the goods movement industry.

Newark International Airport (NIA), one of the nation's fastest growing air cargo hubs, is well positioned to capitalize on this rapid growth. International cargo handled at NIA increased by 249 percent between 1987 and 1989, while domestic cargo grew by 25 percent over the same period.

With traditional air cargo centers, such as Memphis, TN, at capacity, many air cargo carriers are looking for alternatives. The acute ground transportation congestion around New York's John F. Kennedy Airport (JFK), particularly along the Van Wyck Expressway on Long Island, has made NIA increasingly attractive as an East Coast air cargo center, especially for small package shipments. By the close of the century, Newark is expected to handle more than 50 percent of the region's domestic tonnage. NIA's strengths include good transportation access to major highways; an adjacent pre-eminent seaport; a large concentration of motor carriers; an extensive network of brokers and forwarders; and a surrounding population of 17 million.

Rail Freight

Conrail is the predominant rail carrier currently serving the state and providing New Jersey industries with connections to the nation's rail freight system. The New York, Susquehanna & Western Railroad (NYS&W) has been Conrail's principal competitor for years, but other shortline railroads also provide local rail freight service in many areas. Together these carriers serve a total system of 1,500 track miles, move over 18 million tons of freight annually, and employ 2,000 people. Direct economic activity is estimated at $65 million annually.

While a far cry from rail freight's heyday at the turn of the century, the state's rail freight system has kept its industries competitive in a changing marketplace. Availability of a modern rail infrastructure, coupled with the flexibility offered by shortline railroads, has made the state a leader in intermodal transportation and maintained the region's foothold in international markets.

The recent acquisition of the Delaware and Hudson (D&H) Railway by CP Rail of Canada will undoubtedly prove to be a strong competitive counterbalance to Conrail's dominance of the region. This purchase will open up new markets for rail freight service, especially the Canadian market. The D&H acquisition further gives the Ports of Philadelphia the distinction of being the only east coast port facilities served by three competing Class I rail carriers, Conrail, D&H and CSX, a southeastern railroad serving Chicago and points south and east.

Trucking

The motor carrier industry has become the foundation upon which the marine, air cargo and rail industries depend. At some point, almost everything in New Jersey travels by truck. For example, 90 percent of all tonnage into and out of the New York region is moved by truck. If only rail and truck shipments are considered, that percentage rises to 97 percent.

Rail, marine and air cargo shipments are conveyed by truck from their respective terminals to distribution centers or final destinations over the highway system. Trucks also carry all of the local distribution to retail outlets. While a healthy trucking industry is an economic necessity for New Jersey, the industry itself contributes significantly to the economy. In New Jersey, 250,000 jobs are directly related to trucking. The state serves as a base to 4,500 trucking companies registering 500,000 vehicles and generating $2 billion annually in direct income.

Distribution/Air Cargo

The distribution industry accounts for 7 percent of total state employment. Its strategic importance to New Jersey and the region should not be underestimated. Demand for on- and off-airport distribution facilities continues to increase because of the massive growth in air cargo at NIA. As manufacturing firms leave New Jersey, more products must be supplied to the New York/Philadelphia region through distribution centers. New Jersey is ideally located for this important distribution role, as evidenced by the growing number of industrial parks along the New Jersey Turnpike near Interchange 8A which serve both the Philadelphia and New York markets. Warehouse availability has also become a major factor in port choice. For example, Philadelphia is a successful distribution point for South American fruit because its modern warehouses are equipped to handle this fragile commodity.

The Changing Market

The goods movement industry is experiencing major changes, presenting both the opportunity to capture a larger share of the global distribution market and the risk of irretrievably losing ground to competitors. Several trends that developed in the 1980s have combined to make the first half of the 1990s a "shake out" period when the winners and losers of the seaport and airport competition will emerge.

Those trends include:

- A shift in the movement of international cargoes from the East to West Coast;
- The deregulation of the air, maritime, rail and trucking industries; and,
- The logistics revolution.

Shifting International Cargo Movements

In the 1980s, the Pacific Rim nations overtook Europe as the focal point for international trade. Ports on the West Coast, because of their proximity to this new trade site, gained a substantial share of the market, primarily at the expense of the Atlantic Ocean ports. East Coast ports were further hurt by declining population growth in northeastern and midwestern states, and by the widespread shift from a manufacturing to a service economy, which cut down on the volume of nationally produced goods to be transported. The technological capabilities of the West Coast ports, particularly with regard to containerization and on-dock rail facilities, far surpassed those of other United States ports, providing yet another advantage over the East Coast.

This trend has begun to change, however, with industries once located in the Pacific Rim countries shifting their manufacturing sites to the cheaper labor markets of the developing nations of Malaysia and the Indian subcontinent. This geographic shift makes shipping to the Atlantic Coast via the Suez Canal economically possible, with potential for enormous benefits both in port business and in new reverse rail moves.

Deregulation and the Logistics Revolution

In the early 1980s, deregulation of the maritime, rail, trucking and air cargo industries made it possible for all four modes to adopt more flexible rates, rid themselves of excess capacity and rationalize their routes. At the same time, the logistics of goods movement — the mechanisms by which goods are moved, warehoused and distributed — were undergoing a revolution. Manufacturers and shippers began to depend on:

- **Manufacturing outsourcing,** i.e., manufacturing components in cheap foreign labor markets and then shipping them to the United States for final assembly.
- **Just-in-time delivery** to reduce costs by delivering goods precisely when they are needed on the assembly line or the retail shelf, thus eliminating the need for inventories. This puts a premium on the speed and reliability of transportation.

To satisfy the cost/time delivery needs of shippers dealing with international assembly lines and just-in-time delivery, transportation providers have focused on:

- **Modal integration.** The maritime industry has undergone a major change, becoming an international, integrated, source-to-delivery transportation provider. This expanded role has been supported by the purchase of rail rolling stock and trackage rights, truck fleets and warehousing. Railroads, too, began acquiring trucking companies and freight forwarders.
- **Air cargo.** Manufacturers are relying increasingly on air carriers for just-in-time delivery of key assembly line parts from plants around the world and for delivery of final products to retail outlets.
- **Rate integration.** Newly formed transportation companies have begun to offer "through rates," single rate quotations for combined maritime, rail and truck shipments. The result, in many cases, is that shippers can directly influence not only the port of entry but the operations of the railroads and trucking companies as well.

- **Load centering.** Recognizing the significant economies of scale, as well as the time savings that could result from intermodalism, many maritime companies are narrowing their focus. Steamship lines are finding it more economical to off-load their cargoes at a few key ports of call, and then rely on intermodal connections for distribution, rather than making several stops at ports in the same area.

  Ports with notable geographic, market, and transportation infrastructure advantages, such as deep harbors and extensive capital improvements dockside, are naturally at an advantage for load center consideration. Similarly, Federal Express has revolutionized the air cargo business with the hub concept that is now being duplicated by many other carriers.

Recognizing the opportunities created by these market changes, the Transportation Executive Council has identified the capture of a larger share of gateway commerce as a major strategic focus for transportation investment in the 1990s.

Strategies for Success

Unlike some other states, New Jersey has made only limited attempts to take advantage of the national goods movement revolution. We have been able to compete by depending on our existing assets, such as natural harbors, an enormous local market and excellent highway facilities. But as shipping lines focus on fewer and fewer ports of call and as air carriers concentrate on developing just a handful of air cargo hubs, New Jersey will have to devise aggressive modal strategies that will assure the state's pre-eminence in the goods movement industries.

A Port Strategy

Both Port Newark/Elizabeth and the ports of southern New Jersey share their harbors with another state, which has made development of a unified, aggressive port policy, especially in southern New Jersey, extremely challenging. However, New Jersey can no longer afford to rely on its natural assets. Unification of the southern New Jersey ports into a larger Delaware River port facility depends on the development of a rational plan of action to attract increased business. Unfortunately, many of the strategies that this unified port would pursue to gain a greater share of the market could compete, albeit marginally, with Port Newark/Elizabeth. Such potentially destructive competition will not benefit the state's objective of playing a larger role among the competing North Atlantic ports.

Ports compete on the basis of both price and service. Although Port Newark/Elizabeth is near the nation's largest market and offers more services than any port in the North Atlantic, its costs average approximately $150 more per container than its primary competitors. This is due principally to higher labor costs and higher rail drayage costs. Because of the shallow draft, many of the largest, most heavily laden ships must come in on the tide. Drayage (the cost of hauling cargo) to the nearest rail facilities can be expensive, reaching as much as $125 per container. Hence, containment of these costs and development of steps to maintain competition are critical to the Port's ability to attract new business and to hold on to existing cargoes.

Further enhancement of rail competition is also desirable. CP Rail and NYS&W should be given access to Port Newark/Elizabeth and possibly to the Greenville terminal area in Jersey City.

States like Maryland and Virginia have recognized the economic value of becoming a primary United States gateway and have invested substantially in their ports. Norfolk offers a channel depth of 60' (compared to 35' at Port Newark/Elizabeth) and competitive rail access to the Midwest. Baltimore's new Sea Girt facility is one of the nation's most modern, with pier-side rail facilities providing more economical access to the Midwest. Significantly, neither of these ports determines costs based on the recovery of the public capital investments that have been made in these facilities. The Port Authority, on the other hand, has an obligation to its bondholders to pursue only those projects which are expected to have an acceptable return on investment.

An Air Cargo Strategy

The unique needs of the air cargo industry will require attention if the New York/ New Jersey region is to forge an aggressive strategy for developing air cargo as an independent business.

Relieving highway congestion will be critical to maintaining NIA's competitive advantage. By its nature, air cargo is time-sensitive. If it takes as much time to traverse the airport's surrounding roadway network as it does to fly across the ocean, NIA will be less attractive. Delays in the area around NIA tax the ability of small package express companies to meet their advertised delivery schedules. For these reasons, the TEC supports the widening of the Turnpike in the vicinity of the airport, expanded ramp connections from I-78 to NIA and places considerable priority on addressing the trans-Palisades and midtown trans-Hudson congestion problems.

Beyond this, the state must aggressively preserve its existing airport capacity, not only to ensure the productivity of our major airports by providing relief capacity, but also to preserve the option for future expansion, particularly in the air cargo industry.

New Jersey has been losing airports at the rate of one a year for the last decade. Those airports served as needed relievers to the state's primary airports and were an important business support.

New Jersey also has a significant long term resource at McGuire Air Force Base. The airport is the size of JFK and could, in the long term, become a major air cargo hub serving both the Philadelphia and New York-New Jersey markets.

A Distribution Strategy

A key competitive factor in the growth of NIA will be the availability of nearby land for warehousing. The 500,000 square feet of warehousing space that now exists or is under construction is considered inadequate for present levels of cargo, let alone for forecasted growth. In other reports, the TEC has concurred in the use of this site for these purposes.

In addition, the PANYNJ should consider expanded use of warehouse space on its marine facilities for air cargo as well as sea cargo inasmuch as site proximity is perhaps more important to air cargo than marine cargo. Finally, representatives from Elizabeth, Newark and the PANYNJ must candidly discuss the best use of developable land around the airport and reach a consensus on the economic development of the area.

Warehouse availability has also become a major factor in port choices. Like Philadelphia's success with South American fruit because of its warehousing capability, Brooklyn also has attracted large volumes of coffee and cocoa imports largely because of the strategic location of its modern warehouse facilities. Unfortunately, the average age of warehouse facilities in the New Jersey port region is 24 years and refrigerated space is limited. The PANYNJ has identified additional modern warehouse space as strategically important to attracting international cargoes.

A Rail Strategy

The ports that can offer the best access to the Midwest and Canada, in terms of both price and time, will have the advantage in attracting international cargoes. Both Baltimore and Norfolk have competing railroads serving their ports, which has kept the service responsive to the changing logistics and the rates relatively low. Port Newark/Elizabeth is currently served by only one Class I railroad, Conrail, and by one aggressive Class II railroad, the NYS&W. The introduction of CP Rail via their recent purchase of the D&H Railroad should go a long way toward creating a more responsive rail system in the New York region. Adequate terminal facilities and routings must be provided, however, to assure that this rail system realizes its full competitive potential.

The investment of $32 million in combined federal, state and local funds in the state's shortline railroads during the last decade has helped restore 80 to 90 percent of the track to sound operating condition. The construction industry created a strong demand for building products such as lumber, stone and sand, temporarily guaranteeing the small railroads a stable revenue base. The softer economy of the last year and a half, however, has resulted in significant downturns in business on the smaller shortlines. If a minor downturn in the economy can have such a severe impact on the shortlines, there is real concern over their ability to weather an economic recession. A strategy of providing a safety net for financially marginal rail lines must be pursued.

New Jersey will participate in the Bi-State Transportation Forum efforts to develop a regional rail policy to determine regional transportation requirements. Regional transportation agencies should be concerned that traffic volumes and competition between CP/Conrail be structured to encourage reasonable rates and service. This also applies to motor carrier initiatives to insure states and agencies are working to develop integrated regional goods movement policies and projects.

A Trucking Strategy

The key to the efficient integration of freight modes is the trucking industry. Ships, aircraft and trains move throughout the state and nation relatively unencumbered, but the movement of their cargoes often gets bogged down on the highway during the delivery phase. Delay is the principal obstacle to an efficient trucking industry, yet it is the one feature that seems to be built into the system.

Delays come from a variety of sources. The growing mismatch between the existing infrastructure and the steadily increasing sizes and weights of trucks can limit productivity by requiring circuitous, time-consuming routings. Urban congestion is making travel increasingly unreliable in a market that is clearly gravitating toward just-in-time deliveries.

Even non-transportation related issues like the complex and sometimes contradictory nature of regulations imposed by various levels of government can hinder the movements of trucks. We must bring trucking concerns into the mainstream of our transportation thinking. A strategy for decreasing congestion and streamlining trucking procedures and operations is needed to assure continued productivity.

Policy agreements should be developed between New York and New Jersey for establishing truck/ferry services to provide alternative routing when infrastructure rebuilding is necessary. Consideration should be given to a regional legislative effort to obtain federal funds from the Highway Trust Fund for emergency intermodal transportation.

Recommendations

The biggest challenges facing the state will be finding the necessary resources to repair and improve the aging freight infrastructure and dealing with the strategic issues that stand in the way of continued growth and productivity. The economics of the 1990s will dictate a careful approach to freight transportation expenditures and planning. Transportation policy must shape and guide economic growth within the limits of available funding.

In a global economy, transportation will play a critical role in New Jersey's economic success or failure. Clearly, the state can ill afford to take its responsibilities in the goods movement area lightly. The transportation investments of the next ten years will shape New Jersey's economic future well into the 21st century. New Jersey's pre-eminence as an international gateway and distribution hub is at stake. There are a number of steps which should be taken to position the state to compete.

Statewide Port Strategy

- **Reduce labor costs.** When cargoes at Port Newark/Elizabeth became increasingly containerized — substantially reducing the need for longshoremen — the salaries of the workforce were guaranteed regardless of the availability of work. The cost of that agreement is eroding the Port's competitiveness. Because there are few capital investments that will offset this inherent cost disadvantage, the PANYNJ should seriously evaluate either a long-term contract buyout or continuation of the current drayage incentive program.

- **Implement dredging projects and aggressively pursue new dredge materials disposal sites.** The 1986 federal Water Resources Development Act authorized improvements to six channels serving ports in New Jersey under the sponsorship of a public agency. The Port Authority will act as the sponsor and provide the local match for the four projects within the port district: the Port Jersey Channel in Jersey City-Bayonne, the Claremont Terminal Channel in Jersey City, the Arthur Kill Extension (Kill Van Kull Channel) from Staten Island-Howland Hook to Carteret and the Newark Bay Channel. Two other bi-state authorities, DRPA and DRBA, represent the most logical choices for providing the local match for the other two projects, the Beckett Street Marine Terminal in Camden and the Salem River Channel in Salem, respectively.

  Over the long term, the lack of a site for disposal of dredge materials may prove to be the Achilles' heel of the state's ports. Within three to four years, the ocean "mud dump" which has been receiving dredged material from New York Harbor is scheduled to close. This issue requires further attention at both the state and federal levels to assure that necessary channel deepening and maintenance dredging projects can continue unabated.

The PANYNJ and DRPA should begin evaluation of alternatives for the disposal of contaminated dredging materials, including the feasibility of developing an artificial island, borrow pits and upland disposal. Non-contaminated dredged materials should be disposed of in the ocean but this requires the designation of a new ocean disposal site, or the expansion of the existing ocean disposal site.

- **Invest in electronic logistics information systems.** Port competitiveness will also depend on the availability of electronic services to support the new intermodal integration. The PANYNJ's investment in the automated customs entry system (ACES) and the automated equipment identification system is a good beginning, but the PANYNJ will have to stay abreast of electronic tracking capabilities and become a leader in innovative logistics information services.

- **Maintain and enhance highway access to Port Newark/ Elizabeth.** Excellent highway access, particularly along the Turnpike, has been a critical factor in the competitive edge of the northern port. As a main element of its competitive strategy, the PANYNJ has made the asumption that the Turnpike will expand its capacity from Interchanges 11 through 14. The TEC recognizes the strategic value of that expansion, not only to Port Newark/Elizabeth, but also to the neighboring Newark Airport. The new capacity should, however, be reserved for high occupancy vehicles and trucks. It should not be consumed by growing numbers of single passenger vehicles.

- **Unify the ports in southern New Jersey with those in Philadelphia.** Just as New Jersey cannot afford competition between its northern and southern ports, so it must avert destructive competition between the southern New Jersey and Philadelphia sides of the Delaware. The southern New Jersey and Philadelphia ports, which under the aegis of the Delaware River Port Authority (DRPA) comprise the Ports of Philadelphia, have substantial, but different, capital investment needs that unification could accommodate. However, New Jersey must ensure that the marketing strategy pursued by the unified Philadelphia ports does not dilute the strengths of the northern New Jersey ports.

There will be competition between them for a share of new global markets and expanding third world markets, but steps should be taken to avoid competition for existing cargoes resident at one port or the other. Such competition does not represent a net gain in tonnage, rather it just moves tonnage from one region of the state to another. Further, competition to become a major east coast load center has realistically been narrowed to Newark/Elizabeth, Baltimore and Norfolk. Hence, capital expenditures at the Ports of Philadelphia should be targeted appropriately to assure its ability to compete in those specialized markets which have proven successful, rather than head-to-head competition for markets already served or targeted by PANYNJ.

Achieving unification along the Delaware involves three steps.

1. The existing bi-state compact, which dates back to 1951, must be modified to give the DRPA the power and legitimacy it needs to carry out its initiatives.

2. A sound business plan must be developed, outlining rational growth targets for the unified ports.

3. A port infrastructure renewal program, which includes projects to upgrade SJPC facilities to eliminate severe capacity constraints, replace aging equipment, and accomplish maintenance dredging, must be implemented.

The eventual result will be a full-service port that exploits market niches, avoids intraport competition, and competes confidently with other North Atlantic ports for specialty cargos.

- Further explore the potential of the Port of Salem. Although currently it can accept only shallow draft vessels and barges, this port is strategically located for certain niche cargoes. It could serve as a spillover port for bulk cargoes from the ports of either Baltimore or Philadelphia. Excellent rail access exists from the Camden area to the border of the port district, although low volumes have not been able to sustain service. The Salem Port Authority has advanced a project to improve rail/ship transfer capabilities within the district. The possibility of developing this port further should be studied.

Rail Freight

- **Secure rail competition.** The state has an immediate opportunity to secure Class I rail competition for the first time since the creation of Conrail. The purchase of the D&H by CP Rail of Canada gives CP trackage rights into the state via both NJ TRANSIT and Conrail-owned lines. To fully realize the benefits of deregulation, such competition is imperative.

- **Improve rail clearances.** Substandard clearances stand in the way of providing a second competitive route into New Jersey. For CP access over Conrail right of way, improvements will be needed on the former Lehigh Valley and Central of New Jersey lines. Direct competitive access to pier-side facilities at Port Newark/Elizabeth is hampered by clearance problems on Conrail's River Line.

- **Consider future expansion of the NYS&W and the Winchester and Western shortlines.** In the event of smaller rail line bankruptcies, these railways could cover the areas currently served by existing smaller shortlines. The two larger shortlines have solid, extensive traffic bases and could easily maintain necessary links in the shortline network.

  Further, exploration should be made of the use of NJ TRANSIT track rights to link the southern rail services to the northern counties for the delivery of such key construction materials as sand. The NJDOT has been asked for help in resolving these problems and should provide it to encourage much needed competition in the state's rail freight service.

- **Expand terminal space.** The NYS&W is already suffering from too little terminal space. If they provide track access and terminal capacity to CP, this shortage will become more acute. However, the NYS&W has proposed construction of a new container facility in Secaucus and CP Rail has terminal rights at Oak Island Yard in Newark. The Oak Island Yard facility would require substantial upgrades and, though limited in size, it would offer CP an intermodal facility close to the Port Newark/Elizabeth complex.

- **Increase track capacity.** NYS&W track capacity is insufficient to handle its expanding business. A shortage exists even without considering the extra demand that may be caused by CP Rail. Provision of a parallel passing siding (in effect adding a second stretch of track along a one- to two-mile portion of the mainline) in the Newfoundland area would permit the operation of two trains in opposite directions, thus increasing capacity on the line.

- **Improve portside rail access.** Shortening the time and lowering the cost of the transfer from water to rail would also enhance port competitiveness. Projects such as expanding and upgrading the Port Newark Intermodal Yard, development of an on-dock intermodal terminal and upgrading the Greenville Yards in Jersey City to serve as an expanded carfloat service yard would reduce the need for costly drayage of containers to distant intermodal rail terminals.

- **Plan regional intermodal** facilities that avoid duplication, reduce congestion and improve regional goods movement, ensuring that infrastructure dollars are wisely spent.

Distribution/Air Cargo

- **Provide additional warehouse space.** As warehouse availability has become a major factor in port choices, provision of additional modern warehouse space has been identified by the PANYNJ as strategically important. New Jersey must support this strategy by ensuring that land near major interchanges of the Turnpike and Atlantic City Expressway is zoned for warehousing. This would reduce the problem of large trucks frequently using arterials and ensure convenient transportation between major goods movement hubs.

- **Preserve available airport capacity.** The state must develop a strategy for landbanking key aviation facilities as alternative uses threaten their use for aviation. Specifically, New Jersey must play an active role with the Federal Aviation Administration (FAA) to evaluate the potential for military/public use of McGuire Air Force Base and prepare to preserve and utilize this valuable state resource.

Trucking

- **Support prioritization of systems preservation and capacity enhancement projects on main goods movement networks.** Examples include the resurfacing and widening of Doremus Avenue, where, although it serves as one of the principal entry routes to the Port Newark area, transporting even empty ocean-borne containers is seriously hampered.

  Other potential projects include repairs to the Whitpenn Bridge on Route 7 in Kearny; construction of full interchanges on I-287 at Stelton Road and New Durham Road in South Plainfield, Somerset County; and construction of a jughandle or other traffic control device at or near the approaches to North Avenue and Kapkowski Road in the Port Elizabeth area. Kapkowski Road should be extended from the western border of the Elizabeth Marine Terminal to the City of Elizabeth.

- **Continue congestion mitigation efforts.** Truckers compete with other travelers during both commuter and recreational peaks. Consideration should be given to greater use of nighttime delivery, to 24-hour operation of port facilities, and, under specified circumstances, to priority treatment of trucks on primary goods movement routes.

- **Construction and reconstruction projects should take truck transportation into account during the impact mitigation planning process.** Much of the region's truck traffic has already been diverted to off-peak hours. State DOTs, trying to avoid commuter delays by taking advantage of those same time slots, now schedule major construction projects for off-peak periods. Off-peak truck movements are not, in themselves, a total solution. A study of mandatory night shipping and receiving by Caltrans indicates that it would cost the California economy more than $3 billion annually. However, major highway improvement projects will always have a severe effect on truck travel patterns.

- **Alternatives to relieve pressure on trans-Hudson crossings, such as a cross-harbor truck ferry and electronic toll traffic management (ETTM), are being actively discussed and should be pursued.** However, major highway improvement projects will always have a severe effect on truck travel patterns. A long-term project like the proposed Gowanus Expressway reconstruction will effectively limit tractor-semi-trailer combinations' access to New York to one route, the George Washington Bridge.

- **Re-evaluate state policies on longer trailer lengths and truck productivity.** In 1982, the federal Surface Transportation Assistance Act (STAA) mandated productivity improvements for the motor carrier industry. Specifically, the act opened up a designated system of highways for use by twin trailer combinations and 102-inch wide trailers of up to 53 feet in length. The STAA is to be reauthorized by Congress in 1991, and the industry has already begun to request still larger vehicles to offset higher costs of fuel and the recently imposed federal fuel tax increase.

  Though not an immediate issue, NJDOT must examine the impacts of various vehicle configurations being proposed and develop a position regarding their use on New Jersey's roadways. Industry sources indicate that the most likely proposals for the immediate future center on single 57 foot trailers, twin 48/53 foot trailers, triple 28 foot trailers, and increased vehicle weights. Before decisions can be made regarding access by these vehicles, their operating characteristics and impacts on New Jersey's antiquated infrastructure must be evaluated. It is presently the state's view that no increases in truck size or weight beyond those already authorized by the 1982 Surface Transportation Assistance Act should be considered, and that any industry initiative should be dealt with at the federal level to avoid competitive inequities among the states.

NJDOT will review its permit system for twin 28-foot trailers, which are currently the only vehicles regulated by permit. Because of their shorter turning radius, twin trailers actually have fewer geometric problems than a single 48-foot trailer. Therefore, other state roads will be analyzed as potential additions to the designated network.

Until recently New Jersey was one of only a handful of states, mostly in the northeast, which did not allow 53-foot trailers. As the warehousing industry moves farther away from urbanized areas, new facilities often locate along major interstate routes. Larger vehicles are more practical for long hauls to these warehouses, while distribution from the facilities is generally more economical in smaller vehicles. Routes will be studied to ensure that the 53-foot combinations are compatible with the infrastructure on those routes.

- **Develop a permitting system for ocean containers.** Many of the ocean containers that are transported over New Jersey highways violate federal weight standards. The state's trucking companies and draymen bear the brunt of enforcement activities, even though they have no control over the loading of these boxes. New Jersey must develop a permitting system for sealed overweight ocean containers, treating them as non-divisible loads, until such time as federal legislation mandating uniform container weights is enacted.

- **Advance the use of ETTM with the trucking industry.** With the number of toll roads in the state, the use of ETTM would facilitate industry billing and reduce delays. New Jersey has been studying the use of "smart highway" technology for almost a decade. It is time to begin implementing the recommended projects.

As evidenced by the opportunities, problems, and strategies outlined in this report, the goods movement industry plays a tremendous role in New Jersey's economy. Our policies toward goods movement must therefore reflect the industry's integral importance to the state's success.