MAINTAINING MOBILITY-A TRANSPORTATION PLAN FOR THE REGION

summary

TRI-STATE REGIONAL PLANNING COMMISSION
CONNECTICUT
NEW JERSEY
NEW YORK

MAINTAINING MOBILITY

-A TRANSPORTATION PLAN FOR THE REGION

June 1981

The preparation of this plan summary was financed by federal and state funds. The federal funds were made available by the Federal Highway Administration and the Urban Mass Transportation Administration of the U.S. Department of Transportation. The state funds were made available by the states of New Jersey and New York.

THE TRI-STATE REGIONAL PLANNING COMMISSION...

... is an interstate agency that defines and seeks solutions to immediate and long-range problems in economic development, housing, transportation and other public matters in the New York metropolitan region covering 21 counties in New York and New Jersey and six planning regions in southwest Connecticut.

Founded in 1961, the Tri-State agency became an interstate commission in 1965 through a compact enacted by the three state legislatures. The compact was amended in 1971 to give the Commission its present name and functions.

Recognized by the federal government as the official planning agency for the Tri-State Region, the Commission, in addition to its own planning, is also a central supporting resource for subregional and local planning. It provides assistance in solving problems that spread beyond local control. It also encourages coordination among all agencies charged with an interest in planning or providing publicly aided facilities within the Tri-State Region.

The three states and the federal government finance the work of the Commission. Federal funds come from the U.S. departments of Transportation, Commerce, Housing and Urban Development, and the U.S. Environmental Protection Agency.

Fifteen voting commissioners — five from each state — are appointed by the governors in accordance with the laws of their respective states. Nonvoting members, mostly representing the federal government, are also commissioners.

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TSRPC-5M **7/81**

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TRI-STATE REGIONAL PLANNING COMMISSION

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June 18, 1981

To The Reader:

This report summarizes the latest edition of the regional transportation plan, Maintaining Mobility, the officially recognized instrument for guiding the improvement of transportation in the three-state metropolitan region.

The plan has been extensively revised to better meet the needs of our changing times. A section has been added to describe the transportation planning process which culminates in the presentation of the plan. The plan has been coordinated with local, regional, state, and federal agencies to ensure consensus on goals and directions for the Tri-State Region and its transportation system. Additionally, it has been the subject of a series of public meetings held during March and April 1981.

We believe that the plan represents the best possible snapshot of how transportation should serve the people of the Region through the 1980's and beyond. Yet this plan is only a static picture of a dynamic environment. To be sensitive to changing conditions, the Commission is committed to reviewing and revising this transportation plan on a periodic basis and to an annual update of the plan's major component, a five-year Transportation Improvement Program.

To provide maximum opportunity for review and comments on Maintaining Mobility, this summary has been prepared. The complete plan elaborates on the discussion in this summary and also describes the projects shown on the maps.

It is expected that Maintaining Mobility will be the subject of much public discussion among the residents of this Region in the coming months. I cannot overemphasize the importance of this dialogue.

I welcome your continuing comments on this plan.

Sincerely,

Frank T. Johnson
Executive Director

FTJ/MH/er

TRANSPORTATION PLANNING IN THE TRI-STATE REGION

The Tri-State Regional Planning Commission was created by concurrent legislation in Connecticut, New Jersey, and New York and designated as the metropolitan planning organization for the greater New York area. The Commission coordinates several types of planning, including transportation, housing, land use, and economic development. The Commission consists of five voting members from each state, plus nonvoting members from the federal government and other agencies. All of its actions are based on advice received from its own professional staff, from a Technical Advisory Group (composed of representatives of federal, state, regional, and local agencies), and from a Citizens Advisory Panel appointed by the governors.

Two special mechanisms have been established to help meet the Commission's transportation responsibilities. The first mechanism has been the decentralization of certain decision making authority to transportation coordinating committees. These committees are composed of responsible local, state, regional, and federal officials, public transit operators, and others. Their primary responsibilities are to encourage intergovernmental coordination, and to assure local participation and public access to the planning process.

The second mechanism is a series of contracts between Tri-State and individual subregional jurisdictions, including the cities with more than 200,000 people, plus the counties in New Jersey and New York and the regional planning agencies in Connecticut. Through these agreements, the Commission provides the subregions with federal funds for urban transportation planning. In return, the subregions perform studies, develop plans and programs (including the Transportation Improvement Program - the TIP) and implement improvements.

The Transportation Improvement Program is a staged list of capital and operational improvements that are drawn from the Region's plans and are scheduled to advance during the succeeding five years. Thus it is effectively a bridge that joins the planning process with implementation.

THE WAY THE REGION IS HEADING

The past few years have seen a drastic change in the outlook for the Tri-State Region. The rapid growth of the 1950s and '60s slowed in the '70s, and in 1972, the Region began to lose population for the first time in memory. Employment, the most critical element of regional growth, declined as the Nation's economy stalled and the sun-belt states attracted industry away from the northeastern states. This erosion of the Region's economic base brought with it a crisis in government finance as the demand for, and cost of, public services increased beyond available resources. In response, attention was forced to shift from expansions to cutbacks, with the emphasis placed on greater efficiency rather than on additional facilities and increased service.

As traumatic as this period has been, it has been weathered and prospects for the future are beginning to brighten. The Region's employment has started to increase again, and governmental bankruptcies have been avoided. Nevertheless, a return to the vigorous economic and population growth of earlier decades is not expected. Instead, only modest growth is foreseen for the remainder of the century, and this will be accompanied by continued concern for environmental quality, social equity, resource availability, and economic stability.

Under these circumstances, plans for the Region's future must be carefully adjusted to reflect these altered perspectives and conditions. Goals and objectives must be selected that are realistically attainable, as well as consistent with popular desires. Plans for transportation and other public services must be closely aligned with existing and planned land use patterns. All planning decisions must be based on comprehensive analysis of available options with a major emphasis on efficiency and economy. Significant improvements in the quality of life are clearly possible, but many of them will not be achieved easily, quickly, cheaply, or painlessly. Progress towards a better Region will require changes in past habits, patience, and coordinated, dedicated efforts in both the public and private sectors.

REGIONAL GOALS AND OBJECTIVES

LAND USE

The cornerstone of the Tri-State Regional Planning Commission's comprehensive plan is the Regional Development Guide 1977-2000 (RDG). The Guide establishes the fundamental goals on which all regional planning is based, and lays out the basic goals, objectives, policies, and implementation strategies on land use and economic development that all other plans are designed to serve. The Guide realistically recognizes the probability of modest growth and limited resources, but still foresees a prosperous and well ordered metropolitan region attractive for living, working, and recreation. Several broad goals of society are described and provide the basis for giving order to future development:

Use natural resources wisely reflects a heightened concern for our limited natural environment, how we avoid wasting exhaustible resources, and how to manage those that are renewable.

Build and manage with skill and purpose means that the Region should operate with efficiency, without wasting energy, and without the effects on some groups and locales that negate the progress made elsewhere in the Region. Proper use of our limited resources requires efficiency and effective performance wherever planning choices are to be made.

Organize an equitable society emphasizes the importance of broadened capabilities for both personal improvement and contribution to the Region's productivity. Such fairness means elimination of prejudicial practices in housing, education, employment, and other aspects of daily life plus equal access to all opportunities.

From these general goals, the Regional Development Guide derives three primary objectives.

Conserve environmentally sensitive lands, which are vacant lands where environmental characteristics make it desirable to prevent development altogether, have it occur at very low rural densities, or if development must occur, provide special safeguards, particularly in urban areas.

Concentrate development and revitalize the older cities. Closely grouping the places where people live, work, and shop is much more efficient than sprawl or dispersal. It economizes space and time and conserves energy. Concentration makes good use of massive existing capital investment and enhances the effectiveness of the public services already in place. Economic development, with its maintenance

and expansion of jobs, is an important element of concentration and revitalization. Thus, the plan aims to maintain existing communities and to revitalize the declining cities.

Balance dwelling, jobs, services. Satisfaction in the everyday lives of the Region's residents includes a proper balance among residential choice, opportunities for employment, and the availability of stores, cultural facilities, recreation, and other services. It is a primary purpose of the Guide, together with the Commission's housing plan, People, Dwellings & Neighborhoods, to expand significantly the housing location choices of everyone, including the economic and social minorities who are now concentrated heavily in the older urban areas of this Region.

ECONOMIC REVITALIZATION

The transportation projects in Maintaining Mobility have numerous effects beyond just transportation benefits. A major theme of this plan is the economic revitalization of this Region using transportation as a catalyst to make it happen. One of the three goals that motivate this plan is to "Foster desired...economic development by preserving...transportation systems, and by providing supportive improvements." The transportation improvements advocated here are intended to generate economic opportunities for the Region's constituency, especially within the private sector, through improvements in the mobility of the labor force, access to raw materials, and expanded markets. Making the northeast an attractive and competitive place to live, work, visit, and invest are priority concerns of the chief elected officers and legislatures of the three states, which are mirrored in this transportation plan through its emphasis on fostering economic development.

HOUSING

The Commission's housing plan, People, Dwellings & Neighborhoods, has four goals:

Construct new houses and apartments to meet the net housing additions created by changes in household size, population, and vacancies.

Upgrade run-down housing and related local facilities and services so that a viable program can be accomplished to achieve a high level of neighborhood improvement; both tenant and landlord education are also required.

Improve the distribution of housing to relate housing to jobs, public transportation, household size, and income level.

Remove the barriers that result from discrimination which prohibit some persons from owning and renting houses and apartments where they choose.

TRANSPORTATION GOALS AND OBJECTIVES

The Region's needs for mobility and efficiency must be balanced against increased concern for the natural and social environment. Transportation operations and improvements often have undesirable side effects on air and water quality, noise levels, ecological systems, environmentally sensitive and open lands, energy consumption, and integrity of community services. Too often in the past, transportation improvements have been planned for only the most mobile elements of the Region's population, overlooking the needs and reinforcing the isolation of less mobile people such as the young, the elderly, the physically handicapped, lower income families, and minorities.

These ideas, together with the goals and objectives of the Regional Development Guide, lead to the formulation of three comprehensive goals to serve as a foundation for improving the Region's transportation system:

- Foster desired regional land use patterns and economic development by preserving vital existing transportation systems, and by providing supportive improvements.
- Manage transportation systems efficiently and equitably, and invest scarce transport resources productively.
- Reduce adverse impacts of transportation systems and upgrade liveability and amenity throughout the Region.

These three transport system goals can be translated into the following ten specific planning objectives for the Region's transportation system:

1. Preserve Existing System
2. Improve Safety and Security
3. Achieve Fiscal Stability
4. Reduce Environmental Degradation
5. Coordinate and Integrate Transportation
6. Upgrade System Components
7. Encourage Optimal Modal Choice
8. Reduce Congestion and Crowding
9. Promote Efficiency and Performance
10. Support Efficient Land Use

The three RDG objectives, the four PD&N objectives, plus the ten transportation or Maintaining Mobility (MM) objectives are used to indicate the extent to which each transportation project in this plan supports these three regional plans. These three MM goals on this page are related to the seventeen objectives as shown in the table on page 7.

The ten transportation planning objectives lead directly to the plan and its elements. The tables on pages 8 and 9 show this development. The degree of attainment of the planning objectives is measured by the criteria shown in the tables. The plan prescribes particular levels of achievement by specific target dates. The current status of the regional transportation components is described. Finally, priority and future projects, which achieve the desired objectives, are listed. Some of the plan elements call for more building, but many other elements can more satisfactorily be attained by operational changes. Specific regional proposals are mapped later in this plan summary.

REGIONAL TRANSPORTATION GOALS
RELATED TO OBJECTIVES OF REGIONAL PLANS

KEY

● Primary Support
○ Secondary Support

RDG - Regional Development Guide - the Region's official land use and economic development plan.

PD&N - People, Dwellings & Neighborhoods - the Region's official housing plan.

MM - Maintaining Mobility - this plan - the Region's official transportation plan.

OBJECTIVES

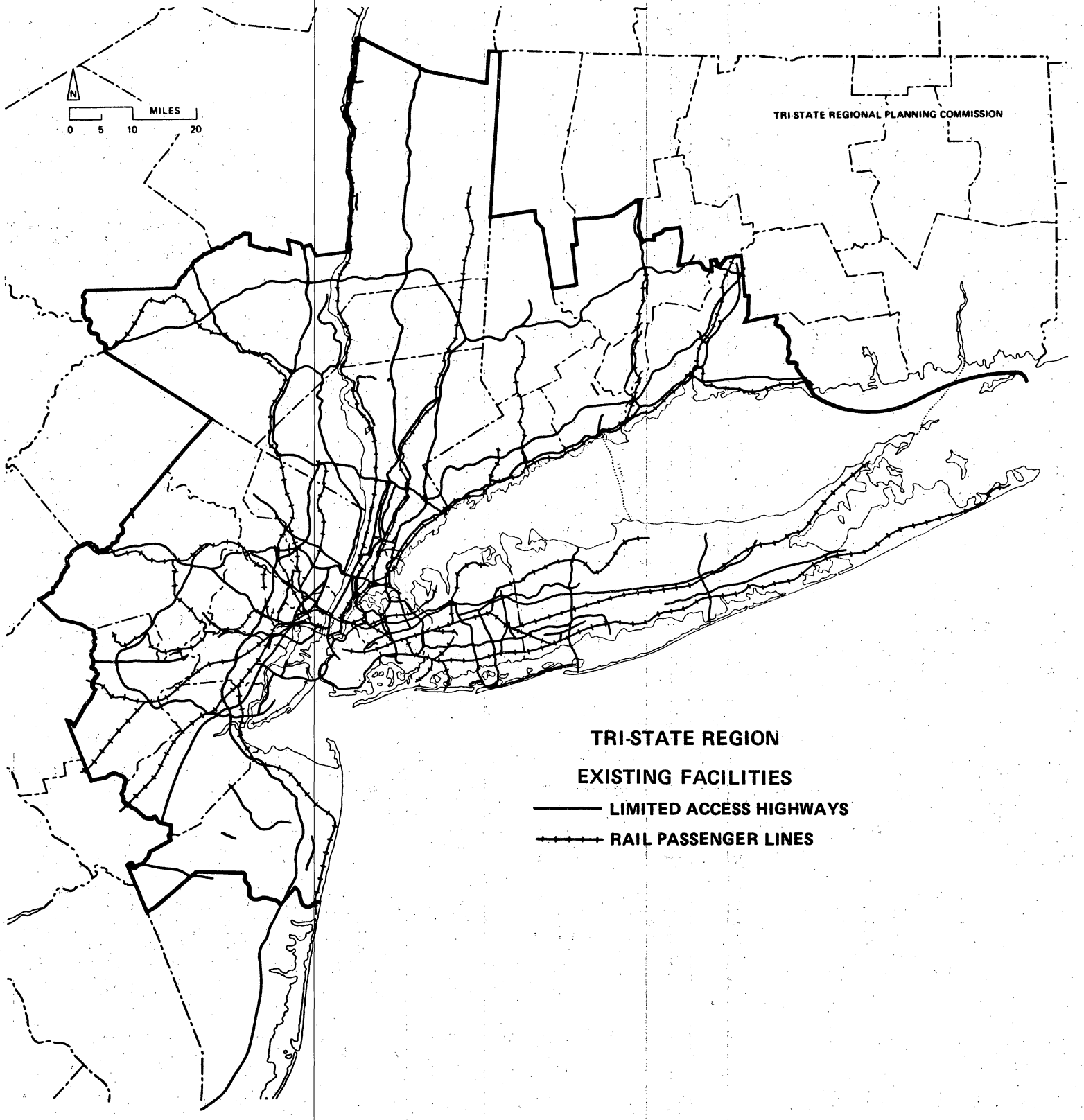
	RDG			PD&N				MM									
TRANSPORTATION GOALS	CONSERVE ENVIRON. SENSITIVE LANDS	CONCEN. DEVEL. & REVIT. OLDER CITIES	BALANCE DWELLINGS/JOBS/SERVICES	CONSTRUCT NEW HOUSING	REHAB. EXISTING HOUSING	IMPROVE HOUSING DISTRIBUTION	REMOVE DISCRIMINATION	PRESERVE EXISTING SYSTEM	IMPROVE SAFETY & SECURITY	ACHIEVE FISCAL STABILITY	REDUCE ENVIRON. DEGRADATION	COORD. & INTEGRATE TRANSPORTATION	UPGRADE SYSTEM COMPONENTS	ENCOURAGE OPTIMAL MODAL CHOICE	REDUCE CONGESTION & CROWDING	PROMOTE EFFICIENCY & PERFORMANCE	SUPPORT EFFICIENT LAND USE
Foster desired regional land use patterns and economic development by preserving vital existing transportation systems, and by providing supportive improvements.	●	●	●	○	●	●	○	●	○	○	○	○	●	●	●	●	●
Manage transportation systems efficiently and equitably, and invest scarce transportation resources productively.	●	●	●	○	○	○	●	○	○	●	○	●	●	●	○	●	○
Reduce adverse impacts of transportation systems and upgrade livability and amenity throughout the Region.	●	●	○	○	○	○	●	○	●	○	●	○	○	●	●	○	○

THE REGIONAL TRANSPORTATION PLAN:

OBJECTIVES	CRITERIA	TARGETS	CURRENT STATUS
1. *Preserve Existing System*	. Structural ratings . Ride quality . Service reliability . Equipment failure rate . Age of equipment	Immediate need to prevent loss of any facility. Priority need to overcome deferred maintenance, and to achieve acceptable levels of service. Future effort to regularize maintenance.	Some facilities and equipment out of service due to failure, mechanical deterioration and deferred maintenance. Many services unreliable. Some equipment overage.
2. *Improve Safety and Security*	. Accident rates and high accident locations . Crime rates . Vandalism	Immediate gains in safety and reduction in crime. Longer term improvement. Priority need to reduce vandalism.	Substantial motor vehicle and pedestrian safety problem. Transit system safe, but major security problem exists. Truck security problem in some areas. Vandalism prevalent.
3. *Achieve Fiscal Stability*	. Fares and user charges . Equity in cost sharing . Transportation expenditures related to Gross Regional Product . Cost per trip	Immediate need to achieve agreement on user share of transit cost. Priority need to achieve equity amongst other contributors. Priority need to restore higher investment resources. Future need to deal with labor intensive transit operations.	Crisis approach to transit funding. Rapidly declining constant dollar highway resources.
4. *Reduce Environmental Degradation*	. Air pollution . Energy consumption . Noise . Visual abuse . Water supply . Open lands	Priority need to meet federally mandated air quality standards. Priority need to reduce excess energy consumption. Future need to achieve quieter operations. Immediate need to achieve cleaner subway cars and stations.	Region does not meet air quality standards. Energy wasted by over-use of motor vehicles, particularly in dense areas. Subways and elevateds are noisy. Graffiti prevalent. Subway stations unattractive.
5. *Coordinate and Integrate Transportation*	. Amount of service duplication . Travel circuity imposed . Parking and feeder bus available at transit stations . Ease of intermodal transfer . Miles of bikeways . Miles of pedestrian streets	Immediate reduction in service duplication; priority elimination of travel circuity caused by pricing; priority increase in parking provided at outlying transit stations; priority need for major easing of transfer; future need to fully attain simplified transfer; immediate addition of substantial bikeway and pedestrian street mileage.	Transit management and planning coordinated, but individual operations include much duplication, passengers often cannot use optimal route because of pricing barriers. Tolls on some highways result in overcrowding on nearby free routes. Much station parking available, but many stations undersupplied. Some bikeway mileage and a few pedestrian streets in CBD's and in neighborhoods.
6. *Upgrade System Components*	. Air-conditioned vehicles . Stair climbing required . Degree of achievement of widely accepted transportation standards . Procurement at State-of-the-Art	Priority need to achieve transit fleet air-conditioning; Priority need to insure practical long wearing systems. Future need to vastly reduce stair climbing; Priority need to achieve industry wide standards for transit and traffic engineering. Priority need for procurement to be at State-of-the-Art.	Much of transit fleet not air-conditioned. Excessive stair climbing required at transit stations. Non-standard traffic control practices prevalent. Many new components do not reflect best State-of-the-Art.
7. *Encourage Optimal Mode Choice*	. Average auto occupancy . Availability of special service for elderly & handicapped . Transit mode share to Manhattan CBD . Rail share of intercity freight and passenger	Immediate increase in auto occupancy. Priority achievement of mobility for elderly & handicapped. Priority need to increase transit mode share to CBD. Priority need to increase rail share of intercity market.	Very low auto occupancy for journey to work. Wide variety of E&H services, many not coordinated, full mobility not attained. Transit mode share to CBD has slipped over the past decade. Rail freight share decline. Intercity passenger improving.
8. *Reduce Congestion and Crowding*	. Excess highway travel time over free flow . Floor space per transit passenger . Truck delays . Rail freight service delays . Percent seated	Priority need to greatly reduce excess highway travel time. Immediate need to reduce overcrowding in transit vehicles. Priority need to reduce delays in rail freight. Priority need to reduce delays in local truck delivery.	Extremely heavy highway congestion. Over-crowding on some subway & suburban rail lines. Very high cost of local delivery because of congestion. Unreliability of freight service.
9. *Promote Efficiency and Performance*	. Labor productivity . Transit passenger-miles per bus-mile or train-mile . Transit travel time and waiting time . Conformance to traffic engineering standards	Priority need to achieve widely accepted productivity standards. Priority need to to improve bus and train loadings. Immediate need to achieve faster feasible running times with existing equipment, and increased service on heavily traveled lines. Priority need to achieve uniformly high levels of traffic engineering throughout the Region.	Many opportunities for improved labor productivity identified. Many lightly used transit services. Some excess running times. Many rail lines underserved off-peak. Traffic engineering results mixed, some areas particularly weak.
10. *Support Efficient Land Use*	. Land area used for transportation . Environmentally sensitive lands lost to development . Transit availability related to trip density	Future need to stabilize and reduce land area devoted to transportation. Priority need to protect environmentally sensitive lands from transportation induced development pressure. Future need to extend rail service to off-line high density developments.	Much land devoted to transportation, particularly roadways. Development pressure at new highway interchanges. Many major generators - airports, stadiums, housing complexes - constructed beyond rail lines.

MOVING TOWARD OBJECTIVES

PRIORITY PROJECTS (1981–1990)		FUTURE PROJECTS (1991–2000)	
CAPITAL INVESTMENTS	OPERATING STRATEGIES	CAPITAL INVESTMENTS	OPERATING STRATEGIES
Roadway resurfacing, structural rehabilitation. Repair of facilities. Equipment replacement.	Better maintenance practices.	Continuing program of repairs, replacement and rehabilitation.	Ongoing improvement and refinement.
Eliminate major highway safety hazards. Major program to monitor rail transit stations using TV. More secure fencing at storage yards. Introduce exclusive pedestrian and bicycle facilities.	Enforce traffic regulations. Encourage use of seat belts. Improve police operations in subways. Better vehicle inspection.	Continuing highway safety program. New technology where appropriate.	Continuing effort. Greater security through correction of societal inequities and shared community responsibilities.
Unattended fare collection systems. Remote control of rail towers. Retrofit trains for one man operation. Higher capacity buses.	Develop interim transit deficit sharing mechanism. Formulate longer range deficit approach. Regularize highway funding mechanisms.	Motor vehicle pricing technology.	Develop self-sustaining funding sources, charging users and others that benefit proportional to gains received.
Extensive controls on new vehicles, retrofit older vehicles. Noise controls on heavy trucks; noise abatement of highways. Reduce noise from some elevated lines; initial application of noise reduction in subway. Cosmetic improvement of stations. More fuel efficient vehicles.	Inspection and better maintenance. Traffic management strategies. Rail grinding and wheel truing on subways. Transit vehicle cleaning program. Graffiti cleanup.	Alternative propulsion systems and energy sources. Reduce noise from remaining elevated lines. Major overhaul of transit stations.	Continuing program.
Increased auto and bike parking at outlying commuter rail stations. Major bus/subway transfer improvement at selected stations. Track connections and dual-powered equipment to permit desired rail services.	Unified regional transit operations. Regionwide integrated fare structure. Service restructing. Improved transit information systems. Better coordinated feeder-bus service. Pedestrian and bike capability on all major river crossings. Skeletal networks or pedestrian streets in CBD's. Bikeway networks established.	Continue to increase auto and bike commuter parking where appropriate. Bus/rail transfer improved at all stations.	Continuing service refinements. More bikeways added. Pedestrian streets added in residential areas. Ubiquitous bicyle accessibility.
Major retrofit program for air-conditioning subway cars. Escalators installed at selected transit stations. All procurements consistent with nationwide standards and of most modern design.	Better traffic engineering. Consumer testing and consultation.	Retrofit transit vehicles for other amenities. Install escalators at all stations where needed.	Continued refinement and updating of practices.
Investments in rehabilitation to prevent further transit mode slippage. Modest improvements to make transit more attractive. Major program of intercity rail freight and passenger improvement underway. Improve clearances for piggyback in New York City & Long Island.	Incentives for car pooling at worksite, and on highways. Provision of full mobility for E&H. Various transit price and service improvement strategies together with auto disincentives such as CBD parking restraint, and minimum auto occupancy requirements. Intercity scheduling improvements.	Continued improvements to transit system will further reinforce transit modal share to CBD. Further intercity rail projects, including service to heavily used recreation areas, new Trans-Hudson rail freight service.	Continuing program for carpooling, and single occupant auto restraints.
Some additions to highway capacity in outlying areas. Acquisition of new transit vehicles. Increases in transit capacity. Improvement CBD freight elevators and off-street truck loading docks. Modernization of rail freight yards.	Promotion of staggered hours. All congested expressways metered and monitored. Pricing strategies at existing toll facilities. Increased rail and bus service on crowded lines. Truck-beneficial traffic control measures. Improved rail freight management.	Continued selective widening of outlying highways. Purchase more rail transit cars as traffic grows. New roadways and ramps oriented to truck movement. Further modernization of rail freight facilities.	Comprehensive allocations of scarce street space, perhaps using automatic vehicle identification. Continued increase in transit service where needed to avoid overcrowding. Additional truck-preferential traffic control measures. Refinement of rail freight management
Modify trains for one-man operations. Install unattended fare collection systems. Purchase articulated and double-deck buses and trains. Complete electrification modernization, to permit higher performance. Purchase high horse-power dual-powered locomotives. Traffic engineering projects, such as computer-controlled signals, channelization, etc.	Better management. Improved morale. Computer assisted scheduling. More attention to service sufficiency planning. Improved traffic engineering techniques. Modernized work rules.	Introduce other labor-saving capital investments. Continue traffic engineering projects.	Continuing effort.
Replace parking lots in dense areas with other activities. Close or control interchanges where development is not to be encouraged. Joint development at transit stations.	Land use controls. Encourage cluster development in new subdivisions to minimize local street requirements. Provide bus service to all areas of sufficient density. Provide high quality shuttle-bus service connecting major generators to nearby rail stations.	Recycle some roadways for other uses. Extend rail lines or construct people-movers to major generators.	Continuing effort. Provide incentives for new development to be better located relative to available and planned service.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TRI-STATE REGIONAL PLANNING COMMISSION
TRI-STATE REGION
EXISTING FACILITIES
LIMITED ACCESS HIGHWAYS
RAIL PASSENGER LINES

THE ESSENCE OF THE PLAN

LIMITED GROWTH AND RESOURCES

Barring major unforeseen events, the next twenty years seem likely to be a period of modest material growth and economic expansion in the Tri-State Region and in other mature regions of the northeast and midwest. Gains that society can achieve must occur through more efficient utilization of scarce resources and more equitable distribution of rewards. For current transportation plans, this will increasingly translate into more efficient and intensive use of existing facilities, preservation and repair rather than abandonment, and operating solutions rather than building solutions.

IMPROVEMENTS MORE THAN NEW ROUTES

The central theme of this plan is an emphasis on preserving and improving the existing transportation system. The Region's growth prospects and land use and economic development policies demand that greater attention be placed on improving service to employment and residential concentrations in contrast to past emphasis on unplanned suburban growth. Since fiscal realities make replacing or greatly expanding the current system impractical, the Region's highest priority must be to preserve the usefulness of existing facilities and services and the enormous investment they represent. The need for efficiency requires that the full potential of existing facilities be realized by modernizing and connecting them, and above all, by operating them as effectively as possible.

TRANSPORTATION SYSTEMS MANAGEMENT

Many of the basic goals and objectives of the Region's transportation plan can be achieved by implementing a series of actions that will increase the efficiency and effectiveness of the existing system. Transportation Systems Management (TSM) actions are low capital, operational strategies that can yield short range improvements. Often, these improvements can obviate costly capital projects so that the prompt implementation is accompanied by a capital cost savings. However, some TSM improvements can increase operating expenses.

ENVIRONMENTAL IMPROVEMENT

An increasingly important factor in making transportation decisions is concern for our surroundings, including critical lands unsuited to urban development, air and water pollution, noise, and visual aesthetics. The damage already done by converting environmentally sensitive lands to transportation or other urban uses is generally irreversible. For the future,

broader and more careful planning of urban development and the transportation services supporting it, together with improved design, construction, and maintenance practices, can prevent further degradation. Noise and air quality, in particular, will require special systemwide attention.

ENERGY CONSUMPTION

At present, four broad approaches to savings in transportation energy exist: (1) Autos are smaller, lighter, and more efficient; (2) Motor vehicle travel is being decreased by carpooling and by greater use of mass transit, (3) Vehicular congestion is being reduced by opening traffic bottlenecks with TSM improvements and a few major capital projects; and (4) Transportation requirements are being reduced by encouraging more compact, self contained development patterns. While all these approaches would be accelerated under severe energy restraints, recent experience indicates that the public is very reluctant to sacrifice personal mobility and, consequently, would almost certainly choose a different travel mode rather than not travel at all. In all transportation improvements, the energy impacts, both in terms of expected changes in vehicular fuel consumption, as well as the amount of energy expended in constructing and manufacturing in connection with the improvement, must be considered.

LAND DEVELOPMENT COORDINATION

The trends toward further suburbanization of homes, industries, and offices will have to be disciplined in order to achieve a workable transportation system. Land should be more intensely developed near existing public transit routes. This will help strengthen central business districts and revitalize the older, more densely developed cities.

INTERCITY RAIL AND FREIGHT

Rail Freight

The following circumstances now prevail:

The decline in rail traffic in recent years has reduced the ability of much of the Region to support two viable railroads to the point where establishment of competition might hasten Conrail's collapse, and thus rail freight service in the Region.

Prospects for renewed growth of conventional rail freight service are limited due to changes in technology. The freight stations and float bridges over which rail freight was handled in Manhattan and elsewhere by very labor intensive methods have disappeared, made obsolete by piggybacking and the growth of intercity trucking. Conventional rail freight sidings were not extensively developed east of the Hudson River where freight stations and float bridges were employed. Land for such sidings has now been preempted by high-rise housing in Brooklyn and Queens and by various types of dense development in Manhattan.

Under deregulation, rail managements are increasingly adopting techniques in the Northeast and elsewhere which reduce the use of rail into the Tri-State Region. Highway trailers on rail flat cars (TOFC) from south of Washington are entering this Region via highway. Coal is being brought by train only to Philadelphia or Norfolk where it is barged to tidewater plants along the coast.

Freight service on the Northeast Corridor has been so disadvantaged that efforts are now under way to open bypass routes for the diversion of through rail freight.

The Region's position on abandonment of branch lines must be tempered with the vital necessity of establishing a self-supporting rail service before Conrail's federal investments are curtailed.

The key rail issues during the near-term priority period of this plan (i.e., the next ten years) are as follows:

1. The modernization of Conrail's facilities (lines, terminals, yards, and intermodal terminals) must be completed. Conrail's high cost of operation must be reduced, and this modernization and consolidation is a necessary condition to lowering its costs.

2. Intercity freight service should not be subjected to further disadvantage by Amtrak's policies and operations on the Northeast Corridor. Plans to shift much of the through freight service to a nonconflicting bypass route should be implemented. Amtrak's legislative directive should include adequate accommodation of those local freight services which must remain on the corridor.

3. The ongoing efforts by New York State to improve overhead clearances on the rail route to New York City and Long Island are necessary if this portion of the Region is to receive modern, efficient TOFC and carload service. This program should continue to completion, benefiting both New York City/Long Island and Conrail.

4. Irreplaceable rail facilities, such as the Poughkeepsie Bridge should be railbanked. This action must be taken to alter the status of this bridge as its present status as a nonabandoned facility in the federal rail development funding formula has cost the State of New York over $1 million in vitally needed rail development funds since 1976.

Beyond 1990 and into the next century, the key rail freight issues are expected to be as follows:

1. When and where traffic potential exists to support two or more viable railroads, low cost, timely rail service can best be assured by the operations of competing railroads. Where possible, the Region should have competitive rail service.

2. The establishment of competing railroads will probably require

the use of independent access routes. For this reason, the Poughkeepsie Bridge and harbor carfloat facilities must be rail banked, and their access routes should not be further alienated.

3. The necessary consolidation and streamlining of the New York-Newark area rail terminal facilities might best be accomplished by the establishment of a neutral terminal railroad. This terminal railroad could also encourage existing carriers to expand their service into the Region, thereby providing competitive rail service. This concept should receive serious consideration, including possible federal funding of implementation.

4. Modernization of the rail freight plant must continue. The system of yards, shops, terminals, and intermodal terminals which services this Region should be periodically assessed to determine its adequacy and cost effectiveness.

5. The network of rail freight lines should be periodically reassessed to determine if (a) some routes should be consolidated, (b) some previously operated lines should be restored, (c) some lines used only for passenger service should also be used for freight service, and (d) some connections between existing freight lines are warranted.

6. Rationalization of labor and management policies and practices should be expedited.

7. Technological developments which would tend to increase the effectiveness of this Region's rail freight system should be monitored and supported.

Rail Passenger

Improvements in high-speed intercity passenger service are being effected on the Northeast Corridor with capital grants by the federal government. These improvements are being expanded to include feeder corridor services (e.g., Albany to New York City and Springfield to New York City) for the benefit of the Region. All of these efforts can be of great benefit to the Region, but care must be taken to ensure that intercity passenger, commuter rail, and freight operations are coordinated to produce the most efficient use of the Region's rail facilities, and to ensure that improvements to one type of service are not made at the expense of another type of service.

During the future period, a re-evaluation should be made of the connection between Manhattan's Penn Station and the Westside Freight Line which connects with both Conrail's Hudson Division and Amtrak's Empire Service to Albany and beyond. This connection would enable all intercity passenger service to be coordinated from Penn Station.

In addition to physical connections, the reliability of connecting services at this Region's intercity rail stations should continue to be improved.

Truck Freight

The efficient, cost-effective movement of freight over the Region's highways is as vital to this Region's survival as any other transport service, especially in view of the changes occurring in the rail system. Although the operations are by common carriers and by private carriage, support by the public sector is necessary. These are the key issues:

1. Congestion has a major impact on the efficiency of commercial goods movement affecting common carriers and private trucking. Congestion affects trucks on the freeway system, but is especially onerous for local deliveries. Relieving freeway congestion by constructing additional highways is generally not feasible. Alternatives to address both freeway and street congestion include removing autos from the street and highway system (to be accomplished with various TSM strategies) and extending to trucks priority as was first provided to buses a decade ago and to carpools shortly afterwards.

2. Deteriorated roads damage all vehicles, including trucks, and damage their cargoes. Some segments of the regional freeway system are currently avoided by truckers to avoid damage to their cargoes. The Region's roads must be kept in good repair.

3. Overweight trucks contribute significantly to the deterioration of the Region's streets and highways and this abuse must be eliminated. In the new era of deregulation, competition might tend to increase the tendency for irresponsible truckers to overload their vehicles. An effective weight control system should be implemented and maintained.

4. Truck user charges should directly reflect the costs of building, operating, and maintaining the Region's streets and highways in equitable proportion to other vehicles. Neither overcharging nor undercharging is desirable.

5. The movement of hazardous materials - especially within urban areas - is a subject of increasing concern. This problem must be handled forthrightly, with adequate opportunity for citizen participation, within a regional framework that provides necessary routes for such movements.

6. The potential benefits of goods movement consolidation in urban areas have appeared attractive for sometime, but implementation seems beyond grasp. Periodic review of this condition is warranted.

7. Tandem trailers (i.e., two trailers pulled by a single tractor), also termed "double bottoms," should not be operated on local streets and highways. However, they do operate in much of the Nation on intercity freeways (typically Interstates) and do operate in the Tri-State Region on portions of the Governor Thomas E. Dewey (New York State) Thruway. An evaluation is warranted to determine if other intercity freeways in this Region

could accommodate tandem trailers; a route through this Region should also be considered.

8. Efforts to reduce the environmental impacts of truck operation should continue. For example, truck manufacturers are working to reduce tire, engine, and transmission noise. However, truck exhaust emissions are of increasing concern as auto exhausts are being cleaned at a more rapid rate than truck exhausts. Between 1977 and 1987, truck contributions to hydrocarbon emissions from mobile sources in the Tri-State Region will rise from 21 percent to 36 percent in New Jersey, from 19 percent to 32 percent in the New York suburbs, and from 27 percent to 46 percent in New York City. Truck exhausts must be reduced.

9. A substantial percentage of the Region's freeway system is off limits to trucks: the parkway system. Much of this system cannot accommodate large trucks due to weight and clearance restrictions. However, passenger cars, vans, and similar vehicles with commercial license plates should be allowed to use the parkway system to improve the Region's economic viability.

10. Enhanced cargo security should be provided. This is not only a police function, but should be incorporated into innovative projects such as monitoring by flights for radio traffic reports and automatic vehicle identification systems. Technology to improve cargo security should be supported along with appropriate institutional reforms.

AVIATION

How Aviation Functions

The two components of aviation, carrier and general aviation, are important transportation factors in contributing to this Region's position as the nation's leader in commerce and finance. Maintaining this leadership position requires the availability of frequent, quality air service in commercial and private aviation.

The Essence of the Aviation Plan

Airline passenger traffic and general aviation volume in 1980 are expected to double by 1995, while commuter airline passenger traffic will probably quadruple. Forecasts for the Region's air cargo tonnage project a growth of 235 percent during the same period. Since the average size of air carrier aircraft used will also double, the runway, taxiway, and airspace facilities of the Region will remain adequate for air carrier aviation.

The most important airport capacity problems will be in the approach highways, although investment will be required in the groundside facilities of the airports for passenger terminals, transit access, roadways, parking, and passenger distribution systems.

MOBILITY COSTS MONEY - FINANCING

Over the next five years, the governments of this Region will spend close to $33 billion on building, operating, and maintaining the Region's highway and transit systems. The private sector will spend $105 billion on obtaining, maintaining, and operating the autos and trucks which move on the highway network. This estimate takes no account of truck drivers' wages or the cost of auto drivers' time. By far the greater part of the total cost of travel by highway is borne by vehicle owners and operators.

About seventy-five percent of the expenditures by all levels of government is described in the Transportation Improvement Program (TIP), which is summarized in Section I of the table. The TIP covers $8.5 billion in transit and highway capital projects and $17.7 billion in transit operating and maintenance expenses, much of it federally assisted. The projects in the TIP have been developed jointly by the agencies responsible for these expenditures, and they are consistent with this plan.

The extent of other, non-TIP government programs is estimated in Section II of the table. Nearly all of these programs are in the highway sector. In total, they amount to about $2.9 billion in capital projects plus $4.5 billion for operating and maintenance.

Now the prospect is for a reduction in federal aid to highways of approximately 10 percent from the level expected when these programs were developed. Federal aid to mass transit is cut even more sharply. Support for capital programs is reduced by about 7 percent from the 1981 level and operating support is to be phased out altogether by 1985. These revised expectations are reflected in the table, in Section I, under "Funding Sources for TIP."

Public transit patronage and operations have been declining in the Region for the past decade, though suburban rail traffic has increased. Expenses have rapidly outrun revenues. Expenses and revenues were nearly in balance ten years ago. The annual transit deficit approximated $908 million - 62 percent of revenues from fares and other sources - in 1979. It has increased sharply since then.

This developing crisis requires a response at federal, state, and local levels to devise stable, long-range funding schemes that will divide the financial burden equitably among all those who benefit - riders, motorists, businesses, and the general public. Some of the subject areas which need attention are outlined below:

FINANCING THE REGION'S HIGHWAY AND MASS TRANSIT SYSTEMS: 1981-1985

THE TRANSPORTATION IMPROVEMENT PROGRAM (TIP) VERSUS FUNDING SOURCES AND OTHER PROGRAMS

1980/81 - 1985

	Connecticut			New Jersey 9/			New York			Tri-State Region		
	Highway	Transit	Total	Highway	Transit	Total	Highway	Transit	Total	Highway	Transit	Total
						(Millions of Dollars)						
I Transportation Improvement Program (Federally Assisted)												
Projects												
Capital	$ 302	$ 97 1/	$ 399	$ 1,217	$ 990 1/	$ 2,207	$ 2,604	$ 3,257 1/	$ 5,861	$ 4,123	$ 4,344	$ 8,467
Operation and Maintenance	-	505	505	-	2,943	2,943	-	14,276	14,276	-	17,725	17,725
Funding Sources for TIP												
Capital												
Federal Transit	$ -	$ 61 2/	$ 61	$ -	$ 495 2/	$ 495	$ -	$ 2,383	$ 2,383	$ -	$ 2,939	$ 2,939
Highway	162	1 3/	163	632	23 4/	655	1,953	0 2/	1,953	2,747	24	2,771
State Bonds	36	16	52	128	113	241	0	708	708	164	837	1,001
Other	0	0	0	92	98	190	391	31	422	483	129	612
Local	5	*	5	0	0	0	0	0	0	5	0	5
Authorities	-	-	-	-	- 3/	-	-	- 3/	-	-	-	-
Total	$ 203	$ 78	$ 281	$ 852	$ 729	$ 1,581	$ 2,344	$ 3,122	$ 5,466	$ 3,399	$ 3,929	$ 7,328
Operation and Maintenance												
User Revenue:												
Farebox		$341	$ 341		$1,676	$ 1,676		$ 8,983	$ 8,983		$11,000	$ 11,000
Other Operations Revenue		56	56		196	196		396	396		648	648
Subtotal, User Revenue		$397	$ 397		$1,872	$ 1,872		$ 9,379	$ 9,379		$11,648	$ 11,648
Public Support:												
Federal Ø		$ 33	$ 33		$ 137	$ 137		$ 542	$ 542		$ 712	$ 712
State		124 4/	124		356	356		2,646	2,646		3,126	3,126
New York City		-	-		-	-		934	934		934	934
Other Local		3 4/	3		4	4		485	485		492	492
Authorities		-	-		350 4/	350		720	720		1,070	1,070
Subtotal Public Support		$160	$ 160		$ 847	$ 847		$ 5,327	$ 5,327		$ 6,334	$ 6,334
Total		$557	$ 557		$2,719	$ 2,719		$14,706	$14,706		$17,982	$ 17,982
Shortfalls												
Capital	$ 99	$ 19	$ 118	$ 365	$ 261	$ 626	$ 260	$ 135	$ 395	$ 724	$ 415	$ 1,139
Operation and Maintenance	-	(52)	(52)	-	224	224	-	(430)	(430)	-	(258)	(258)
II Other Programs (Non-Federally Assisted)												
Capital												
State	$ 0		$ 0	$ 60 5/	$ 56 6/	$ 116	$ 118 7/	$ 1,046 8/	$ 1,164	$ 178	$ 1,102	$ 1,280
Local	47		47	233	-	233	792	-	792	1,072	-	1,072
Authorities	6		6	285 7/	179 8/	464	77 9/	-	77	368	179	547
Total	$ 53		$ 53	$ 578	$ 235	$ 813	$ 987	$ 1,046	$ 2,033	$ 1,618	$ 1,281	$ 2,899
Operating and Maintenance												
State	$ 55		$ 55	$ 178	$ -	$ 178	$ 45	$ -	$ 45	$ 278	$ -	$ 278
Local	259		259	469	-	469	1,981	-	1,981	2,709	-	2,709
Authorities	54		54	644 7/	0	644	854	0	854	1,552	0	1,552
Total	$ 368		$ 368	$ 1,291	$ 0	$ 1,291	$ 2,880	$ 0	$ 2,880	$ 4,539	$ 0	$ 4,539
III Private Sector #												
Auto	$11,450		$11,450	$26,764		$23,764	$43,242		$43,242	$ 81,456		$ 81,456
Truck	3,321		3,321	7,764		7,764	12,545		12,545	23,630		23,630
Total	$14,771		$14,771	$34,528		$34,528	$55,787		$55,787	$105,086		$105,086
IV Total Cost For Network and Vehicles	$15,494	$602	$16,096	$37,614	$4,168	$41,782	$62,258	$18,579	$80,837	$115,366	$23,349	$138,715

General Notes

* Less than $500,000
\# Cost of owning, maintaining and operating cars and trucks
() Denotes negative number
Ø Adjusted to reflect 1985 phase-out

Connecticut Notes

1/ Includes estimates for Tier IV purchases totalling 10 million
2/ UMTA 3
3/ FAUS
4/ Per Connecticut Master Transportation Plan

New Jersey Notes

1/ Includes estimate for Tier IV purchases totalling $74 million
2/ FAUS and Interstate Substitution
3/ Port Authority TRANSPAC program, totalling $120 million, used as match for UMTA funding. $64 million so used in this TIP.
4/ PATH operating deficit
5/ 100% funded by state bonds
6/ $4 million funded by state bonds.
7/ Port Authority split 50-50 between New Jersey and New York. Includes data for N.J. Turnpike and Garden State.
8/ PATH capital program
9/ State wide projects are assumed to be 75% in the Region

New York Notes

1/ Includes estimate for Tier IV purchases totalling $296 million
2/ FAUS
3/ Port Authority Accelerated Transit Program totalling $120 million, available for future UMTA matching funds.
4/ Includes allocation from oil receipts fee
5/ Excludes reimbursement for reduced fares for school children and senior citizens, reflected in farebox revenues. Also excludes payment for transit police, engineering, etc. reflected in reduced operating expenses.
6/ TBTA transfers from operating surplus
7/ Includes projects funded by state bonds
8/ 100% state or TBTA bonds
9/ Port Authority expenditures split 50-50 between New Jersey and New York. Includes data for other state and municipal agencies.

- Proposals for major improvements in the Region's transportation system should be identified, evaluated, and implemented. Criteria used should include savings in cost, savings in fuel, and the application of such savings to reducing transit costs and deficits.

- Transit organization and management and the project approval process must be improved and simplified. Transit operators must have the authority to manage their properties, and they must be held responsible for performance and productivity rather than for complying with detailed, uncoordinated, lengthy - and sometimes irrelevant - procedures and guidelines.

- State and local funding mechanisms should be reviewed to assure that transportation related tax funds are available to the Region's transportation agencies for transportation purposes. Revenue from fuel and other excise taxes could be dedicated to transportation purposes, as was formerly the case; detailed analysis is warranted. Other sources of revenue should be tapped if benefits can be demonstrated. Excise taxes and other levies should reflect the effects of inflation, through being stated as a percent of the sale price or through other devices.

- Federal operating aid should be restored. State and local aid to mass transit must be increased. The level of federal support should match that accorded other regions and cities, by apportioning aid on the basis of the work actually performed by the transit systems, namely number of passengers or number of passenger miles. At least a portion of such aid should be guaranteed over a period of years, so that capital planning and execution can proceed.

- A more equitable share of federal funds for technical or feasibility studies of transit related subjects should be allocated to this Region. This allocation should also reflect the proportion of the nation's transit work which is performed in this Region.

- A policy of continual, moderate fare increases matching changes in the consumer price index should be seriously considered, in view of the vital nature of transit services.

- Consideration should be given to the use of a portion of the federal gasoline and vehicle tax revenues for highway maintenance or for both highway and transit maintenance.

- In view of the continuing nature of the transit financing problem and its growing seriousness, it is recommended that the three states carry out statewide transit monitoring functions. Subject areas should include the success of the revenue measures adopted, the service levels provided, the effectiveness of productivity measures taken by labor and management, the proportions of total revenues provided by the fare box, and other means, as well as the relative cost of service between operating properties and between divisions of those properties. Based on this body of

information, a periodic evaluation should be made of the transit agency organization, private enterprise options, funding methods, cost control, and other matters. This is a substantial undertaking that would require participation both by the three state departments of transportation and the individual state legislatures. New York State has been engaged in this process for some time.

- The process should be extended beyond monitoring to encompass oversight critical evaluation functions. Comparisons should be drawn between the Region's and the states' transit agencies and those throughout the Nation and elsewhere.

In summary, the Region faces five key transportation financing questions:

- To what extent should transit operations and maintenance receive public support?
- Should transit fares increase with the cost of living?
- What level of rehabilitation of highway and transit systems does the Region require?
- How big a rehabilitation program can the Region afford and how can it be financed?
- What new state, regional, and local funding mechanisms, if any, should be implemented to provide a steady and adequate resource stream for transportation capital and operations?

REGIONAL IMPROVEMENT PROPOSALS

The primary focus of this plan is on preserving, stabilizing, upgrading, and improving the performance of the existing transportation system. Management and operating strategies are preferred to capital intensive solutions and are applied where appropriate. In many cases, however, a major investment is needed to rehabilitate, modernize, or complete important elements of the system. There are some additional needs that can only be met by new facilities, particularly those needed to be better responsive to new travel patterns.

The maps that follow identify systems and specific proposals that help to achieve regional planning objectives. The maps indicate approximate locations only. Projects in specific corridors or system improvements within specified jurisdictions are but one important element of a regional transportation plan. Translating the goals and objectives found in the first part of Maintaining Mobility and other Tri-State plans into future actions occasionally leaves untreated large-scale, regionwide projects which do not fall within a traditional geographical or political area. These are as follows:

Improved pedestrian & cyclist opportunities.

Enhancements for greater rail system utility.

Attract and foster the transportation manufacturing & rebuilding industry in the Region.

Support preservation of the Region's unique transportation heritage.

Improvement of transit management.

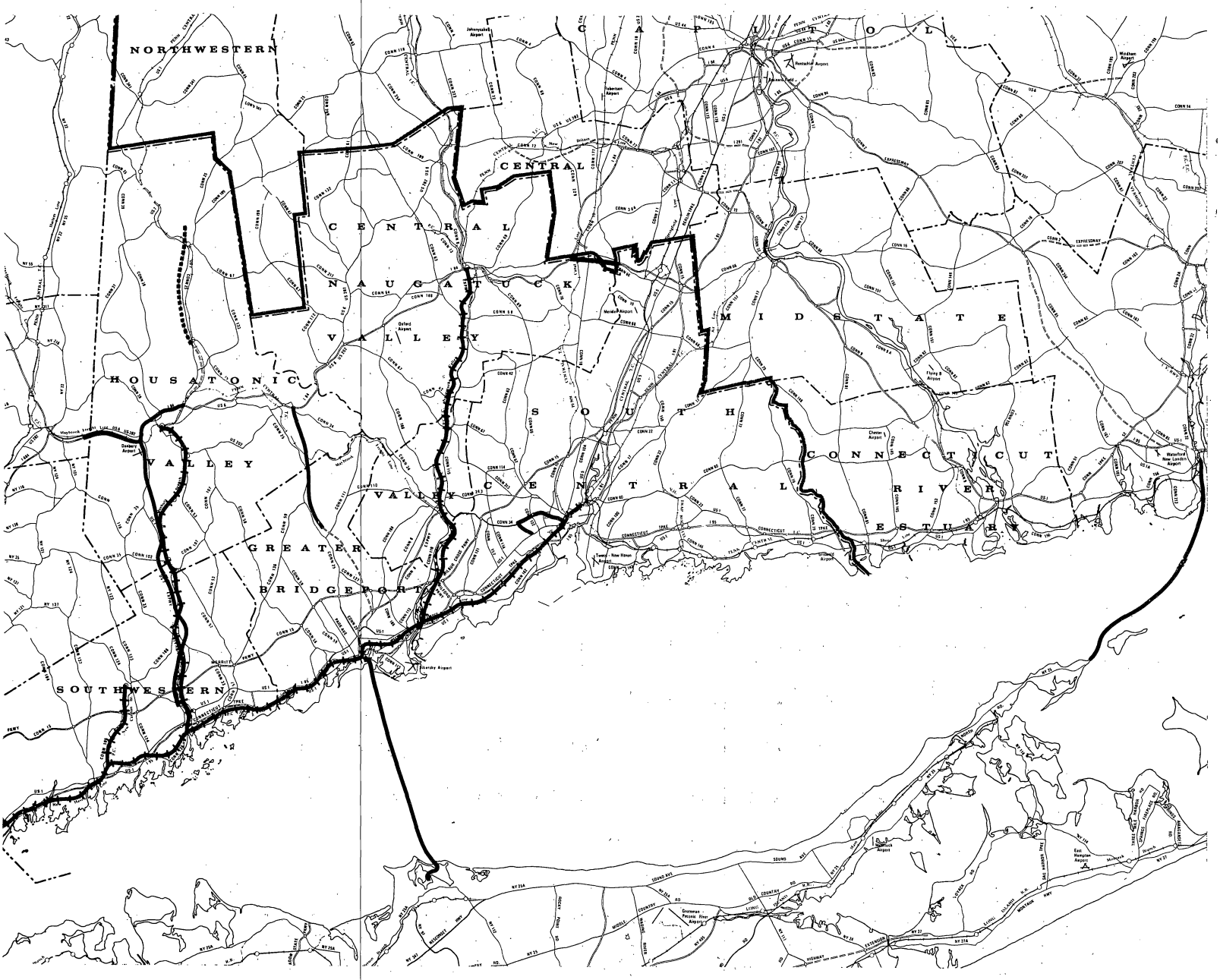
Expedite "transportation system management" (TSM) techniques.

Improve transit system passenger and worker environment.

Preservation of transportation lands.

The "priority" category, identified in the following maps, includes projects scheduled for early implementation in Tri-State's five year transportation improvement program (TIP), and others that will be scheduled as funds become available in the second five years of the ten year priority period. Also given priority are some studies of existing deficiencies in the Region's transportation system for which effective solutions must be developed. The "future" category includes proposals of less current urgency, which should be implemented through the remainder of the century. Early planning for some of these will help smooth their implementation and facilitate coordination with earlier projects.

As planning proceeds, additional information and changing conditions might lead to modifications in many of the proposals. Continuous review and periodic revision of this plan is therefore appropriate and will be undertaken through an open process involving state and local officials, transportation planning and operating groups and agencies, and the general public.



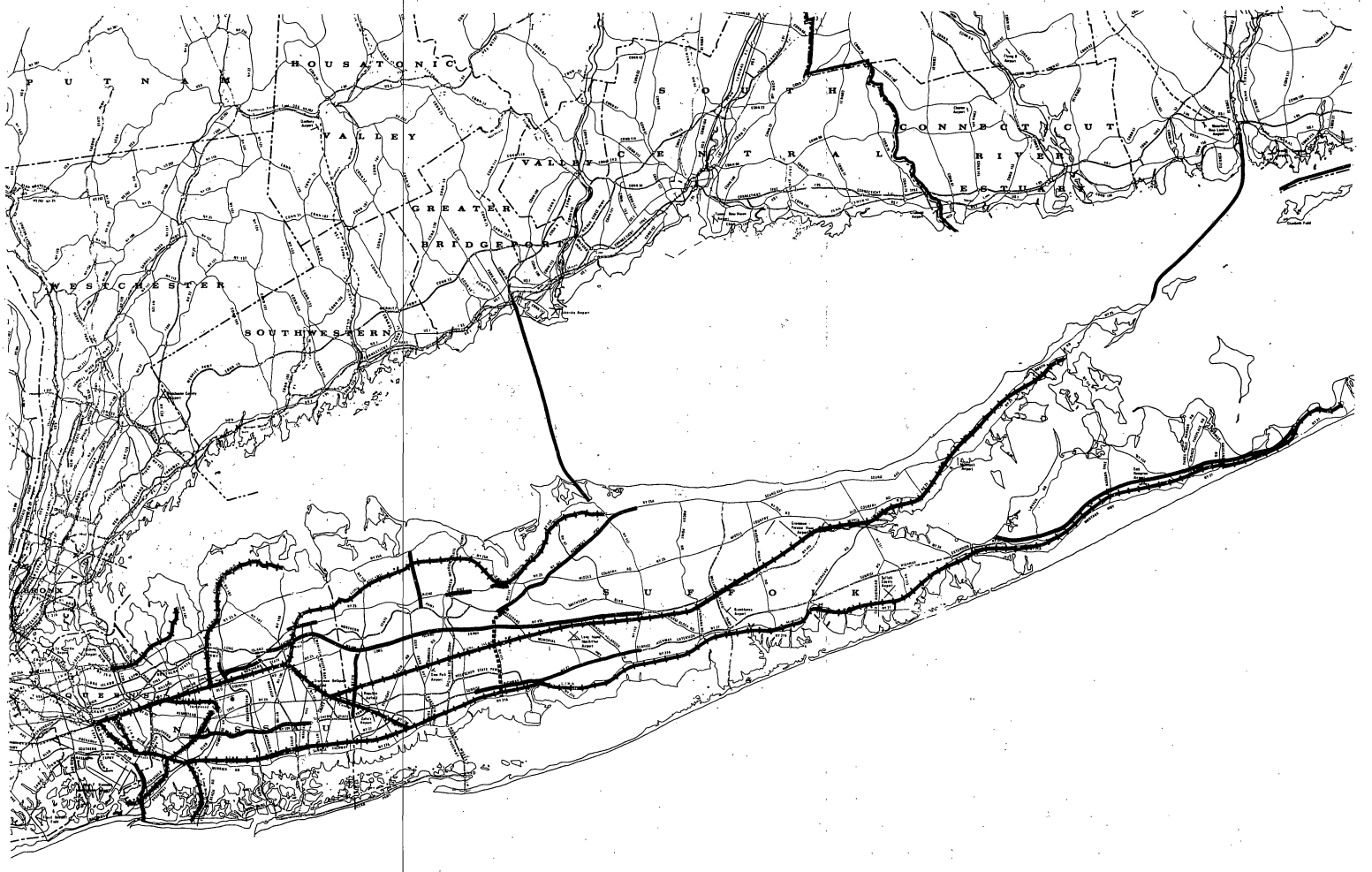
REGIONAL TRANSPORTATION PLAN
CONNECTICUT

PRIORITY NON-RAIL PROJECT PROPOSAL
PRIORITY RAIL PROJECT PROPOSAL
FUTURE PROJECT PROPOSAL

REGIONAL TRANSPORTATION PLAN
NEW JERSEY

PRIORITY NON-RAIL PROJECT PROPOSAL
PRIORITY RAIL PROJECT PROPOSAL
FUTURE PROJECT PROPOSAL

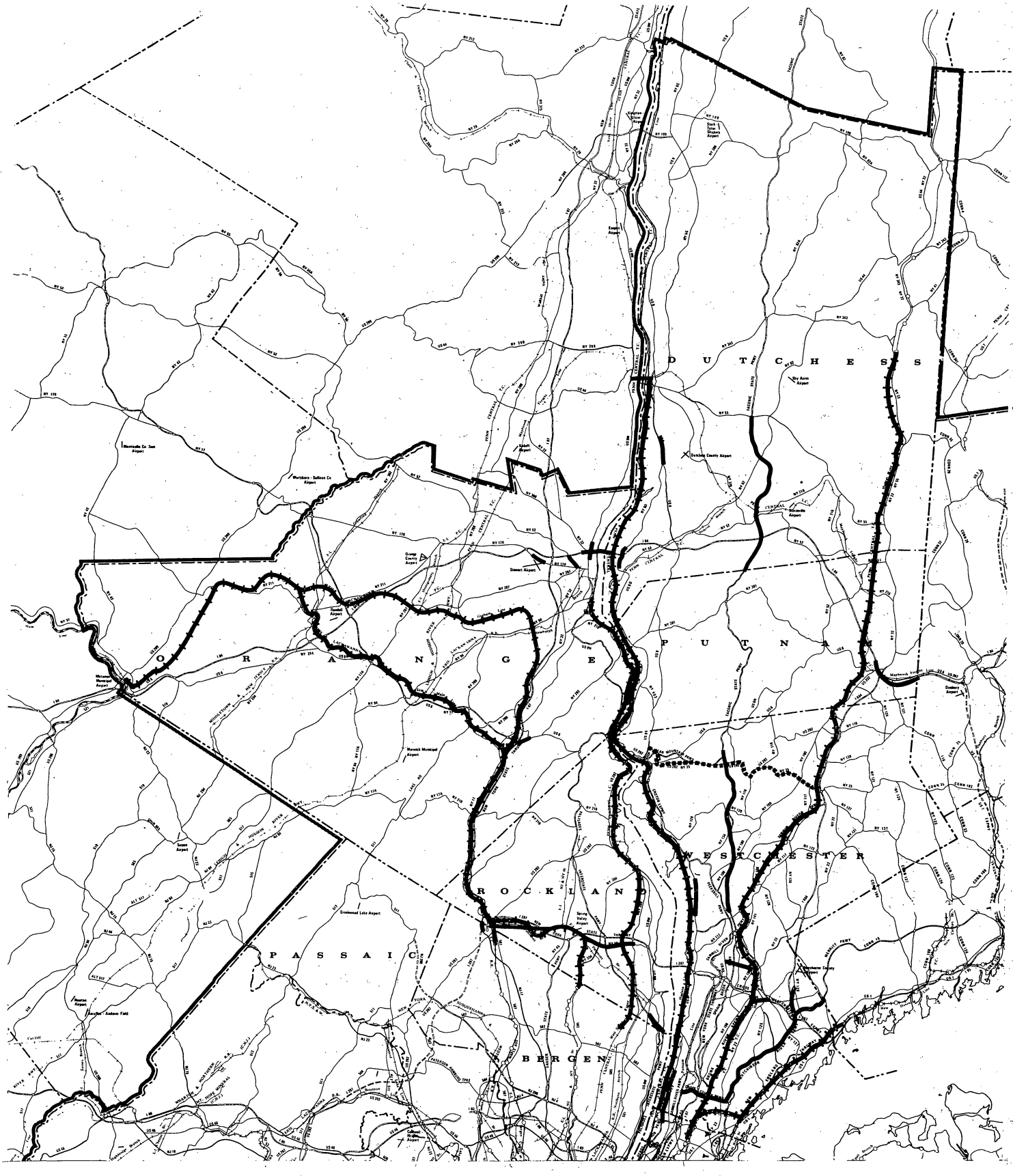
For enlargement of
New Jersey Urban Core,
see map on page 26



Not shown: Long Island Rail Road-Grand Central Terminal Access.

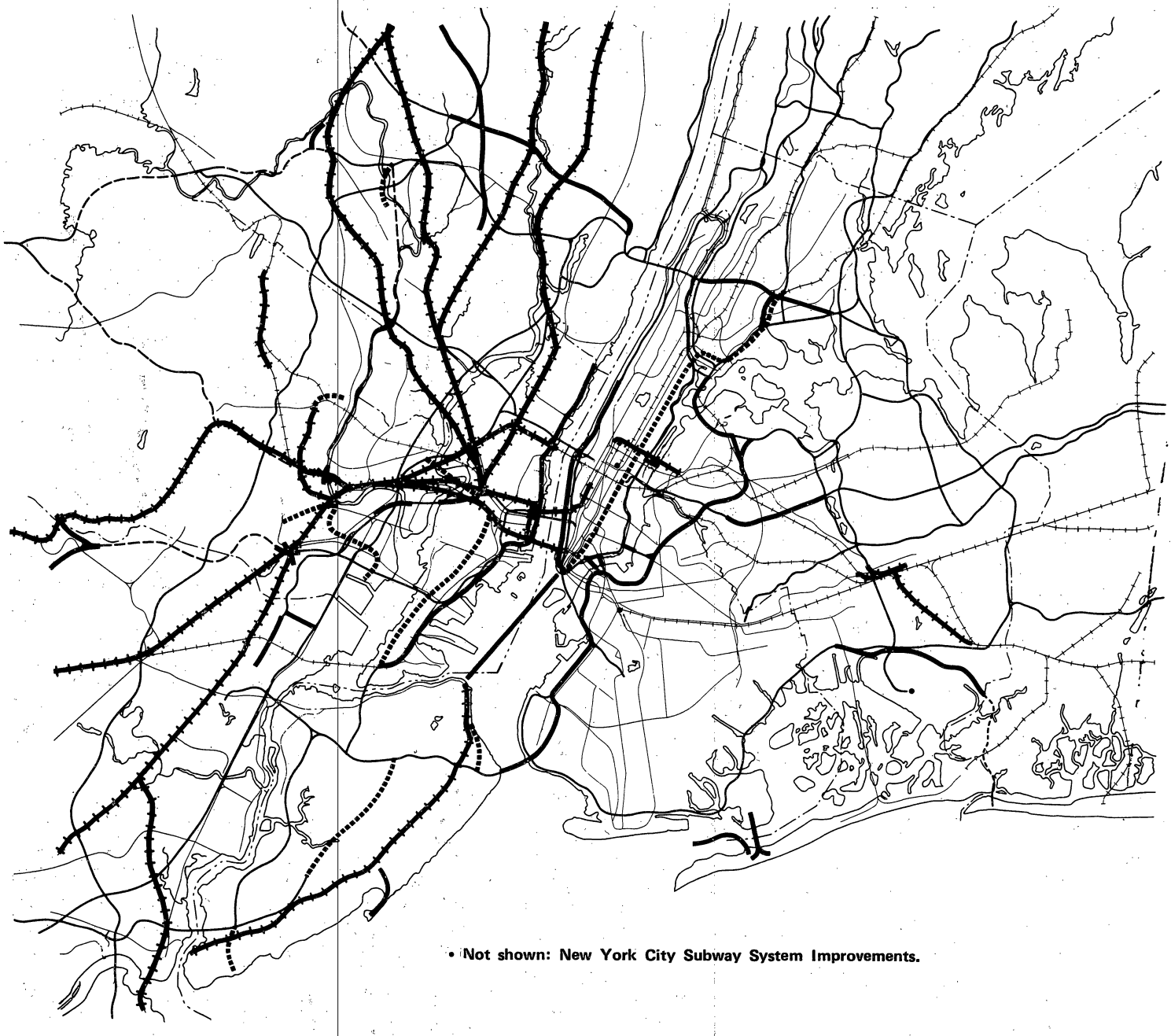
REGIONAL TRANSPORTATION PLAN
SUBURBAN LONG ISLAND

- PRIORITY NON-RAIL PROJECT PROPOSAL
- PRIORITY RAIL PROJECT PROPOSAL
- FUTURE PROJECT PROPOSAL



REGIONAL TRANSPORTATION PLAN
NORTHERN SUBURBAN NEW YORK

PRIORITY NON-RAIL PROJECT PROPOSAL
PRIORITY RAIL PROJECT PROPOSAL
FUTURE PROJECT PROPOSAL



• Not shown: New York City Subway System Improvements.

REGIONAL TRANSPORTATION PLAN
NEW YORK CITY
&
NEW JERSEY URBAN CORE

PRIORITY NON-RAIL PROJECT PROPOSAL
PRIORITY RAIL PROJECT PROPOSAL
FUTURE PROJECT PROPOSAL