

2202dh

T764
1975C

90
T764
75C

MAINTAINING MOBILITY

THE PLAN AND PROGRAM FOR
REGIONAL TRANSPORTATION THROUGH 2000

Tri - State Regional Planning Commission

CONNECTICUT • NEW JERSEY • NEW YORK



SEPTEMBER
1975

New Jersey State Library

The Tri-State Regional Planning Commission is an interstate agency that defines and seeks solutions to immediate and long-range problems in the development of land, housing, transportation and other public facilities in the New York metropolitan region covering 21 counties in New York and New Jersey and six planning regions in southwest Connecticut.

Established by legislative action of the states of Connecticut, New Jersey and New York in 1971, the Commission succeeds the Tri-State Transportation Commission formed by the legislatures of these states in 1965.

Designated by the federal government as the official planning agency for the Tri-State Region, the Commission also supports subregional and local planning. It provides assistance in solving problems that transcend local jurisdiction. It also encourages coordination among all agencies charged with an interest in planning or providing transportation and other federally aided facilities within the Tri-State Region.

The three states and the federal government finance the work of the Commission. Federal funds come from aviation, highway and mass-transportation planning and testing grants provided by the Department of Transportation, and also from planning grants provided by the Department of Housing and Urban Development. Commissioners representing the three states are appointed by the governors in accordance with the laws of their respective states. Federal representatives are appointed by the appropriate officer holding such authority within the Executive Branch.

Chairman: Raymond T. Schuler, Commissioner, Department of Transportation, State of New York

Vice-Chairman: Thomas E. Ford, Mayor of Leonia, State of New Jersey

Secretary: John E. Zuccotti, Chairman, New York City Planning Commission

Lynn Alan Brooks, Commissioner, Department of Planning and Energy Policy, State of Connecticut

Robert T. Cairns, Chairman, Connecticut Public Transportation Authority

Mario M. Cuomo, Secretary of State, State of New York

Mrs. Lee Goodwin, Commissioner, Division of Housing and Community Renewal, State of New York

S. William Green, Regional Administrator, U.S. Department of Housing and Urban Development

Gerald M. Hansler, Regional Administrator, U.S. Environmental Protection Agency

Frank T. Johnson, Bell Telephone Laboratories, State of New Jersey

Samuel Kanell, Commissioner, Department of Transportation, State of Connecticut

Walter D. Kies, Chief, Planning Staff, Eastern Region, Federal Aviation Administration, U.S. Department of Transportation.

Robert E. Kirby, Regional Federal Highway Administrator, U.S. Department of Transportation

Frederick P. Lenz, Jr., Mayor of Stamford, State of Connecticut

Alan Sagner, Commissioner, Department of Transportation, State of New Jersey

Patricia Q. Sheehan, Commissioner, Department of Community Affairs, State of New Jersey

John K. Taylor, Regional Director, Urban Mass Transportation Administration, U.S. Department of Transportation

Herbert Werner, Mayor of Eatontown, State of New Jersey

David L. Yunich, Chairman, Metropolitan Transportation Authority

Executive Director: J. Douglas Carroll, Jr.

Deputy Executive Director: Richard S. DeTurk

TRI-STATE REGIONAL PLANNING COMMISSION

One World Trade Center

Telephone (212) 938-3300

New York, N. Y. 10048

The preparation of this report was financed in part through federal funds made available by the U.S. Department of Transportation, Federal Highway Administration, and Urban Mass Transportation Administration under the Urban Mass Transportation Act of 1964, as amended; a comprehensive planning grant from the U.S. Department of Housing and Urban Development; and in cooperation with the states of Connecticut, New Jersey and New York. TSRPC 3034-4705-5M 9/75



CONNECTICUT



NEW JERSEY



NEW YORK

TRI-STATE REGIONAL PLANNING COMMISSION

ONE WORLD TRADE CENTER, 82 FLOOR
NEW YORK, NEW YORK 10048
TELEPHONE (212) 938-3300

To the reader:

The following report, *Maintaining Mobility*, is both an end and a beginning.

The document is a final product of much effort on the part of many people representing several agencies who spent untold hours in thought and dialectic. Yet we expect it to touch off a public discussion among countless other residents of the Region during the coming months that will subsequently lead to a revised edition.

The plan is being circulated widely, and the Commission will seek a reaction from a cross-section of the community. The postcard slipped into the back of this report is a convenient way for anyone to respond immediately, and I urge you to use it if you cannot give us your views in any other way.

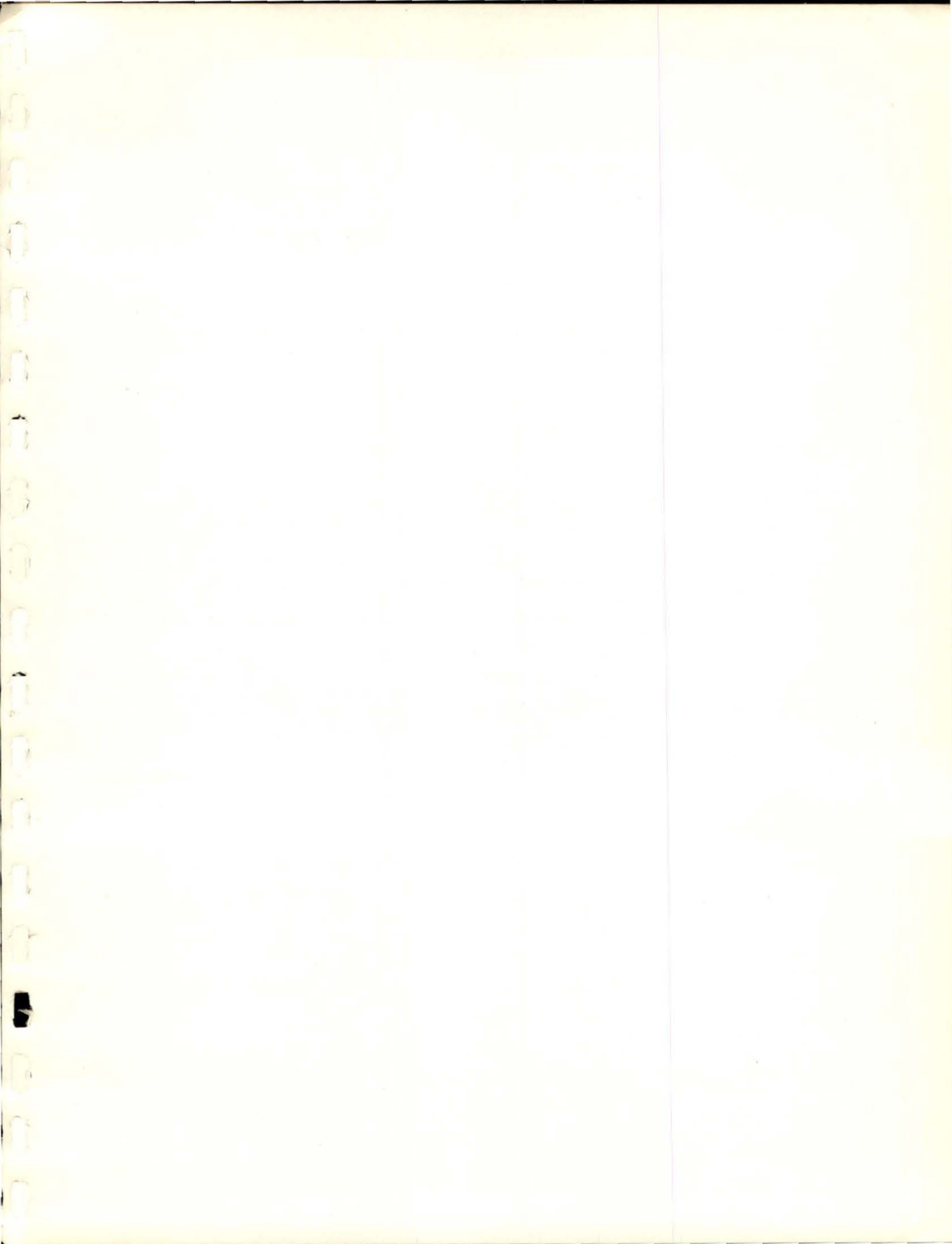
Whatever the outcome of this public review, this plan will stand in the meantime as the officially recognized instrument for guiding the future development of transportation in the New York metropolitan region. The plan is consistent with overall development plans for the Region. It stresses the need to preserve the existing transportation system, upgrading it where necessary, and limiting new construction to those areas where an opportunity has been provided for people to express an opinion on what type of facility should be built.

The last point is particularly important, and this is why some parts of the plan are labeled study corridors. More consideration of what should be built in these areas is needed in a process that provides for participation of local officials and citizens in the planning.

I welcome comment on this plan through letter, postcard, telephone, public meeting or whatever other mechanism makes such expression convenient during the months ahead.

Sincerely,

Raymond T. Schuler
Chairman



FOREWORD

The transportation plan that follows provides a comprehensive refinement and updating of Tri-State Transportation 1985: an interim plan, published by the Commission in May 1966. The "interim plan" was the first officially adopted transportation plan in the Tri-State Region and represented a landmark of intergovernmental cooperation.

The public transportation portion of the "interim plan" has been substantially updated three times since its adoption. The highway component, except for some revisions to individual routes, has not been changed. Subsequent review of the Commission's transportation plan and program will be done annually through contact with elected officials, transportation operating agencies and the general public.

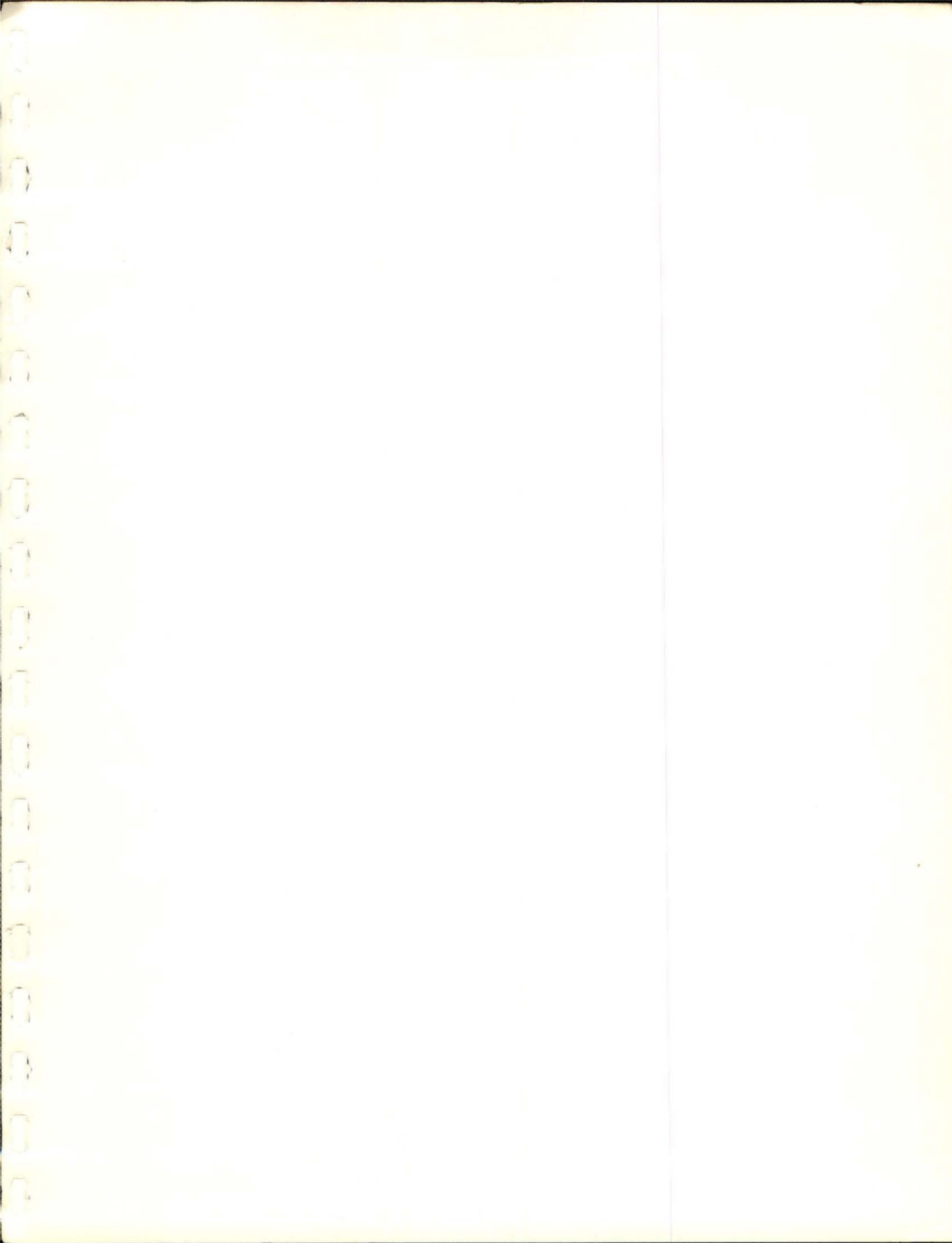
This edition incorporates some preliminary results of intercity rail freight and passenger planning. Forthcoming editions will incorporate the results of the Commission's efforts in airport planning, and as more work on intercity rail freight and passenger systems, waterways and pipelines proceeds, plans for these transportation elements will be brought forward.

The Tri-State Regional Planning Commission is the metropolitan planning organization designated by the governors of Connecticut, New Jersey and New York to develop the transportation plan for the New York urban region according to the rules of the United States Department of Transportation.

This document contains that plan, which is the result of a unified work program dealing with the technical elements of transportation planning and supplemented by a transportation improvement program.

Transportation is one element in a series of plans for the Tri-State Region. Others deal with housing, parks, water supply and waste management. All fit into the framework of the Commission's Regional Development Guide.

The effective date of this plan is July 1, 1975.



THE WAY THE REGION IS HEADING

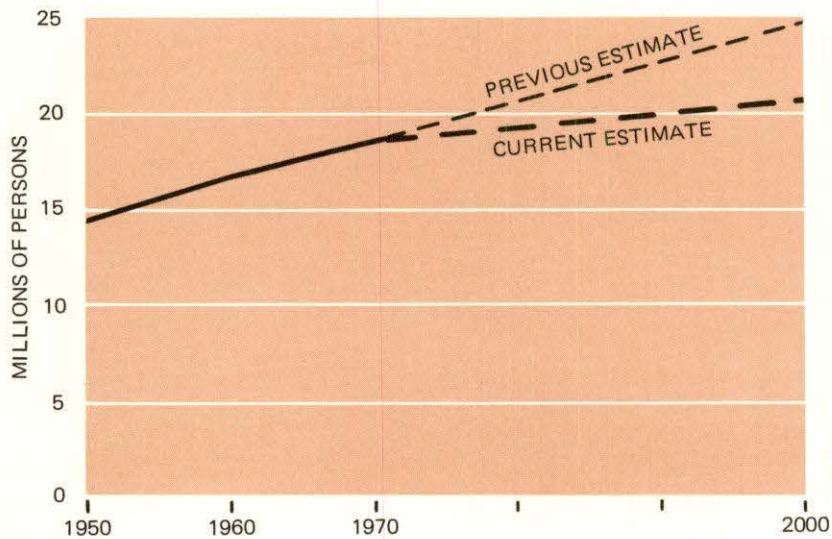
Ever since the United States was founded 200 years ago, Americans have set much by their ability to get around. Extensive railroads, highways, waterways and airways have helped the inhabitants of this nation--and the Tri-State Region as a substantial part of the nation--to move farther and faster than those of any country on earth. Even western Europe and Japan, the most resource-commanding areas outside North America, are years behind American standards of personal mobility.

The typical Tri-State regional resident today can expect to travel 700,000 miles in his lifetime, more than five times what he traveled 50 years ago. The question is: How much more mobility can he reasonably expect and how much more is he willing to pay for it in terms of money and earthly resources?

The great energy shortage, the increasing concern for the environment, the tremors of technological change, and the fear of social dislocation and disruption have seriously challenged the notion that "more" is "better". The global competition for the earth's finite resources has resulted in a reassessment of values and strategies. Furthermore, a much slower rate of population and economic growth for the Tri-State Region indicates a corresponding slowdown in development. This is being reflected in the revision of this Commission's regional plans, particularly the regional transportation plan.

Uncertainty over the future growth of the Tri-State Region is now with us in full measure. Employment, the most critical element of regional growth, is at a standstill. Losses of jobs in the early seventies have not been regained, and currently, there is little net increase in employment. Job gains in suburban areas of the Region are being offset by losses in the crowded urban areas.

Associated with the static job market has been a slowdown in population growth to the point where, in 1973, the Region lost population for the first time in recent history. Migration to the Region from elsewhere in the United States--traditionally one component of population growth--ceased in 1971. There is now an outmigration



REGIONAL POPULATION YEAR 2000

The Region's population growth has come to an abrupt halt. The high growth rate of the 1950s and 1960s has not been maintained; the birth rate has dropped below replacement level and migration patterns have changed from in to out. These factors lead to revised estimates of future growth. Population of the Region is expected to stabilize at approximately 20.8 million people by the Year 2000, some 4 million less than previous estimates.

to outlying areas of the Region and to other parts of the nation.

Natural growth, the other component of population increase, has not been strong enough to offset the losses of outmigration. Birth rates, which have been slowing generally for many years, have dropped sharply in the seventies.

While the current decrease in regional population is not expected to continue, neither is a return to the days before 1970, when jobs and population were increasing vigorously. Instead, stable-to-modest-growth conditions are expected to ensue.

Under these circumstances, greater emphasis must be placed on adjusting the Region's transportation planning goals and objectives to regional development requirements and perspectives. Planned land developments must be the determinants for transportation rather than self-serving transportation determining what land should be developed. All plans must be the result of analytic treatment of a wide range of alternatives and consideration of popular desires. Any other approach would run counter to the signs of the times and by so doing, be damaging the economic and social health of the Tri-State Region.

FUNCTIONS AND GOALS OF TRANSPORTATION

For good or ill, the Region has built a physical plant for itself that is predicated on a high degree of mobility. The basic settlement pattern has been established and, with little growth in prospect, no major shifts are expected. Travel abilities must not only be retained, but enhanced, within the resources at our disposal at as little an environmental expense as possible. The large systems of roadways and rail lines that have been built over the years provide the means for people to work, shop, socialize and transact business within a complex region. These components represent an enormous investment that should be largely preserved and corrected where deficient.

HOW PUBLIC TRANSPORT FUNCTIONS

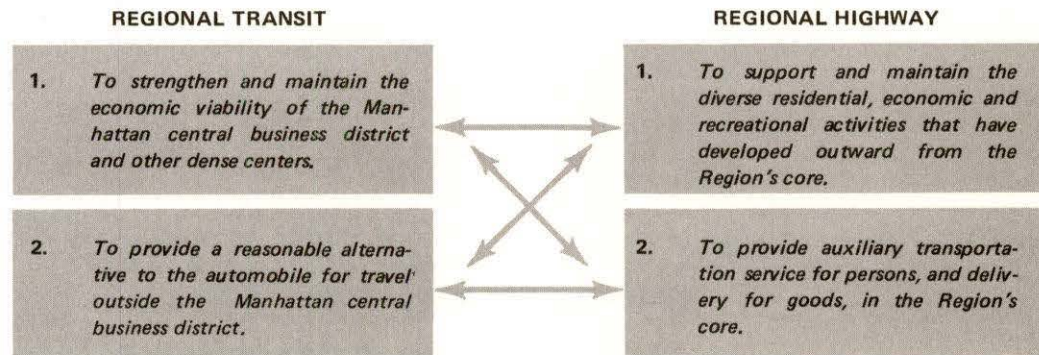
The backbone of the public transport system is the rail network--subways and commuter railroads--capable of carrying large numbers of people at high speeds along fixed routes. Express buses provide greater route choice with less capacity. Local buses offer still wider coverage at slow speeds.

Mass transportation is necessary for bringing great quantities of people together into densely developed business centers in a relatively short time. The economic well-being of our business centers--the Manhattan central business district, downtown Brooklyn and Newark, in particular--depends on the continued operation and improvement of the public-transportation network. And the Region's overall economic health as well as its land development goals require that these central business districts remain readily accessible to the large and diverse labor force of the Region.

Public transport is also used to provide alternative transportation throughout the Region. Some individuals choose to ride mass transit instead of using their autos. Others, because of age, health or income, have no autos and would be further disadvantaged if no transportation were readily available. The increasing distance between jobs and residences has also reduced the relative opportunities for autoless citizens, even those living in dense areas with good transit service. While no public transportation plan can claim to equalize opportunities within the Region, certain changes

COMPLEMENTARY PLANNING GOALS AND OBJECTIVES

Two basic planning goals for public transport and two complementary, basic planning goals for highways emerge from the consideration of regional transportation functions described on previous pages.



These goals, in turn, lead to ten specific objectives for public transit planning and ten objectives for highway planning. The goals and objectives and their relationship to regional development goals are shown in the table on Page 7. The regional goals are fully treated in a separate publication, *Regional Development Guide*, adopted by the Commission in October 1968 and revised in September 1972.

The goals for regional transportation will require many years to attain. But they are realizable and our progress toward them is measurable. The objectives are benchmarks, or steps along the way, toward the goals, and they are often single-minded enough to conflict with one another in practice if not in theory.

Obviously, those objectives that have a high degree of solidarity with other objectives and with the most goals will be easiest to achieve, but that does not mean that the achievement of other objectives should be allowed to lag. At the least, we must be aware that some conflict between objectives can exist, and therefore we must continually sort our objectives carefully to get the most for our efforts, never losing sight of our goals in the process.

REGIONAL TRANSPORTATION GOALS AND OBJECTIVES RELATED TO ONE ANOTHER AND TO REGIONAL DEVELOPMENT GOALS

Goal and Objective Consistency **** = High *** = Medium ** = Modest * = Low

	REGIONAL DEVELOPMENT GOALS			PUBLIC TRANSIT PLANNING GOALS		HIGHWAY PLANNING GOALS	
	Smoother Performance	Wider Opportunities	Richer Environment	Strengthen Business Centers	Alternative To Auto	Support Diverse Activities	Auxiliary Service To Core
PUBLIC TRANSIT PLANNING GOALS							
1. To strengthen and maintain the economic viability of the Manhattan central business district and other dense centers.	****	***	**	—	—	—	—
2. To provide a reasonable alternative to the automobile for travel outside the Manhattan central business district.	***	****	***	—	—	—	—
HIGHWAY PLANNING GOALS							
1. To support and maintain the diverse residential, economic and recreational activities that have developed outward from the Region's core.	****	***	**	—	—	—	—
2. To provide auxiliary transportation service for persons, and delivery for goods, in the Region's core.	***	****	*	—	—	—	—
PUBLIC TRANSIT PLANNING OBJECTIVES							
1. Preserve and stabilize all vital existing operations.	****	**	*	****	****	**	***
2. Put all physical apparatus in good working order; have safe, efficient and reliable operation.	****	**	*	****	****	**	***
3. Provide enough space for a decent level of comfort in rush hours.	****	*	****	****	*	*	***
4. Attain fastest feasible travel time to central business districts, even from edge of Region.	***	****	**	****	*	***	**
5. Provide rail service and local bus service to all areas of sufficient density.	***	****	**	**	****	****	**
6. Eliminate excessive physical effort, time and inconvenience at central business district stations.	****	**	****	****	*	*	***
7. Expedite transfer to rail transit lines at noncentral business district stations from all other modes.	****	****	**	***	****	***	***
8. Coordinate, integrate and promote all public transportation operations.	****	****	**	***	***	***	*
9. Achieve fiscal stability through equitable financing.	****	***	**	***	***	**	**
10. Eliminate environmental nuisances.	*	*	****	*	*	*	*
HIGHWAY PLANNING OBJECTIVES							
1. Maintain existing roadway surfaces and structures.	****	**	**	**	***	***	****
2. Optimize traffic operations on existing network.	****	**	***	***	***	***	****
3. Provide safest feasible roadway and vehicle design features.	****	*	**	*	*	***	***
4. Upgrade arterial street network in areas of increasing demand.	***	**	**	**	**	****	*
5. Introduce new limited-access highways only where economically, environmentally and socially feasible.	***	****	*	*	*	****	**
6. Reduce excess traffic demand by metering, carpooling, pricing, etc.	****	*	****	***	**	****	***
7. Provide off-street parking compatible with transit system objectives.	***	***	***	****	*	**	****
8. Provide adequate facilities for pedestrian and bicycle travel.	***	***	****	****	***	***	****
9. Attain equitable and adequate financing of highway facilities and operations.	***	**	***	***	***	****	*
10. Eliminate environmental nuisances and resource abuse.	**	*	****	**	**	*	*

THE PLAN AND THE PROGRAM

The highway and transit planning objectives lead directly to the plan and its elements. The tables on pp. 10-13 show this development. The degree of attainment of the planning objectives is measured by certain 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. Many of the plan elements call for more building; other elements can more satisfactorily be attained by operational changes. The capital investments are listed in detail later in the plan. The operation and maintenance costs are also summarized. The combined highway and transit plan and program yields financial requirements that are compared with available resources.

LIMITED GROWTH AND RESOURCES

This plan expresses achievements for the future that are relative to regional conditions. Population growth in the Region has virtually ended and, nationally, is at its lowest level in history. Economic growth has slowed, natural resources are in short supply everywhere, and environmental degeneration has become a worrisome threat. Construction costs have soared and years of deferred maintenance have begun to take their toll. Public transit revenues have failed to keep abreast of rapidly rising operating costs. Deficits have risen rapidly, straining the already burdened tax structure.

Barring major unforeseen events such as war or economic collapse, the next five to ten years seem likely to be a period of curtailment of material growth and economic expansion. 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 translates into more efficient and intensive use of existing facilities, preservation and repair rather than abandonment, operating solutions rather than building solutions whenever possible. Over the longer period we must look to technological innovation to provide new options for more effective use of scarce natural resources because cheap, abundant energy cannot be assumed for the longer future as it has been in the past. New technol-

THE REGIONAL TRANSPORTATION PLAN: PUBLIC TRANSIT FACILITIES AND OPERATIONS

OBJECTIVES	CRITERIA	TARGET DATES
1. Preserve and stabilize all vital existing operations.	If privately owned, is there a profit or a loss offset by subsidy? Otherwise, public ownership.	Immediate; no vital service should cease, even temporarily.
2. Put all physical apparatus in good working order; have safe, efficient and reliable operations.	Rolling stock age, mechanical condition and degree of air conditioning; track maintenance results and power failure; accident rate, on-time performance and unit costs.	Immediate; interim repairs if needed; retirement of overage rail vehicles on 35-year cycle by 1980; immediate improvement in reliability required.
3. Provide enough space for a decent level of comfort in rush hours.	Floor space per passenger.	By 1980 worst conditions alleviated; by 1990 even more space provided.
4. Attain fastest feasible travel time to central business districts, even from edge of Region.	Travel time related to travel distance.	Significant improvement by 1980; further gain by 1990.
5. Provide rail service and local bus service to all areas of sufficient density.	Rail-station spacing and bus-line frequency as related to transit-trip density.	By 1980 provide rail service to all very dense areas; begin to match new developments with new routes, bus or rail, appropriate to density planned.
6. Eliminate excessive physical effort, time and inconvenience at central business-district stations.	Foot-pounds of work in stair climbing; length of walk; spaciousness of passageways and exits; esthetic design; adequacy of facilities for elderly and handicapped.	By 1980 all new stations with proper design; busiest existing stations improved; walk from central business district terminals shortened or speeded.
7. Expedite transfer to rail transit lines at noncentral business district stations from all other modes.	Parking supply related to demand; walking time and distance between modes; buildings within walking distance of station.	By 1980 adequate parking; feeder bus service where appropriate; all new stations properly designed.
8. Coordinate, integrate and promote all public transportation operations.	Degree to which arbitrary boundaries result in inefficient operations, excessive fares and travel times or unintelligible services.	Early integration of New York City Transit Authority and Manhattan and Bronx Surface Transit Operating Authority with joint fare and route maps; integration by 1980 of all fares; unified planning and marketing of all operations.
9. Achieve fiscal stability through equitable financing.	Service available at reasonable price level; unexpected losses compensated, windfall gains recaptured.	Immediate stability; by 1980 equity achieved.
10. Eliminate environmental nuisances.	Noise, loss of light from rail elevated lines; bus noise and exhaust nuisances.	By 1990 excessive nuisances eliminated.

CURRENT STATUS

All existing rail operations in the Region virtually stabilized, along with most bus operations in New York City.

Much progress; most rail equipment ordered or delivered; subways nearly on 35-year cycle; rail plant in need of renewal; bus equipment generally renewed as needed; recent loss of skilled management and staff due to early retirement.

Inhuman conditions on Lexington Ave. IRT and Queens IND subway lines; overcrowding elsewhere; 63rd Street tunnel begun; subway platform lengthening substantially completed.

Current running times on railroads comparable to 1915; subway running times slow; bus lanes demonstrated.

Outer Brooklyn, Queens and Bronx densely developed beyond subway lines, also, Newark, Bayonne, New Jersey Palisades, Yonkers and Paterson lack sufficient rail transit; some suburban areas remote from rail lines; airports not served by rail; local bus grid inadequate in some areas.

Few escalators at central business district stations; crowded stairs and passageways; subway distribution from suburban rail inadequate in some cases.

Feeder bus service available at most subway stations, few bus services to rail stations; parking varies, many stations undersupplied; bus stops and parking not always well located with respect to rail stations.

One "low," flat subway fare; some integration in subsystems, such as Brooklyn or Newark buses; very little coordination of operations or promotions.

Revenues greatly surpassed by expenses (including capital); subsidy comes from New York City, each state, some counties, U.S. government and users of facilities operated by the Triborough Bridge & Tunnel and Port of New York & New Jersey authorities.

Many miles of elevated railway already removed; many still remain; some progress nationally on bus pollution; subway noise reduction program begun.

PRIORITY PROJECTS

Appropriate arrangements to preserve vital, outlying bus services in Westchester, Long Island, Connecticut and New Jersey.

Rail and subway equipment on replacement cycle; retrofitting of air conditioning; major track and power-plant renewal; continued bus renewal; strengthened management and better trained staff.

63rd Street line; more rolling stock; increased use of suburban rail for Queens and Bronx to Manhattan CBD; staggered hours.

Suburban rail high-performance electric cars and high-level platforms; faster subway cars; high-speed express lines and improved junctions; bus priority measures.

Subway extensions in New York City; West Shore rail reactivation; Meadowlands rail extension; right-of-way preservation; improved airport access.

Separation of vehicles and pedestrians in central business districts; more station improvements; CBD Shuttles.

"Transportation centers"; outlying clusters designed to strengthen local feeder bus and "walk-in" trade and to allow better reverse commuting.

Unified regional operations and planning, including adequate peak-hour service, frequent off-peak service, convenient connections and through or joint services where practical; improved information systems.

Equitable cost sharing among riders, motorists, property owners and general public; adequate annual transit budget.

Elimination of Jamaica, Third Avenue and Canarsie elevated lines; redevelopment along some elevated lines; application of bus-pollution control technology as it becomes available; major reduction in subway noise.

LATER NEEDS

Perhaps taxis, jitneys.

Continuous, on-going program.

Additional rail cars; new Hudson River tunnel; better use of uptown Port Authority Trans-Hudson route.

Suburban rail turbine-electric express service to edge of Region.

Rapid transit for N.J. Palisades, Liberty Park, North Shore of Staten Island and Gateway Park; additional rail service for Monmouth County; access to other airports.

Direct building connections and pedestrian ways; pedestrian conveyors.

More "transportation centers"; more clusters; redevelopment projects coordinated with transit improvements.

Uniform fare collection machinery.

Refinement of cost sharing; flexible fare structure usable in achieving public objectives.

Elimination of all remaining elevated lines that are incompatible with surroundings; replacement with new lines on nearby rail and rapid transit rights-of-way or improved surface feed to nearby subways, or new subways.

THE REGIONAL TRANSPORTATION PLAN: HIGHWAY FACILITIES AND OPERATIONS

OBJECTIVES	CRITERIA	TARGET DATES
1. Maintain existing roadway surfaces and structures.	Surface roughness, structure ratings.	By 1980 all deferred maintenance eliminated.
2. Optimize traffic operations on existing network.	Excess delay.	Immediate; by 1980 all "excess" delay eliminated.
3. Provide safest feasible roadway and vehicular design features.	Accident rates.	By 1980 significant reduction achieved.
4. Upgrade arterial street network in areas of increasing demand.	Lane miles per square mile related to trip density.	By 1980 developed areas well served; by 1990 all developing areas served.
5. Introduce new limited-access highways only where economically, environmentally and socially feasible.	Gaps in network; spacing relative to density; benefit/cost ratio.	By 1980 major gaps closed, if feasible; by 1990 spacing and density related.
6. Reduce excess traffic demand by metering, carpooling, pricing, etc.	Congestion.	By 1980 relieve worst congestion; by 1990 most congestion eliminated.
7. Provide off-street parking compatible with transit system objectives.	Spaces available at transit stations relative to demand; central business district spaces.	By 1980 parking supply adequate at appropriate transit stations; excess central business district parking relocated.
8. Provide adequate facilities for pedestrian and bicycle travel.	Miles of pedestrian and bike routes.	By 1980 considerable mileage introduced.
9. Attain equitable and adequate financing of highway facilities and operations.	Flexibility between capital improvements and operations; windfall gains recovered, unexpected losses offset.	Immediate achievement of flexibility; some progress toward equity.
10. Eliminate environmental nuisances and resource abuse.	Noise; air pollution; neighborhood disruption; fuel consumption.	By 1980 excessive nuisances and overconsumption of fuel eliminated.

CURRENT STATUS	PRIORITY PROJECTS	LATER NEEDS
Many pavement surfaces severely deteriorated; some structures closed due to failure.	Restore facilities to operable condition; bring all surfaces to acceptable levels.	Adequate level of maintenance.
Much progress; considerable work remains, particularly on expressways, commercial streets, transit streets.	Improved signs; better administration; appropriate enforcement; traffic signal control; parking restrictions on crowded streets; priority attention to buses.	Continuing refinement: electronic surveillance, selective usage control.
Many grade crossings eliminated; numerous safety hazards remain; vehicular safety improved.	Bring all roadways up to "state-of-the-art"; eliminate major hazards; provide mandatory vehicular safety features.	Further gains, perhaps vehicle detection systems; better vehicle inspection.
Arterial street improvements completed in many areas; recently developed areas inadequately served.	Selected improvements in dense areas; comprehensive improvements in outlying areas.	Improvements matched with development and development strategies.
Major freeway network completed; most areas served; several key gaps; spacing inadequate in certain sectors.	Complete routes under construction, close key gaps; begin planning for new routes and alternatives, including transit, operational improvements and new technology.	Resolve alternative choices; introduce new limited-access highways only if other alternatives prove unacceptable.
Some carpooling; tolls on some facilities relieve congestion; other tolls vary inversely with demand; some expressway metering.	All congested expressways metered and monitored; major carpooling effort; pricing strategies at existing toll facilities.	Comprehensive allocation procedure for scarce street space achieved, perhaps using automatic vehicle identification.
Considerable "remote" parking available, but used to capacity; major central business district parking constructed, often with public support.	Expansion of outlying parking facilities at transit stations; advance purchase of areas adjacent to stations; limits on central business district parking expansion.	Further additions to station parking; reductions in central business district parking supply.
Several pilot projects for bicyclists; several central business district street closings; also a few neighborhood street closings.	Skeletal network of separate bikeways; "auto-free" zones in major centers; pedestrian and bike capability on major river crossings.	Further bikeway refinement; pedestrian streets in residential areas.
Emphasis has been in capital improvements; maintenance and operations often neglected; considerable inequity among roadway users.	Greater financial flexibility; more equitable cost sharing among users, property owners and general public.	Refinement.
Unfavorable, serious air pollution problem; noise; serious neighborhood disruption; many large, inefficient autos.	Emission controls on new vehicles; retrofit older vehicles; noise controls in heavy trucks; noise abatement treatment of highways; reduce through traffic on local streets.	Complementary effect of projects meeting other objectives; alternative propulsion systems and energy sources.

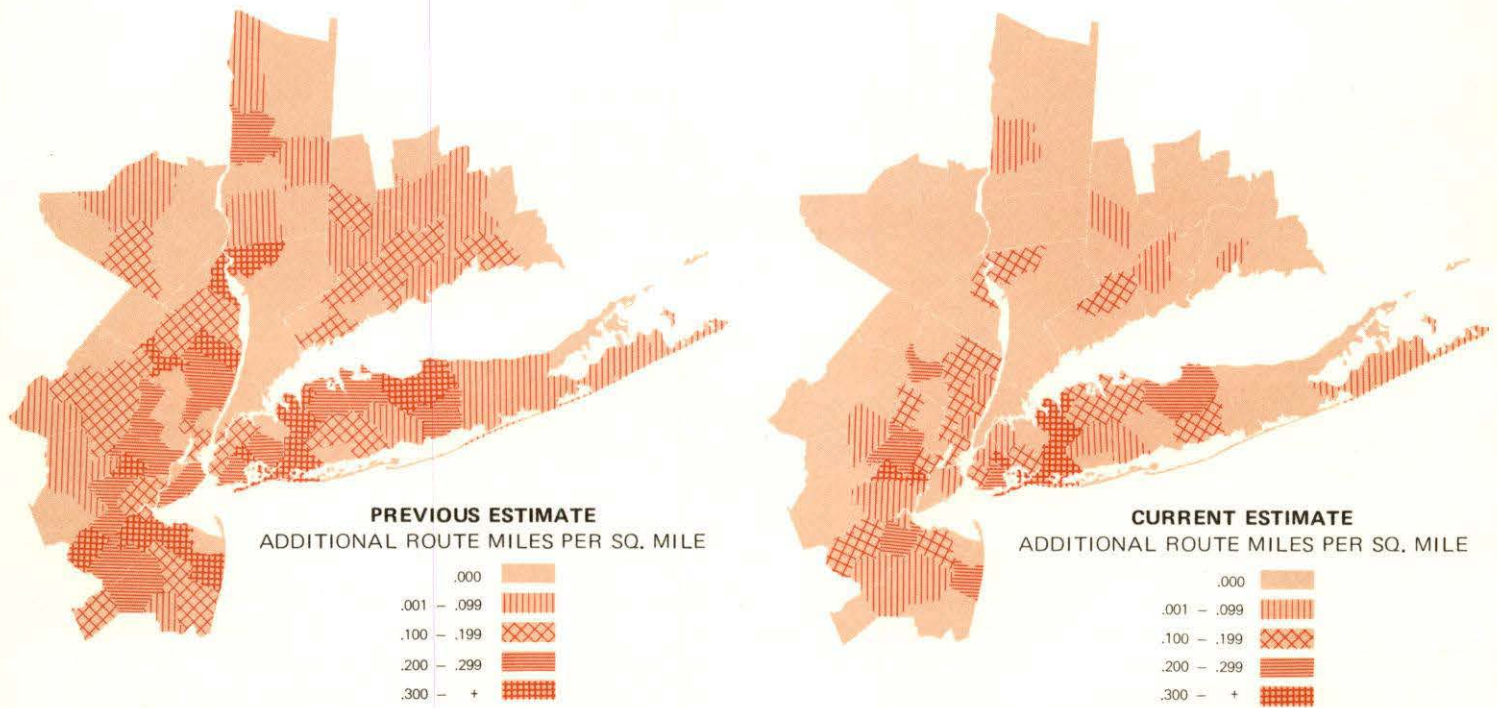
ogies will have to be developed, but such changes are not easily discernible. Projecting when (or if) such innovations will occur is impossible, so our plans now must necessarily be conservative.

MORE IMPROVEMENTS THAN NEW ROUTES

The plan envisions few new limited-access highways or subways except for those already under construction—and even some of these routes may have to be postponed. Instead, many selected improvements to existing facilities are urged, along with an intensive effort at operational improvements. Study corridors are designated for continued investigation of wide ranges of transport applications including low-capital alternatives. It is further recognized that environmental consideration requires greater emphasis on public transit improvements. Faster, more frequent service and more equitable fares are public transport improvements that will receive

LIMITED-ACCESS HIGHWAY NEEDS YEAR 2000

From a transportation perspective, additional limited-access highway needs can be calculated by balancing construction cost with travel user benefits. Rising construction costs and the greatly diminished outlook for growth in vehicular travel combine to produce a much lower estimate of expressway needs than previously calculated. To translate general expressway needs into a specific highway improvement plan clearly requires careful assessment of available highway alternatives in each local area.



top priority. Greater coordination among the various public transit lines, which are now mostly all publicly controlled, must be achieved at an early date.

After all possible ways of improving highways through traffic engineering have been exhausted, remaining congestion of vehicles should be reduced to reasonable levels. To do this, various measures could be used—traffic metering, car pooling, fuel pricing, priority roadways. We should not permit congestion itself to discourage travel; it wastes fuel and drains human patience.

A key proposal for better coordination is the more intimate blending of the commuter rail lines into the total transportation system, with many improved transfer points. Fortunately, the states and localities in this Region have, over the last decade, largely refurbished and re-equipped the rail lines. They are attuned to serving radial, peak-hour, express travel from suburb to city, and it remains to have them cater to local tripmakers as well. Bus transit service should also be maintained, and improved if necessary, to assure continued mobility.

ENVIRONMENTAL IMPROVEMENT

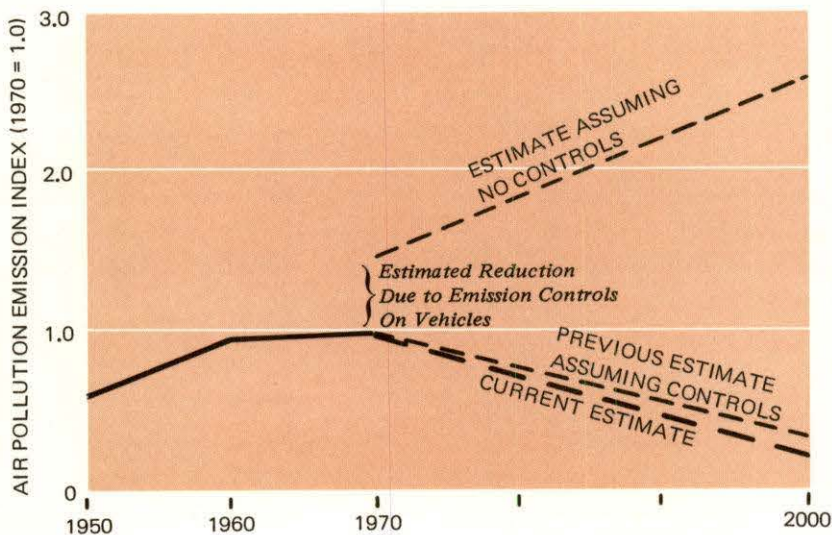
Air pollution from motor vehicles, subway noise and other environmental nuisances must receive high-priority treatment. Contaminants must be removed before exhausts leave vehicles and enter the atmosphere. This is the essence of national policy for cleaning up vehicular pollutants, and the approach will have beneficial effects for this Region's air. Rapid attainment of air quality standards can be achieved by early retirement of polluting vehicles and rapid introduction of new, clean vehicles, and attaching pollution-control devices to older vehicles. Clean vehicles must be inspected and maintained regularly. Where specific parts of the region have excessive air pollutants, special efforts will be required to inhibit vehicular travel or to allow only "clean" vehicles into such critical areas.

Subway noise should be reduced by various measures—such as rail and wheel grinding, quieter roadbeds and sound-absorbing materials. Reduction of noise would greatly improve the subway's image and help to make it an attractive alternate to auto travel.

LAND DEVELOPMENT COORDINATION

The trends toward 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 improve the living quality of older, more densely developed cities.

The *Regional Development Guide* provides the means for encouraging this orderly development. The process of cross-acceptance of the *Guide* with other official planning agencies has been steady and successful. Ultimately, for this development pattern to occur,



VEHICULAR POLLUTANTS YEAR 2000

Rapid attainment of air quality standards is an urgent requirement. The most effective means for achieving these standards is to remove emissions at the source—in the case of motor vehicles, within the vehicles themselves. Changing the mix of expressways and arterials has relatively little impact on vehicle emissions. Clean air simply requires clean vehicles. For the shorter term, pending complete retirement or retrofit of polluting vehicles, transportation-control strategies have been drawn up by the states and the U. S. Environmental Protection Agency. These strategies are consistent with the Region's revised transportation plan and program.

the cooperation of all units of government is critical, particularly local communities where land-use controls are strongest.

INTERCITY RAIL CONSIDERATIONS

Good rail access to the rest of the nation is vital to the Region's economic health. Long-distance freight movements are most suitably accommodated on the nation's rail system. Costs are less, energy requirements are less per unit of freight moved, and considerable environmental degradation is avoided. High-speed passenger service is important to the Region in providing a reasonable alternative to the auto and in replacing air travel for trips to other regions.

Primary responsibility for planning the intercity rail system clearly rests with the federal government. The federally sponsored United States Railway Association (USRA) has recognized the need

to stabilize and improve the deteriorating rail system in the Northeast. The Tri-State Region is the only major urban region in the Northeast that is reached exclusively by bankrupt railroad companies that are unable to achieve reorganization. The Region is vitally dependent on the success of USRA efforts to revitalize this rail system, and this Commission has closely monitored emerging rail plans. These are the key issues:

- 1. The Region must have competitive rail service. Two or more healthy carriers must reach this Region.*
- 2. The Poughkeepsie Bridge route must be restored and high-quality rail service provided between the east-of-Hudson portion of the Tri-State Region and places to the south.*
- 3. High-speed, intercity rail passenger service is important. However, this must be coordinated with suburban rail service to use existing facilities for both services efficiently.*

ADAPTING TO CHANGE

In a technological society of uncertain future growth, all plans are subject to change. The very nature of the planning process is to recognize changes over time and to make adjustments accordingly. The program of capital investment and operating improvements must be kept up-to-date by a process of annual review and modification. The major elements of the longer-range highway and mass transit plan can be expected to change as more study is undertaken. In particular, places that lack major routes will be analyzed as study corridors to determine if new limited-access highways should be introduced, or, alternatively, if existing arterial streets should be upgraded or public transport should be added. Social and environmental studies will yield further refinements to the plan as will studies on aviation, intercity rail service, waterways and pipelines.

SUBREGIONAL PLANNING & FEASIBILITY STUDIES

New York City, the suburban counties of New York and New Jersey and the planning regions of Connecticut share the responsibility for transportation planning within their boundaries. Support for this work has recently come from federal transportation planning funds, the disbursement of which is coordinated by the Commission through a contractual arrangement with each subregional agency. Thus, subregional agencies maintain transportation plans for their jurisdictions that are in line with regional transportation plans.

Also, major transportation operating agencies, such as the Metropolitan Transportation Authority, Port Authority of New York and New Jersey, Triborough Bridge and Tunnel Authority, Connecticut Transportation Authority and the New Jersey Turnpike Authority, assist Tri-State in detailing elements of the regional transportation improvement program as it applies to their particular

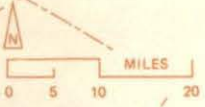
facilities and operations. And the three states maintain a planning capability that is fully coordinated with the subregional and Commission efforts too.

A unified work program spells out the ongoing planning efforts of this Commission, the three states and each subregional agency. The result of this continuing, cooperative process is the annual review and updating of the regional transportation improvement program, which guides the allocation of resources for transportation investment and describes the operations, maintenance, financial and institutional strategies necessary to achieve adopted goals and objectives. In other words, the result is this plan, backed by the work of other levels of government.







To implement the plans, hundreds of specific feasibility studies are underway in every sector of the Region. These technical studies, which are in addition to the continuing planning efforts, have been directed toward solving particular technical problems such as roadway improvements and mass-transit service specifications. They "nail down" planning efforts in particular instances, thus expediting the day when transportation improvement programs become operating realities.

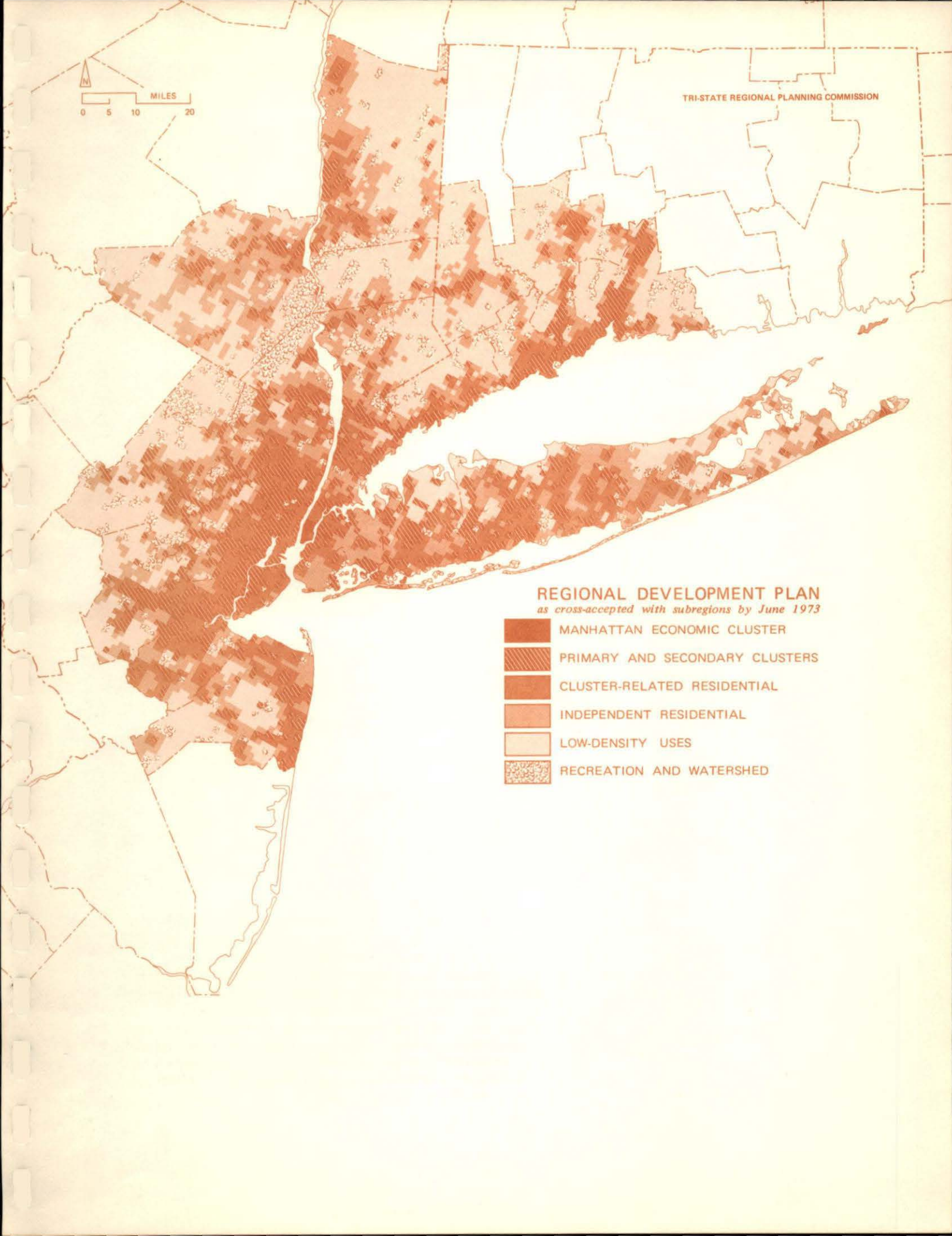
REGIONAL DEVELOPMENT PLAN

The Regional Development Guide is a statement of goals and a plan for the Tri-State Region. It was adopted by the Commission in October 1968 and amended in September 1972. The plan provides for an orderly gathering of economic activities into clusters with careful location of residential activities while preserving open space. Such a land settlement pattern supports the goals of smoother performances, wider opportunities and richer environment for the Tri-State urban region. The regional development plan provides a rational framework for planning transportation improvements.



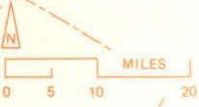
REGIONAL DEVELOPMENT PLAN
as cross-accepted with subregions by June 1973

-  MANHATTAN ECONOMIC CLUSTER
-  PRIMARY AND SECONDARY CLUSTERS
-  CLUSTER-RELATED RESIDENTIAL
-  INDEPENDENT RESIDENTIAL
-  LOW-DENSITY USES
-  RECREATION AND WATERSHED



EXISTING REGIONAL TRANSPORTATION ROUTES

The Tri-State Region has the largest public transportation network in the United States, and from the time it built the first limited-access highway in the nation more than 50 years ago, it has constructed more than 1500 miles of these routes. These roadways and rail lines provide the basic means for people who must travel to transact business, shop and socialize; their preservation, repair, modernization and, if necessary, reconstruction, must receive more emphasis if the ability to travel is to be retained.

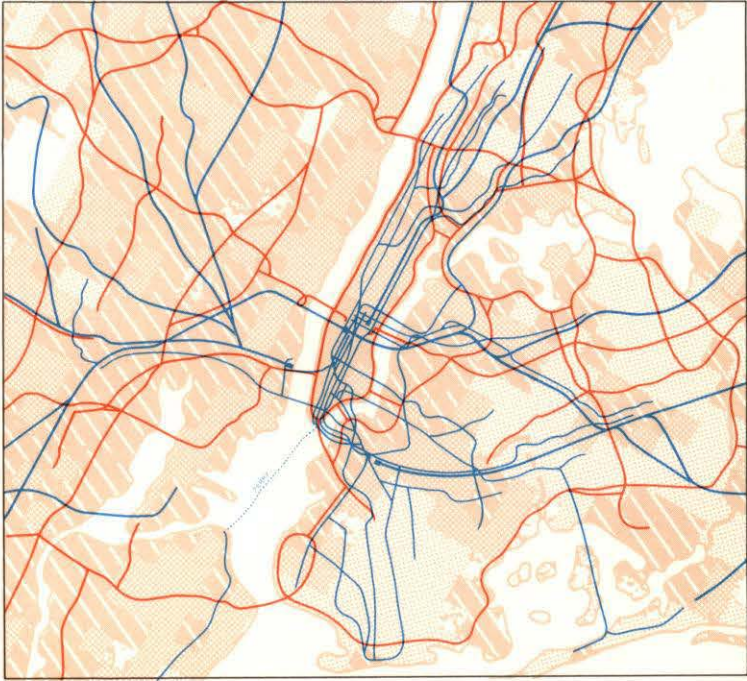


TRI-STATE REGIONAL PLANNING COMMISSION

SEE
ENLARGEMENT

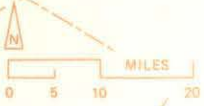
EXISTING REGIONAL TRANSPORTATION ROUTES
(Background Is Regional Development Plan)

- PASSENGER RAIL TRANSIT ————
- LIMITED-ACCESS HIGHWAYS ————



PLANNED REGIONAL TRANSPORTATION ROUTES

The slowdown in regional population and economic growth in the Tri-State Region means that few wholly new major transportation routes are required to maintain mobility. For rail transit some extensions are needed now in order to provide services to areas that are already densely settled. A few more extensions will be needed later to match planned development densities with future service. More highways should be introduced now where gaps in the existing system exist and later where the spacing between routes is too wide for planned development densities.

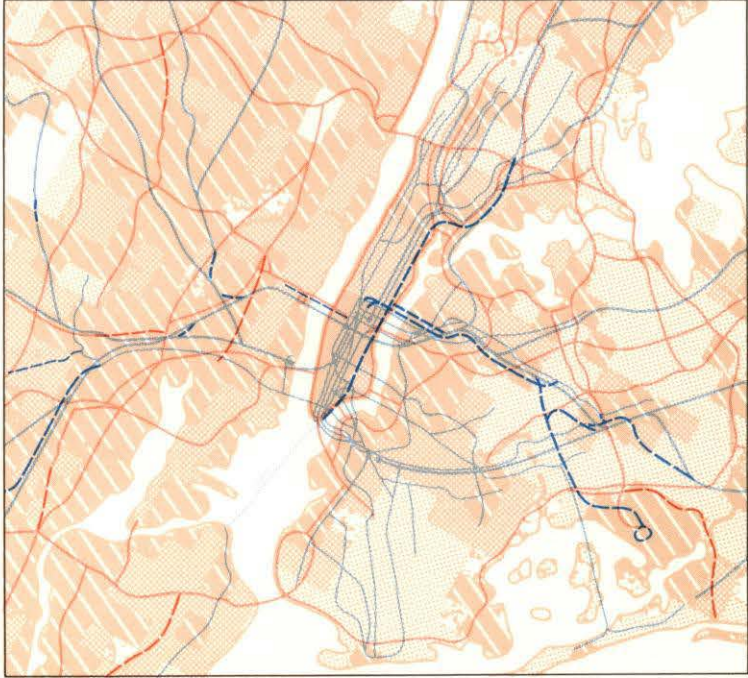


TRI-STATE REGIONAL PLANNING COMMISSION

SEE
ENLARGEMENT

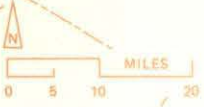
PLANNED REGIONAL TRANSPORTATION ROUTES
(Background Is Regional Development Plan)

	EXISTING		ADDITIONS	
			PRIORITY	FUTURE
PASSENGER RAIL TRANSIT				
LIMITED-ACCESS HIGHWAYS				



REGIONAL TRANSPORTATION PLAN

Many elements of the Region's transportation plan are defined, selected additions. Other proposals are identified as corridors or areas where more studies are needed to evaluate a variety of transportation options, including alternatives requiring low capital investment. These possibilities include rail, bus, arterial street networks, limited-access highways or ferries. Detailed maps and lists at the end of this report describe the priority and future transportation improvements and study corridors that are shown here.



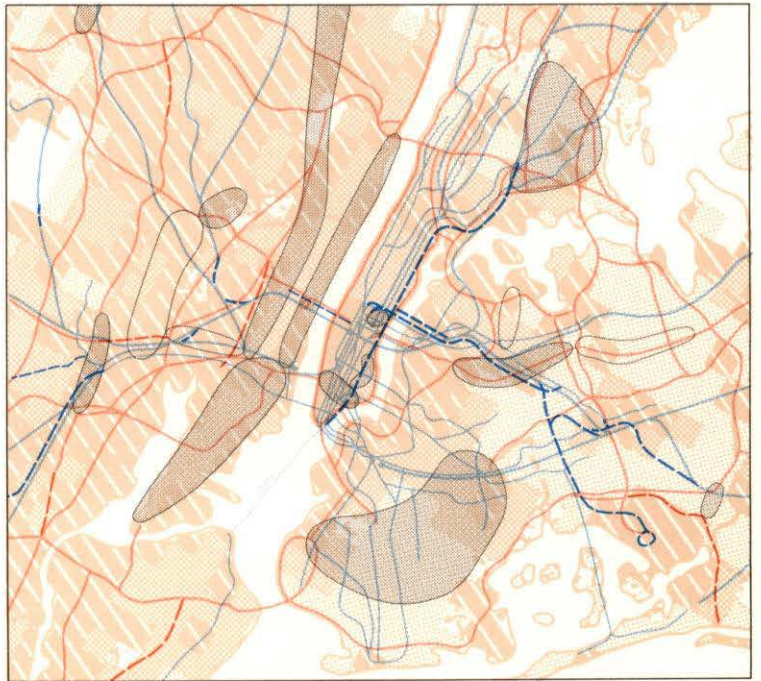
TRI-STATE REGIONAL PLANNING COMMISSION

SEE
ENLARGEMENT

REGIONAL TRANSPORTATION PLAN

(Background Is Regional Development Plan)

	EXISTING	ADDITIONS	
		PRIORITY	FUTURE
PASSENGER RAIL TRANSIT			
LIMITED-ACCESS HIGHWAYS			
STUDY CORRIDORS			





FINANCING IS CRITICAL

Until very recently, tolls and taxes on fuel have been sufficient to pay for construction, operation and maintenance of highways. Clearly, the public has been willing to pay for improved highway facilities. Public transit revenues, on the other hand, have been unable to keep pace with rising costs. For many operations, fare increases have approached the point of diminishing returns.

Except for travel to central business districts during rush hours, empty seats exist throughout much of the public transit system. Though the marginal cost of carrying more passengers is small, high fares deter use. Little improvement in self-sustaining public transit revenue can be expected by raising fares further.

Recent experiments with fare reductions do indicate significant gains in ridership, though not enough to offset the decrease in revenues. Moreover, operating and maintenance cost can be expected to continue rising rapidly in the years ahead. Any chances for improved productivity are likely to be cancelled by needs for better service.

Mass transit's rising deficit must be met by increased local, state and federal operating assistance. For all of our transportation needs, a stable, long-range funding scheme that will divide the financial burden equitably among all those who benefit—riders, motorists, businesses and the general public—must be devised. The objectives of this plan can be achieved only if critically needed federal assistance is made available, and if states and localities develop necessary funding arrangements.

The financing has two aspects: obtaining enough funds and allowing enough flexibility to spend them prudently.

The need for additional revenue is apparent. The expected shortfall in funds for improving and operating the regional public transportation system during the next five years—\$4.0 billion—is alone more than five times what the federal government has provided to this Region during the last ten years. It is also far more than the states have been able to provide during any five-year period

with their uncertain bond issues. And municipalities simply do not have the financial stamina to increase their current share of financing for transportation. Overall financial needs for transportation will require considerable increases in the traditional sources, either directly through fares and tolls, or indirectly through various taxes and fees.

The funds that do finance transportation in the Tri-State Region come from many sources, some of them restricted to particular uses. More flexibility is needed so that more sources can provide the financing for those projects that should have priority in any given year. Involved are such questions as how much of the highway source of funds shall be used for public transport and whether interstate highway monies shall be used for mass transit projects or conventional arterial improvement alternatives.

The principle of diverting regional highway funds for public transport has already been established here, and a bare beginning has been made on diversion possibilities in use of federal funds. More leeway is needed, however, even to the point of obtaining complete modal flexibility within the confines of the regional plan.

FINANCING REGIONAL TRANSPORTATION

This consolidated program of capital improvements, and operating and maintenance expenditures, for highways and mass transit was developed in co-operation with the states, subregions and operating agencies. In general, twice as much money will be needed for operating and maintaining than building regional transportation during the next five years. In developing a program of capital improvement projects it is desirable for the program to exceed projected financing by about a quarter in order to allow for unforeseen delay in project implementation. In some cases the table shows capital shortfall exceeding the amount.

**FINANCING THE REGION'S HIGHWAY & MASS TRANSIT IMPROVEMENT PROGRAM
1976-1980 Capital Improvements, Operations & Maintenance**

in millions of dollars

IMPROVEMENT PROGRAM	CONNECTICUT			NEW JERSEY			NEW YORK			TRI-STATE REGION		
	Highway	Transit	Total	Highway	Transit	Total	Highway	Transit	Total	Highway	Transit	Total
CAPITAL	\$ 780	\$ 87	\$ 867	\$1,524	\$1,401	\$2,925	\$2,623	\$ 3,862	\$ 6,485	\$4,927	\$ 5,350	\$10,277
OPERATIONS & MAINTENANCE	760	235	995	1,592	1,843	3,435	2,548	10,483	13,031	4,900	12,561	17,461
TOTAL	\$1,540	\$322	\$1,862	\$3,116	\$3,244	\$6,360	\$5,171	\$14,345	\$19,516	\$9,827	\$17,911	\$27,738
PROJECTED FINANCING												
<i>CAPITAL</i>												
Federal Transit	-	70	70	-	300	300	-	875	875	-	1,245	1,245
Highway	148	-	148	512	-	512	1,159	125	1,284	1,819	125	1,944
State Bonds	-	-	-	85	95	180	-	568	568	85	663	748
Other	54	17	71	150	50	200	517	145	662	721	212	933
City of New York	-	-	-	-	-	-	30	500	530	30	500	530
Other Local	25	-	25	83	-	83	116	3	119	224	3	227
Authorities	-	-	-	100	92	192	200	400	600	300	492	792
Private	-	-	-	-	-	-	-	-	-	-	-	-
SUBTOTAL	\$ 227	\$ 87	\$ 314	\$ 930	\$ 537	\$1,467	\$2,022	\$ 2,616	\$ 4,638	\$3,179	\$ 3,240	\$ 6,419
<i>OPERATIONS & MAINTENANCE</i>												
Federal Transit	-	20	20	-	131	131	-	1,274	1,274	-	1,425	1,425
Highway	-	-	-	-	-	-	-	-	-	-	-	-
State	502	53	555	190	193	383	1,140	584	1,724	1,832	830	2,662
City of New York	-	-	-	-	-	-	204	2,384	2,588	204	2,384	2,588
Authorities	-	-	-	716	200	916	742	432	1,174	1,458	632	2,090
Local	99	1	100	331	10	341	462	229	691	892	240	1,132
Other Operating Revenue	-	25	25	-	15	15	-	199	199	-	239	239
User Payments (fares)	-	111	111	-	874	874	-	3,861	3,861	-	4,846	4,846
SUBTOTAL	\$ 601	\$210	\$ 811	\$1,237	\$1,423	\$2,660	\$2,548	\$ 8,963	\$11,511	\$4,386	\$10,596	\$14,982
TOTAL	\$ 828	\$297	\$1,125	\$2,167	\$1,960	\$4,127	\$4,570	\$11,579	\$16,149	\$7,565	\$13,836	\$21,401
SHORTFALL CAPITAL	\$ 553	\$-	\$ 553	\$ 594	\$ 864	\$1,458	\$ 601	\$ 1,246	\$ 1,847	\$1,748	\$ 2,110	\$ 3,858
SHORTFALL OPERATIONS & MAINTENANCE	\$ 159	\$ 25	\$ 184	\$ 355	\$ 420	\$ 775	\$-	\$ 1,520	\$ 1,520	\$ 514	\$ 1,965	\$ 2,479



FEATURES OF THE PLAN AND PROGRAM

The five maps and lists that follow identify systems and specific proposals, by sector, that help to achieve regional transportation goals and objectives. The maps indicate approximate locations only, since detailed engineering work remains to be done on most proposals. The text reference numbers on both maps and lists do not represent an order of importance, excepting their "priority" and "future" designations.

The priority group includes projects scheduled for early implementation in Tri-State's five-year transportation program, and others that will be scheduled as funds become available in the succeeding five years. Also given priority are some studies of existing deficiencies in the Region's transportation system for which effective solutions must be developed. The dollar amounts shown in the lists are the amounts to be obligated in the five-year program. These amounts do not necessarily reflect the total amount required to complete each project since many major projects will take more than five years to implement, and others are continuing improvement programs that require more funding in later years.

The future category includes proposals of less 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.

Other major proposals, including improvements in operations and maintenance, are treated in a general fashion on pages 10-13. These proposals are widespread, affecting virtually all elements of the Region's transportation system.

As planning proceeds, additional information and changing conditions may lead to modifications in many of the proposals. Continuous review and annual revision of this plan is therefore appropriate.

REGIONAL TRANSPORTATION PLAN CONNECTICUT Priority Proposals

Map No.	Five-Year Program in millions of dollars	
1	Merritt Parkway Bridge: replacement of the existing bridge over the Byram River in Greenwich.	2
2	Conn. 104 Widening: in the vicinity of the Merritt Parkway in Stamford.	
3	U.S. 7 Freeway (south): a new highway between Interstate 95 in Norwalk and Interstate 84 in Danbury. A 1.5-mile section in Norwalk is completed.	193
4	U.S. 7 Freeway (north): a new highway between Interstate 84 in Danbury and existing Route 7 in New Milford. The section between Interstate 84 and the vicinity of Brookfield Village is under construction.	36
5	Penn Central New Haven Line: a major rehabilitation of the New Haven rail line is underway. In Connecticut this program includes the mainline extending from Greenwich to New Haven, and three branches providing service to New Canaan, Danbury and Waterbury. Amtrak service continuing north and east from New Haven is being upgraded as part of the Northeast Corridor improvement program. Track and Structures Rehabilitation: installation of welded rail, tie replacement, track surfacing, bridge deck renewal, draw-bridge repairs and mainline crossover improvements. Electrification Conversion: the existing 11 kv, 25 Hz electric traction power system will be converted to 12.5 kv, 60 Hz. Electrification Extension: the Danbury Branch electrification, which was partially destroyed by a severe storm, will be restored. Signal System Modernization: a complete renewal of the signal system will include cab signals, automatic speed control and central traffic control with reverse signaling on all four mainline tracks and on branch trackage. Yards and Shops Improvement: an enclosed car washing facility will be constructed at New Haven, adjacent to the new maintenance facility there. Station Improvements: the station at Danbury will be relocated and a major rehabilitation or reconstruction of the New Haven station will be undertaken as well as modest improvements elsewhere. Right-of-way Acquisition: a lease option will be exercised enabling the State of Connecticut to purchase the entire line. Equipment Modification: modifications will be made to the existing 144 new multiple-unit cars and to 100 cars now on order.	12 8 4 18 2 10 17 2
6	Conn. 25 Freeway: a new highway between Interstate 95 in Bridgeport and Interstate 84 in Newtown. The Bridgeport section, overlapping Conn. 8, is open to traffic. A 2.5-mile section in Trumbull is under construction. Other Trumbull sections south of Route 111 are programmed for early completion. The Monroe-Newtown section is in the planning stage.	106
7	I-84 Bridge: improvement of the existing Housatonic River crossing and its approaches in Newtown and Southbury.	16
8	Conn. 486 (Oxford Airport): a new two-lane highway to provide access to the airport from Route 188 in Southbury.	
9	I-84, Waterbury: upgrading and addition of lanes; in the design stage.	38
10	Conn. 8 Freeway: a limited-access highway between Interstate 95 in Bridgeport and Route 44 in Winsted in northern Connecticut. The last two sections are in the design stage, one in Trumbull, the other extending from Seymour to Naugatuck.	75
11	Long Island Sound Ferry Service: the need for better transportation across the Sound has long been recognized. Since studies of bridges and tunnels have failed to yield a feasible solution, ferry services should be improved and expanded.	
12	Conn. 34 Freeway: extension of the existing highway from the center of New Haven to the Boulevard at the west side of the city.	25
13	Conn. 66 Freeway: a new highway between I-84 in Cheshire and I-91 in Meriden. The Meriden section is completed; the Cheshire-Southington section is in the design stage.	26
	Subregional Public Transit Improvements: primarily oriented to preserving and re-equipping the local bus system. Stable operating arrangements are being established with private carriers where they exist. Extension of local bus service to areas of significant density is also planned. Other improvements are planned for taxi and other special carriers, particularly those serving the elderly, the handicapped and the transport-disadvantaged. Capital improvements include new vehicles, garage improvements, bus shelters, transfer facilities and communication devices.	14
—	Other Regional Highway Improvements: numerous smaller scale improvements on the Region's limited-access and major arterial highways include: rehabilitation or minor reconstruction of pavements, structures and interchanges; safety improvements; and traffic management and information systems.	140
—	Subregional Highway Improvements: additional improvements off the regional system include: rehabilitation or widening of minor arterial and collector streets; traffic operations and safety improve-	



REGIONAL TRANSPORTATION PLAN – CONNECTICUT

	EXISTING	ADDITIONS		TEXT REFERENCE FOR IMPROVEMENT PROGRAM	
		PRIORITY	FUTURE	PRIORITY	FUTURE
PASSENGER RAIL TRANSIT				00	00
LIMITED-ACCESS HIGHWAYS				00	00
MAJOR ARTERIALS				00	00
STUDY CORRIDORS				00	00

ments; carpool programs; high-occupancy vehicle priority; expanded parking at public transit stops and outlying business areas; careful regulation of on-street parking; and bikeways and pedestrianways.

123

Future Proposals

14 **Connecticut Turnpike:** East Avenue interchange improvement in Norwalk.

15 **Conn. 34 Corridor:** a study of improvements to travel in the east-west corridor from New Haven to Derby and Shelton.

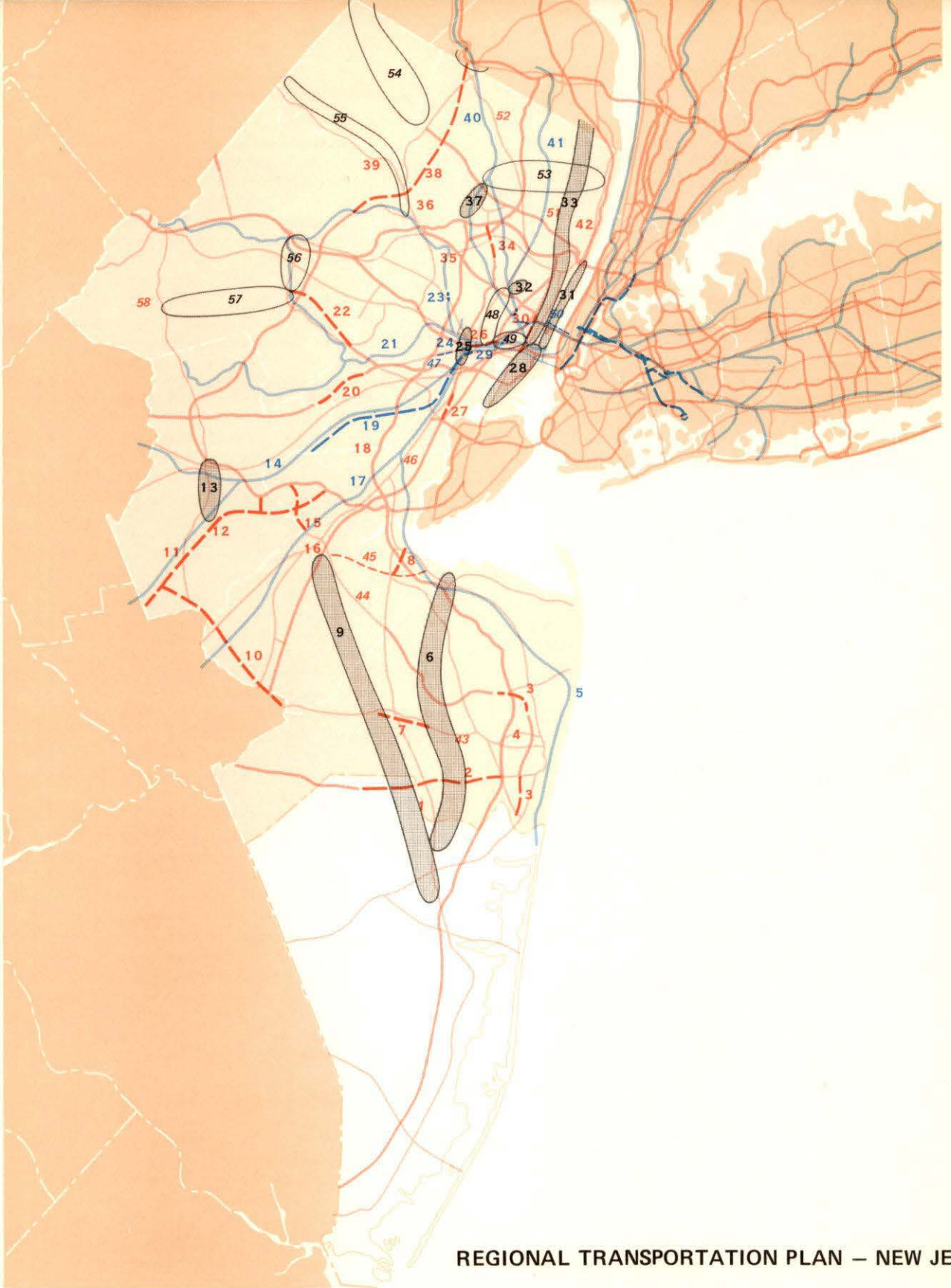
16 **Canal Line Transitway:** a transitway could be constructed along the Penn Central rail freight line from downtown New Haven northwest toward Plainville. Initial studies recommended a busway, but other modes are now also under further consideration.

17 **Wharton Brook Connector:** access from I-91 into industrial areas of Wallingford and North Haven.

REGIONAL TRANSPORTATION PLAN NEW JERSEY

Priority Proposals

Map No.		Five-Year Program in millions of dollars	
1	U.S. 9: dualization below Freehold to Lakewood will complete the upgrading of Route 9 across Monmouth County.	19	11
2	I-195: completion of the interstate system spur toward the shore to Route 34.	51	
3	N.J. 18 Freeway: construction of two links will complete N.J. 18F to Route 70.	25	
4	N.J. 66 Dualization: completion of Route 66 widening to the Garden State Parkway and Route 33.	11	
5	New York and Long Branch Line: a major improvement program primarily for the portion of the line between Rahway and Red Bank. Plans south of Red Bank are being coordinated through the Monmouth/Ocean Corridor Study now underway. Track and Structures Rehabilitation: new rail, tie and ballast renewal, and roadbed and bridge repair work will upgrade the portion of the line north of Red Bank to 80 mph operation. Bridge renewal will include a major improvement at the Raritan River. Electrification Extension: the existing electrification, which continues only to South Amboy, will be extended 15 miles to Red Bank. Signal System Modernization: the electrification extension will require modification of existing signal system. Reverse signalling will be provided on both tracks north of Red Bank. Yards and Shops Improvements: a storage and servicing yard will be constructed at Red Bank. Station Improvements: relocation of Matawan and Red Bank stations, and major station rehabilitation elsewhere. Parking Expansion: parking will be expanded, particularly at Matawan and Red Bank. Right-of-way Acquisition: purchase of the right-of-way between South Amboy and Red Bank. Equipment Purchase: fifty electric multiple-unit cars will be needed for the electrified portion of this line. Fourteen diesel-electric/electric locomotives will permit direct service without an engine change for the nonelectrified service. Additional coaches will be needed for the locomotive-hauled service.	32 15 6 2 6 3 12 93	23 6 146
6	Monmouth/Ocean Corridor: a study of improvements for the commuter corridor between the existing Penn Central mainline and the New York and Long Branch Line. A number of freight-only rail lines will be considered for possible passenger rail transit use. Improvements for the New York and Long Branch Line south of Red Bank will also be defined.		
7	Freehold Bypass: new alignment for Route 33 to relieve congestion in Freehold's business center.		11
8	U.S. 9 Bypass: new alignment is sought around a congested section of Route 9 between routes 34 and 35. Considerable environmental problems exist in and near Cheesequake State Park.		
9	Governor Driscoll Expressway: a spur from the New Jersey Turnpike to the Garden State Parkway in Toms River, possibly incorporating a mass transit line, should receive additional study.		
10	N.J. 92 Freeway: as part of a limited-access route between Route 33 and I-95, two critical sections will be built to relieve congestion: from Route 33 to 130 near Hightstown and from Route 1 to 206 north of Princeton. The section between routes 1 and 130, and an extension to I-95, will receive future consideration.		23
11	U.S. 206 Improvement: relocation at Belle Meade near proposed I-95 and Reading Railroad overpass.		6
12	I-95: construction of one of the last remaining gaps in this eastern seaboard route. Considerable development in this corridor has been planned, based on accessibility to be afforded by this freeway. Due to objections to the proposed location through Piscataway, alternatives are under study.		146
13	U.S. 206 Corridor: continued planned development south of Somerville in Hillsborough will require additional highway capacity. A high-grade route would channel traffic between I-95 and I-287 through this corridor and relieve the existing road.		
14	Jersey Central Mainline: studies will determine the improvements needed for the Jersey Central (and Reading) mainline service west of Plainfield. The Plainfield extension of PATH will substantially alter transit service functions in this corridor.		
15	N.J. 18 Freeway: severe congestion in New Brunswick and across the Raritan River to Piscataway will be alleviated by this limited-access route to I-287.		24
16	N.J. 18 Widening: although full control of access would be difficult to achieve on existing Route 18 between U.S. 1 and U.S. 9, this roadway will need widening to provide adequate service between adjacent freeway sections. Overloads between U.S. 1 and the N.J. Turnpike warrant early relief.		7
17	Penn Central Mainline: a major improvement program for commuter operations, coordinated with Northeast Corridor improvements. Additional improvements will be required east of Newark as track connections to the Erie-Lackawanna lines are completed.		



REGIONAL TRANSPORTATION PLAN - NEW JERSEY

	EXISTING		ADDITIONS		TEXT REFERENCE FOR IMPROVEMENT PROGRAM	
			PRIORITY	FUTURE	PRIORITY	FUTURE
PASSENGER RAIL TRANSIT					00	00
LIMITED-ACCESS HIGHWAYS					00	00
MAJOR ARTERIALS					00	00
STUDY CORRIDORS					00	00

	Yards and Shops Improvements: unified maintenance facilities for all state-owned electric multiple-unit equipment are now under study.	8		Station Improvements: upgrading the Gladstone and Netcong terminals.	1
	Station Improvements: various stations will be upgraded, including installation of high-level platforms and automatic fare collection systems.	19		Parking Expansion: additional parking at Gladstone and Netcong.	0.5
	Parking Expansion: in addition to expansion planned at Metropark and Metuchen as part of station improvement, more parking will be provided at other stations.	2	22	Equipment Purchase: 200 electric multiple-unit cars will be purchased to modernize the service.	157
	Equipment Purchase: thirty additional electric multiple-unit cars will be required to complete modernization of service.	24		N.J. 24 Freeway: sections of this route are open or under construction from I-78 to Florham Park, and completion to Route 202 north of Morristown will remove longer distance travel from the old Route 24.	
	Equipment Modernization: operating experience has indicated the need for modifications to car doors and interior accommodations.	2	23	Erie-Lackawanna Montclair-Boonton Line: the Montclair Branch and the Boonton Line will be connected at Montclair, and operations will be unified and expanded. The Boonton Line trains will be able to operate directly to the Newark business center, and ultimately through to Penn Station, New York.	
18	Garden State Parkway Widening: an additional lane in each direction will ease chronic congestion between Route 1 and Route 82, especially if reserved for buses and carpools.	30		Montclair Connection: a half-mile, double-track connection will be constructed, including a new Montclair station with expanded parking.	7
19	PATH Plainfield Extension: an extension of PATH is planned from Newark to Plainfield, 17 miles to the west. Seven new stations would be constructed, including a station adjacent to Newark International Airport, and 54 new PATH cars would be purchased.	355		Station Improvements: minor rehabilitation of several stations.	1
20	I-78: alternative alignments for the last link of I-78 along Watchung Reservation are being reviewed with affected communities. Completion of this direct east-west route will relieve overloaded U.S. 22, and enhance access for the Newark area, where construction has begun.	20		Parking Expansion: some expansion of parking is planned.	0.2
21	Erie-Lackawanna Morris and Essex Line: the line from Dover to Hoboken, including the Gladstone Branch, will be completely refurbished. Direct rail service will be provided to Penn Station, New York.	33		Equipment Purchase: four new locomotive-hauled coaches will be purchased.	2
	Kearny Connection: a track connection to the Penn Central mainline will permit through service to New York. Related improvements to the Penn Central mainline will be required.	33	24	Newark City Subway: a thorough modernization of the existing "light-rail" operation in the Newark City Subway is planned. Improvements will be compatible with extensions to be constructed later.	
	Electrification Conversion: the existing 3 Kv DC electric traction power system will be converted to 12.5 Kv, 60 Hz. In addition, a major rehabilitation of contact wire and catenary structures will be undertaken.	35		Track and Structures Rehabilitation: new welded rail, better superelevation on curves, heavier contact wire and rehabilitation of support facilities.	3
	Electrification Extension: ten miles from Dover to Netcong.	4		Signal System Modernization: modifications in signal-system spacing.	0.3
	Signal System Modification: the electrification conversion will require signal system upgrading, including cab signals, automatic train control, reverse signalling at some locations and central traffic control.	32		Station Improvements: new lighting, modest repairs to shelters, television surveillance and automatic fare collection will be introduced.	5
	Yards and Shops Improvements: expanded yards at the Gladstone and Netcong terminals and some modification at the Hoboken shop.	4	25	Equipment Purchase: fleet replacement will be with 15 modern "standard light-rail vehicles."	6
				N.J. 21 Corridor: the existing Route 21 (McCarter Highway) through Newark is seriously inadequate. The feasibility of completing a limited-access route between the existing freeway section to the north and I-78 should be determined. A more westerly connector (Route 75) between I-280 and I-78 has been rejected.	1
			26	I-280: completion of I-280 from the New Jersey Turnpike (I-95) to the Passaic River and upgrading the existing section to Humbolt Street in Newark will greatly improve access to the Newark central business district from the east and provide a continuous high-quality route.	61
			27	N.J. 81 Freeway: a limited-access connection between the I-278 and I-95 interchange in	

- Elizabeth and improved routes 1 and 9 past Newark Airport will divert heavy traffic out of Elizabeth as well as improve access to the airport and the Port Elizabeth Marine Terminal.
- 28 Bayonne Corridor:** studies are underway to define the transportation improvements required on the Bayonne Peninsula to close a gap in the limited-access highway system, and to provide improved transit service to a densely developed area poorly served by existing rail transit. 62
- 29 PATH:** completion of modernization of the existing PATH system east of Newark. These improvements will complement the PATH extension west of Plainfield. 6
- Track and Structures Rehabilitation:** the ongoing program will continue. New work-train equipment will be purchased. 9
- Signal System Modernization:** additional signal and communication improvements, including a new train control center at Journal Square. 3
- Electrification Rehabilitation:** completion of the rehabilitation requires installation of one additional substation and a new power control system. 4
- Penn Station, Newark Improvement:** major renovation of the Newark station. 12
- Station Improvements:** rehabilitation of various stations and a pedestrian mall adjacent to the Journal Square Center. 7
- Yards and Shops Improvement:** a new main shop, to be located between Journal Square and Newark, will replace existing obsolete and poorly located facilities. 65
- Equipment Purchase:** eight new PATH cars will be purchased. 8
- 30 U.S. 1 and 9 Freeway:** to relieve extreme congestion on Tonelle Avenue, and provide service to planned Meadowlands development, a new freeway is planned from Sip Avenue in Jersey City to Route 3. 7
- 31 Waterfront Corridor:** studies are needed of improved highway and bus service to serve residential and industrial areas and planned redevelopment along the Hudson waterfront between the Holland Tunnel and the George Washington Bridge.
- 32 Sports Complex Study:** a study has been initiated to determine the priority transportation improvements required to serve the developing activities in the Hackensack Meadowlands. Emphasis will be on the special transportation problems associated with the sports complex now under construction. Rail, bus and highway options will be considered.
- 33 West Shore Corridor:** the commuter corridor extending north from the Hudson County core through eastern Bergen and Rockland counties as far as Newburgh lacks rail transit service. A study has begun to develop rail transit options for consideration. Studies are also needed of major highway improvements to divert heavy traffic, particularly trucks, from minor roads between the New Jersey Turnpike and the New York Thruway. Later, extension of the Route 1 & 9 Freeway from Route 3 to Route 46 should be considered. 62
- 34 N.J. 21 Freeway:** construction of the link from Passaic to I-80 will provide a high-capacity route serving the industrial Passaic Valley. 38
- 35 N.J. 3/U.S. 46 Junction:** reconstruction to eliminate bottleneck on major east-west route.
- 36 N.J. 23 Dualization:** this section is becoming a heavily travelled, north-south link, requiring upgrading to high standards between I-80 and I-287. 14
- 37 N.J. 20 Corridor:** Paterson lacks good access to the north and south. A high-grade arterial west of the business district will connect to the Garden State Parkway. Feasibility of a connection north to Route 208 will be studied. Improved transit service for Paterson needs immediate attention.
- 38 I-287:** this last link between Montville and the New York Thruway will complete a circumferential bypass around the metropolitan area. It will relieve local roads of traffic into and through developing suburban communities. 68
- 39 N.J. 23 Widening:** northwest of I-287, Route 23 will be upgraded to serve development planned for this corridor, as well as year-round recreational travel. 49
- 40 Erie-Lackawanna Bergen County/Mainline:** the recent re-equipping of the Hoboken-Suffern diesel services has resulted in a modern rail transit operation. Planned improvements will provide a direct connection to Penn Station, New York, and new equipment that can make use of the connection.
- Secaucus Connection:** direct track connection at Secaucus will be constructed. Other improvements to the Penn Central mainline and Penn Station are also planned. 108
- Station Improvements:** some modest station rehabilitation. A new station at Secaucus will serve Hackensack Meadowlands development. 4
- Parking Expansion:** minor additions to parking at several stations. 0.3
- Equipment Purchase:** 35 high-performance, gas-turbine-electric, multiple-unit cars will be purchased for use on the Penn Station service. Additional diesel locomotives and locomotive-hauled coaches would also be purchased. 62
- 41 Erie-Lackawanna Pascack Valley Line:** modest improvements for the Hoboken-Spring Valley service, stations and parking. Improved service will require track improvements.

- Ten additional hauled coaches would be purchased. 7
- 42 **U.S. 9W:** Route 9W carries north-south through truck traffic, as well as local movements. Safety improvements and minor upgrading from Demarest Avenue in Englewood Cliffs to East Clifton Avenue in Tenafly are needed. 0.1
- **Regional Bus and Subregional Public Transit Program:** the bus system provides the basic intrastate transit service for the New Jersey sector. In addition, the interstate express bus system complements the rail system in its primary role of providing high-quality access to the Manhattan central business district. As programmed improvements to the rail system are implemented, the bus system will tend to become increasingly a local and feeder system. Needed improvements to the bus system include new equipment, modern garages, bus shelters and bus stop signs, improved information and marketing systems, extensions of service to areas of significant density, restoration of service in some cases, and more uniform, integrated fare structures. Improvements are also planned for taxi and other special carriers, particularly those serving the elderly, the handicapped and the transport-disadvantaged. 180
- **Other Regional Highway Improvements:** numerous smaller scale improvements on the Region's limited-access and major arterial highways include: rehabilitation or minor reconstruction of pavements, structures and interchanges; safety improvements; and traffic management and information systems. 492
- **Subregional Highway Improvements:** additional improvements off the regional system include: rehabilitation or widening of minor arterial and collector streets; traffic operations and safety improvements; carpool programs; high-occupancy vehicle priority; expanded parking at public transit stops and outlying business areas; careful regulation of on-street parking; and bikeways and pedestrianways. 415

Future Proposals

- 43 **N.J. 33 Dualization:** expanding this section will provide a high-quality link between the Freehold area and the shore.
- 44 **N.J. 18 Widening:** to provide continuous, high-quality service, capacity and safety will have to be improved between the N.J. Turnpike and Route 9.
- 45 **N.J. 74 Freeway:** a limited-access route from Route 18 to Route 35 would serve planned industrial and residential concentrations.
- 46 **U.S. 1 Widening:** the widely spaced interchanges on the N.J. Turnpike result in heavy volumes on Route 1, so the future widening from I-287 to I-278 should be considered.
- 47 **Newark City Subway Extension:** a three-mile extension of the Newark City Subway will be constructed under Springfield Avenue southwest to Irvington Center. Thirty new light-rail vehicles will be purchased and maintenance facilities expanded.
- 48 **Meadowlands Corridor:** Transit and highway improvements will be required to serve future Meadowlands development and to link it with adjacent areas, particularly with the Newark business district. Rail transit options as well as other improvements will be defined.
- 49 **N.J. 7 Corridor:** studies of extending I-280 from the N.J. Turnpike to U.S. 1 & 9 or of alternative arterial improvements.
- 50 **Hudson River Rail Tunnel:** additional trans-Hudson rail capacity will be required in the future. A number of options must be considered, including more intensive use of existing rail and highway tunnels and the construction of one or two additional tunnels connecting with new or existing terminals in Manhattan.
- 51 **N.J. 4 Widening:** intensifying urban activity in Bergen County will increase the need to widen Route 4 from Teaneck to I-95.
- 52 **N.J. 17 Widening:** additional improvements between routes 46 and 4 and between Linwood Avenue and Route 202 will be needed to complete the upgrading to modern standards.
- 53 **Bergen East-West Corridor:** the lack of continuous arterial routes north of Route 4 results in circuitous travel and excessive volumes on minor roads. Arterial improvements to develop a more efficient circulation system should be studied.
- 54 **N.J. 208 Corridor:** increasing recreation activity in Passaic and Sussex counties and planned urban development in Orange County make the study of improved access in this corridor desirable.
- 55 **Sussex County Extension:** an existing, partially abandoned, railroad right-of-way will be preserved along a corridor extending from Mountain View to Sussex County. Rail transit to Newark and New York could be introduced as the Region's commutershed extends northwest.
- 56 **N.J. 178 Corridor:** future growth north of Morristown will warrant investigation of better service between I-80 and Route 24.
- 57 **N.J. 24 Corridor:** although little urban development west of Morristown is planned, improving Route 24 to Route 206 should be the subject of future studies.
- 58 **U.S. 206 Dualization:** as recreational activity in the northwestern part of New Jersey expands, major improvements to Route 206 will be required between I-287 and I-80.

REGIONAL TRANSPORTATION PLAN NORTHERN SUBURBAN NEW YORK

Priority Proposals

Map No.	Five-Year Program in millions of dollars		
1	Yonkers Avenue Arterial: to improve service in lower Westchester County, Yonkers Avenue should be upgraded to provide greater capacity.	1	Yards and Shops Improvements: some minor modernization and improvements are planned, including improved employee facilities. 9
2	Cross-County Parkway: completion of reconstruction to modern standards for safety and performance.	89	Grand Central Terminal Improvements: a major upgrading of Grand Central Terminal including new north-end access to platforms. 25
3	Nepperhan Avenue Arterial: widening will provide additional capacity for heavy traffic not served by the limited-access system.	27	Station Improvements: various improvements to stations, including installation of escalators at key stations. 10
4	Penn Central New Haven Line: a major rehabilitation program is now underway from Woodlawn to Port Chester. Some modest improvements and refinements are planned in addition to the basic effort.	5	Parking Expansion: some expansion is planned, primarily at outlying stations. 1
5	Southern Westchester Study: improved east-west travel is needed throughout the southern half of the county. Studies should concentrate on upgrading highway and transit service by better connecting and coordinating existing routes rather than on major construction.	9	Equipment Purchase: 80 electric, multiple-unit cars will be purchased. 40
6	White Plains Arterial: as a major regional center, White Plains should have major arterial improvements to provide access from the limited-access system and serve the business district.	13	Equipment Modification: older locomotives and rail diesel cars will be modernized. Some modifications are required to newer multiple-unit cars. 5
7	Sprain Brook Parkway: completion of this road between the Cross Westchester Expressway and Hawthorne will relieve congested arterials through developing lands.	23	9 West Shore Corridor: see discussion under New Jersey sector, Number 33.
8	Penn Central Hudson and Harlem Lines: an initial improvement program on these two routes, which extend from Grand Central Terminal to Poughkeepsie and Dover Plains in Dutchess County, has been completed. Major projects are planned to rehabilitate these lines completely.	53	10 N.Y. 45 Corridor: although a limited-access bypass connecting the Garden State and Palisades parkways no longer seems warranted, studies of smaller scale improvements should proceed.
	Track and Structures Rehabilitation: completion of the renewal program includes welded rail, new ties, track resurfacing and bridge rehabilitation.	20	11 N.Y. 59 Reconstruction: completing the reconstruction and relocation of Route 59 from Nanuet to Monsey will relieve severe congestion on the existing road through Spring Valley. 30
	Park Avenue Viaduct: major reconstruction and rehabilitation of the two-mile, four-track viaduct.	45	12 Erie-Lackawanna Pascack Valley and Mainline: Suffern to Port Jervis service was recently re-equipped. Track and signal rehabilitation is planned. Construction of the Secaucus connection in New Jersey will permit operation of through service on mainline to Penn Station. Station and parking improvements are planned. Additional coaches will be purchased. Possible extension of Pascack Valley service beyond Spring Valley is under consideration. 5
	Electrification Modernization: obsolete electric-traction, power-system components will be replaced and greater power capacity installed to permit higher performance.	60	13 Northern Westchester Corridor: a comprehensive study is needed to identify alternatives for improving service on routes 6, 35 and 202 from the Bear Mountain Bridge to I-684.
	Electrification Extension: the 600v DC third-rail system will be extended from Croton-Harmon eight miles north to Peekskill and from North White Plains 28 miles north to Brewster.	30	14 Stewart Airport Rail Extension: a ten-mile extension of the Erie-Lackawanna mainline will permit direct train service between Penn Station, New York, via the Secaucus connection to Stewart Airport, a total distance of 60 miles. Five miles of this extension uses the freight-only Graham Line, and the remaining five miles will extend into the airport's terminal area. 20
	Signal System Modernization: a modern cab signal, automatic train control and central traffic-control system will be installed on all electrified trackage.	9	15 Riverfront Arterial: building a major arterial through downtown Newburgh will help attract redevelopment to this older regional center. 9

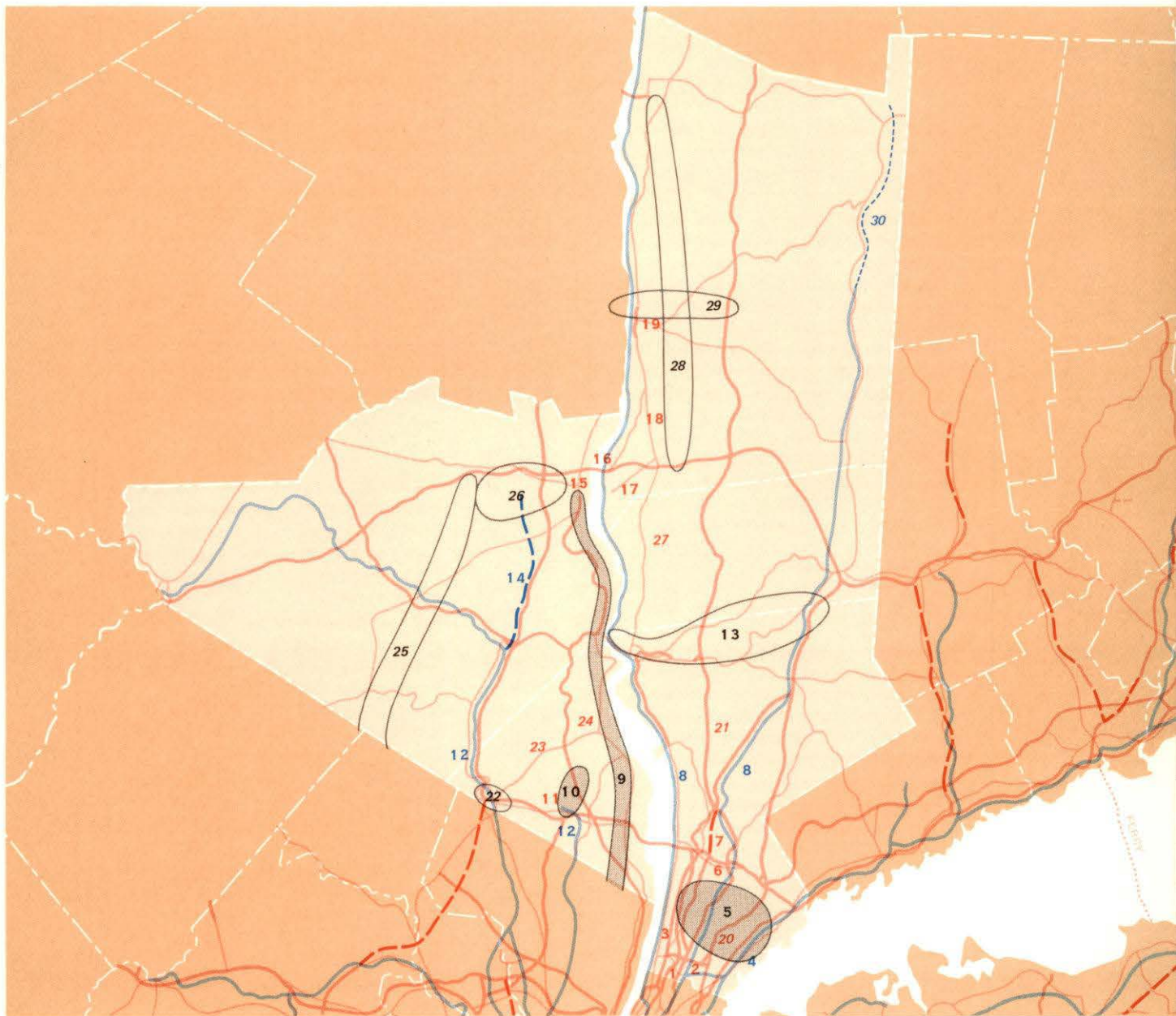
- 16 **Newburgh-Beacon Bridge:** increasing local and long-distance travel across the Hudson River will be served by adding capacity to the I-84 crossing. 103
- 17 **Beacon Arterial:** improved access to the City of Beacon will be provided by this arterial reconstruction project. 15
- 18 **U.S. 9 Improvement:** additional improvements are needed on Route 9 between Wappingers Falls and Poughkeepsie to serve growing travel in this urban corridor. 36
- 19 **Poughkeepsie Arterial:** major arterial improvements through downtown Poughkeepsie will provide better bus and highway service to this important center. 39
- **Other Regional Highway Improvements:** numerous smaller scale improvements on the Region's limited-access and major arterial highways include: rehabilitation or minor reconstruction of pavements, structures and interchanges; safety improvements; and traffic management and information systems. 115
- **Subregional Highway Improvements:** additional improvements off the regional system include: rehabilitation or widening of minor arterial and collector streets; traffic operations and safety improvements; carpool programs; high-occupancy vehicle priority; expanded parking at public transit stops and outlying business areas; careful regulation of on-street parking; and bikeways and pedestrianways. 137
- **Subregional Public Transit Improvements:** primarily oriented to preserving and re-equipping local bus systems. Where private carriers exist, stable operating arrangements are being established. Extension of local bus service to areas of significant density is also planned. Other improvements are planned for taxi and other special carriers, particularly those serving the elderly, the handicapped and the transport disadvantaged. Capital improvements include new vehicles, garage improvements, bus shelters, transfer facilities and communication devices. 23

Future Proposals

- 20 **Hutchinson River Parkway:** the outmoded interchanges and narrow pavements of this older

parkway should be improved to modern standards of safety and performance.

- 21 **Taconic State Parkway:** modernization of the older sections in Westchester County will increase safety and reduce congestion.
- 22 **Suffern Study:** the possibility of providing more direct highway access between the Thruway interchange and Route 59 should be investigated. Feeder bus service to the Erie-Lackawanna rail station in Suffern should be considered.
- 23 **U.S. 202 Improvement:** planned suburban development will require upgrading Route 202, particularly between the Palisades Parkway and Haverstraw.
- 24 **U.S. 9W Improvement:** north of Haverstraw, Route 9W in Rockland County will require upgrading to serve planned development concentrations.
- 25 **N.Y. 208 Corridor:** studies are recommended of a limited-access route through central Orange County to provide access to future urban development and Stewart Airport and to relieve the Thruway of peak recreational traffic.
- 26 **Stewart Access Study:** although a high-speed rail link will provide service from the Region's core, employees, passengers and visitors from the surrounding area will be dependent on auto, bus and truck access. Studies are needed to determine appropriate bus services, approach road systems, and new interchanges on I-84 and the Thruway.
- 27 **U.S. 9 Improvements:** as urban development in the Poughkeepsie-Beacon and Peekskill areas intensifies, improvements to Route 9 through Putnam County will become necessary.
- 28 **West Dutchess Corridor:** future urban growth in the Poughkeepsie-Beacon corridor will generate traffic beyond the capacity of Route 9. Studies of limited-access or arterial alternatives should be pursued.
- 29 **Northern Connector:** studies of alternative improvements to east-west access in the Poughkeepsie area might include a link across the Hudson River to the Thruway.
- 30 **Harlem Line Millerton Extension:** a rail freight line extends from the Penn Central Harlem Line terminus at Dover Plains some 15 miles to Millerton near Columbia County. Passenger rail transit service would be restored on this line in the future.



REGIONAL TRANSPORTATION PLAN – NORTHERN SUBURBAN NEW YORK

	EXISTING	ADDITIONS		TEXT REFERENCE FOR IMPROVEMENT PROGRAM	
		PRIORITY	FUTURE	PRIORITY	FUTURE
PASSENGER RAIL TRANSIT				00	00
LIMITED-ACCESS HIGHWAYS				00	00
MAJOR ARTERIALS				00	00
STUDY CORRIDORS				00	00

REGIONAL TRANSPORTATION PLAN SUBURBAN LONG ISLAND

Priority Proposals

Map No.	Five-Year Program in millions of dollars	
1	<p>Nassau Expressway: completion of the expressway will relieve severe congestion on Rockaway Boulevard and improve access to Cedarhurst, the Rockaways and Long Beach.</p>	33
2	<p>Long Island Railroad: major rehabilitation and improvement of the LIRR has been underway for some time. In addition to completion of this modernization effort, a number of projects are planned that will greatly increase the capabilities of this operation.</p> <p>Track and Structures Rehabilitation: this program when completed will result in a substantial renewal of rail, ties, ballast, bridge deck and other track components. Trackage in the East River tunnels to Penn Station will also be rehabilitated.</p> <p>Kennedy Airport Access: see discussion under New York City sector, Number 24.</p> <p>East Midtown Line and Terminal: see discussion under New York City sector, numbers 14 & 18.</p> <p>Electrification Modernization: existing 25Hz power supply is being phased out by the utilities and more modern 60Hz commercial power will be obtained.</p> <p>Electrification Extension: the 600v DC, third-rail system will be extended 25 miles from Huntington to Port Jefferson, and 24 miles from Hicksville to Ronkonkoma. Ten miles of the central branch from Bethpage to Babylon will also be electrified.</p> <p>Signal System Modernization: additional signal and communication system improvements, including reverse signalling and central traffic control.</p> <p>Yards and Shops Improvement: modernization of shop equipment and service facilities.</p> <p>Atlantic Terminal Rehabilitation: see discussion under New York City sector, Number 9.</p> <p>Station Improvements: various station improvements including rehabilitation at Penn Station, escalators at other key stations and high-level platform extensions.</p> <p>Parking Expansion: additional parking at outlying stations.</p> <p>Equipment Purchase: purchase of 176 electric, multiple-unit cars and 45 new locomotives.</p> <p>Equipment Modification: additional, older electric, multiple-unit cars will be converted to locomotive-hauled service, and some modifications are required to newer electric multiple-unit cars.</p>	80
3	<p>Northern State Parkway: although a major widening through central Nassau County does not appear to be warranted, lane imbalances that contribute to congestion should be corrected.</p>	17
4	<p>Wantagh Parkway Extension: a short connection from the Northern State Parkway to the Long Island Expressway will distribute traffic more efficiently between these parallel roadways.</p>	9
5	<p>N.Y. 135 Expressway: completing this expressway from Merrick Road to the Wantagh State Parkway will close a gap in the limited-access system and remove traffic from congested arterials.</p>	9
6	<p>N.Y. 25 Improvements: several local improvements to the Jericho Turnpike are needed in eastern Nassau and western Suffolk counties to eliminate bottlenecks and increase safety.</p>	9
7	<p>N.Y. 111 Improvement: widening from Route 27 to Route 347 will improve north-south travel in the growing Islip-Hauppauge area.</p>	24
8	<p>N.Y. 27 Expressway: completing the reconstruction between Brentwood Road and Phyllis Drive will provide a continuous limited-access highway for the growing urban and recreational traffic along Suffolk County's southern shore.</p>	96
9	<p>N.Y. 347 Expressway: to serve the continuing urbanization of the Hauppauge-Port Jefferson corridor, Route 347 should be upgraded to limited-access standards. Limited-access connections to the Northern State Parkway and the Long Island Expressway are an integral part of this proposal.</p>	10
10	<p>South Fork Access Study: additional studies to evaluate alternatives for improving recreational travel and reducing congestion through shore towns.</p>	
11	<p>Long Island Sound Ferry Service: the need for better transportation across the Sound has long been recognized. Since studies of bridges and tunnels have failed to yield a feasible solution, ferry services should be improved and expanded.</p>	
—	<p>Other Regional Highway Improvements: numerous smaller scale improvements on the Region's limited-access and major arterial highways include: rehabilitation or minor reconstruction of pavements, structures and interchanges; safety improvements; and traffic management and information systems.</p>	369
—	<p>Subregional Highway Improvements: additional improvements off the regional system include: rehabilitation or widening of minor arterial and collector streets; traffic operations and safety improvements; carpool programs; high-occupancy vehicle priority; expanded parking at public transit stops and outlying business areas; careful regulation of on-street parking; and bikeways and pedestrianways.</p>	318
—	<p>Subregional Public Transit Improvements: primarily oriented to preserving and re-equipping local bus systems. In Nassau County virtually all transit operations have been</p>	

transferred to the public sector. In Suffolk County private operators are being subsidized and stable operating arrangements are being devised. Extension of local bus service to areas of significant density is also planned. Improvements are also planned for taxi and other special carriers, particularly those serving the elderly, the handicapped and the transport-disadvantaged. Capital improvements include new vehicles, garage improvements, bus shelters, transfer facilities and communication devices.

27

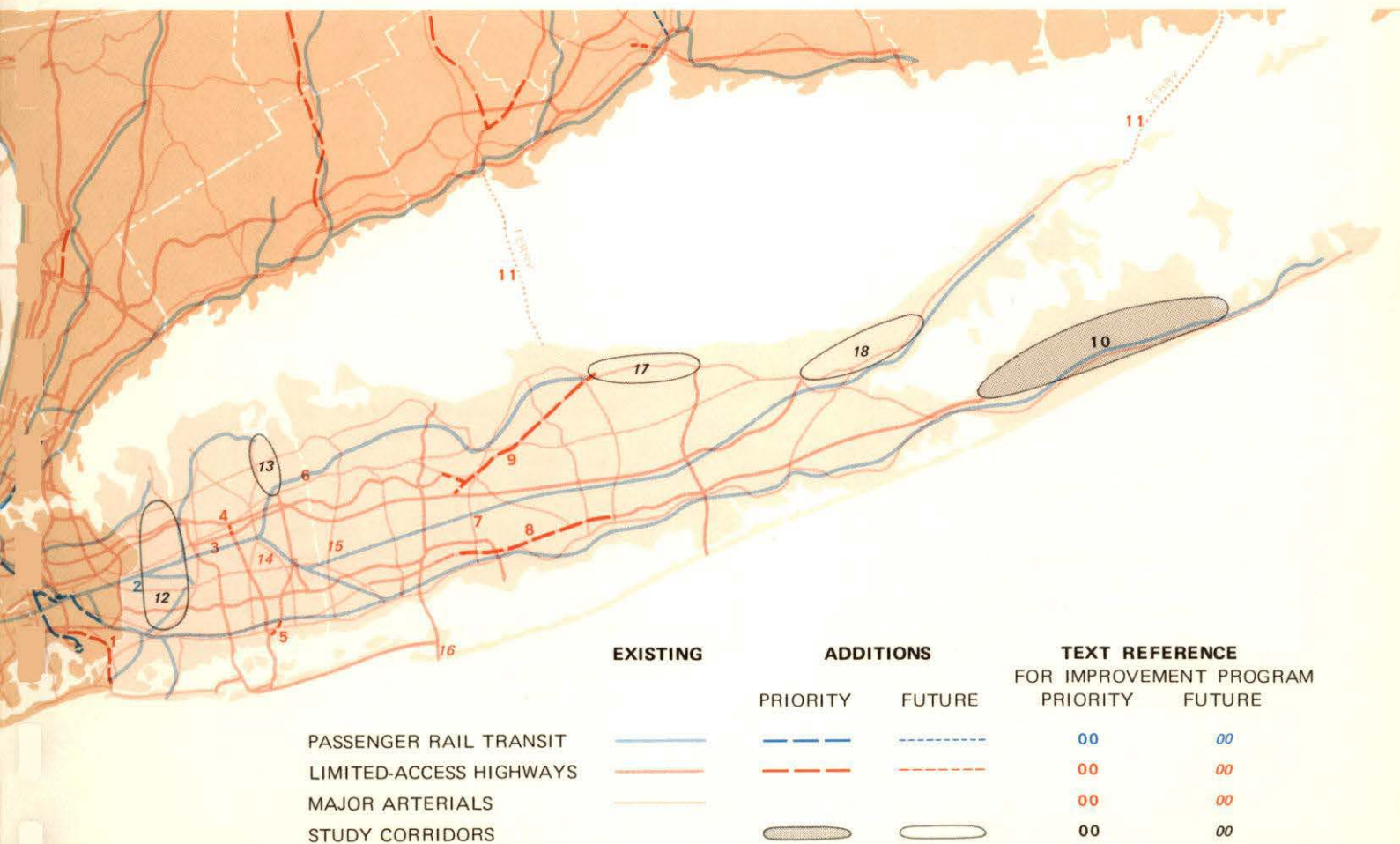
Future Proposals

- 12 **Hempstead Corridor:** the lack of major highway or transit routes for north-south travel in western Nassau County results in highway congestion and low transit usage. A coordinated study of arterial highway, bus service and rail improvements should be undertaken.
- 13 **N.Y. 135 Corridor:** with the abandonment of the Rye-Oyster Bay Bridge proposal, the need to extend the Route 135 Expressway northward

to Route 25A or Route 106 should be re-studied.

- 14 **N.Y. 107 Widening:** traffic growth in eastern Nassau county will create the need for additional capacity between Lewis Street and the Southern State Parkway.
- 15 **N.Y. 110 Improvement:** continued development along the Amityville-Huntington corridor will warrant improved highway and transit service.
- 16 **Robert Moses Causeway:** increasing recreational activity on Fire Island will place heavy traffic on the two-lane bridge over Fire Island Inlet. Providing additional lanes or instituting traffic controls and shuttle-bus service should be considered.
- 17 **N.Y. 347 Extension:** as planned development occurs east of Port Jefferson, better highway service will be necessary. If studies show that extending Route 347 Expressway is preferable to widening Route 25A, right-of-way should be preserved in advance.
- 18 **Long Island Expressway Extension:** Since Route 25 east of Riverhead will be inadequate for future demands, an arterial or limited-access extension of the Long Island Expressway to Mattituck should be considered.

REGIONAL TRANSPORTATION PLAN – SUBURBAN LONG ISLAND



**REGIONAL TRANSPORTATION PLAN
NEW YORK CITY
Priority Proposals**

Map No.	Five-Year Program in millions of dollars	
1	West Shore Extension: to serve development in southern Staten Island, an arterial connection will be needed from Hylan Boulevard to the Outerbridge Crossing, West Shore Expressway and Richmond Parkway.	8
2	Richmond Avenue: much has already been upgraded, but the section over Richmond Creek remains to be completed.	2
3	Richmond Parkway: although issues remain to be resolved on this route, it should be completed from Arthur Kill Road to the Staten Island Expressway (I-278).	
4	Staten Island Rapid Transit: this line was recently re-equipped. Modest improvements are planned for the immediate future; over the longer term, major overhaul of the line's power, signals, shops and track will be required.	4
5	Shore Front Drive: the construction of a major arterial from the Staten Island Expressway (I-278) northward to St. George would relieve congestion and support development for the northern part of the borough. A westward extension along the north shore should be considered as a later phase.	
6	Staten Island Ferry: three all-passenger boats are soon to be purchased, replacing vessels approaching retirement age. Studies are underway to determine terminal modifications that may be required.	
7	Ocean Parkway Reconstruction: a major rehabilitation of this important route is needed to improve its transportation performance while preserving its park-like quality.	16
8	Central Brooklyn Study: a number of transportation improvements have been proposed for the central Brooklyn area, including subway extensions, increased use of the rail freight line, limited-access highway proposals and arterial street improvements. A comprehensive examination of these and other lower cost options is required.	
9	Atlantic Terminal Rehabilitation: the Brooklyn terminal of the Long Island Rail Road will be modernized, and transfer stairways and passageways to adjacent subways will be expanded.	20
10	Canal Street Corridor: previous attempts to develop an interstate connection between the Hudson and East river crossings failed to produce an acceptable design. Since severe problems of truck congestion and air pollution remain, a comprehensive study of smaller scale construction, spot improve-	
	ments and traffic management options should be pursued.	
11	Avenue C Loop Corridor: a subway proposal for this corridor is being refined. Interim lower cost options, such as better subway-bus coordination, are being explored.	
12	West Side Highway: restoration of limited-access service on the west side is important to maintaining Manhattan's economic vitality. To draw traffic, including trucks, off city streets, an interstate route currently estimated to cost \$1.5 billion, should be built from the Battery to 42nd Street. Necessary reconstruction should also be completed for the section from 42nd to 72nd streets, obtaining federal interstate highway designation, with the resulting 90 percent federal funding, if possible.	580
13	New York City Subway: the 230-mile, rapid-transit system has been continuously renewed and upgraded. This effort will be increased in emphasis, not only to maintain existing service, but to provide increased levels of reliability, efficiency, safety and amenity.	
	Track and Structure Rehabilitation: continued renewal of track. Worn out appurtenances such as tunnel lighting, ventilation and water pumps will be replaced.	147
	Electrification Modernization: substation power equipment, power cable, circuits, power controls and third rails must be replaced as they become obsolete.	196
	Signal System Modernization: signal and communication system components must be continuously renewed and upgraded. Public-address system installation will be completed and operation-command center further equipped.	219
	Station Improvements: installation of modern lighting at stations will continue. Overage elevators will be replaced. New escalators and new platforms will be introduced at selected stations.	86
	Noise Abatement Program: a comprehensive noise abatement program has begun that will include welded rail, resilient tie pads and greatly increased rail grinding and wheel truing.	138
	Yards and Shops Improvements: large-scale modernization of yards and shops, including replacement of obsolete maintenance equipment; rehabilitation of yard tracks, car cleaning facilities, inspection barns, work areas and employee facilities.	190
	Equipment Purchase: 250 new subway cars will be purchased to maintain 35-year replacement cycle.	103
	Air Conditioning Retrofit: a pilot program to equip older subway cars with air conditioning is underway. A major retrofit program is planned.	92



REGIONAL TRANSPORTATION PLAN – NEW YORK CITY

	EXISTING		ADDITIONS		TEXT REFERENCE FOR IMPROVEMENT PROGRAM	
			PRIORITY	FUTURE	PRIORITY	FUTURE
PASSENGER RAIL TRANSIT					00	00
LIMITED-ACCESS HIGHWAYS					00	00
MAJOR ARTERIALS					00	00
STUDY CORRIDORS					00	00

- 14 **East Midtown Terminal:** two alternative locations for the Long Island Rail Road's east midtown terminal are under intensive investigation; Grand Central Terminal or under Third Avenue at 48th Street.
- 15 **Second Avenue Subway:** several segments of this line, which is to extend from Whitehall Street to East 180th St. in the Bronx, are under construction; Due to severe fiscal constraints, this priority project cannot move forward at the present time. Final engineering design will continue, permitting rapid resumption of this project as funds become available. 10
- 16 **Sheridan Expressway Improvements:** additional ramps at the Sheridan-Cross Bronx interchange and a connection to the Bronx River Parkway are needed to remove through traffic from local streets. The Bruckner Expressway junction with the Sheridan should be upgraded.
- 17 **Northeast Bronx Corridor:** a number of options are being considered for extension of the Second Avenue subway through the Bronx. These include use of existing lines—Dyre, Pelham or White Plains Road—and the construction of a new line to Co-op City along the New Haven rail right-of-way.
- 18 **63rd Street Line - Railroad Portion:** the full east-midtown access project for the LIRR will be completed later as funds become available. Where the railroad and subway sections are constructed as a unit in the 63rd St. line it is necessary for railroad construction to proceed rapidly. 100
- 19 **63rd Street Line - Subway Portion:** much of the 3.5-mile, 63rd St. subway line between Manhattan and Queens is under construction. This line, which has the highest priority of the new routes program, will include four new subway stations. 503
- 20 **Queens Express Line:** as a continuation of the 63rd St. subway line eastward from Northern Blvd., this five-mile, double-track line rejoins the Queens Blvd. Line just east of Forest Hills station, effectively doubling the express trackage on the overcrowded Queens Blvd. Line. 382
- 21 **Long Island Expressway Corridor:** this corridor, centered on the Long Island Expressway, extends from Maurice Avenue to the vicinity of Flushing Meadow Park. Proposals for new rail transit service and additional limited-access highway capacity have been advanced. A wide ranging study of alternatives, including low-capital options, is being undertaken. 45
- 22 **Archer Avenue Line:** this line, now under construction, is a double-deck subway combining a spur from the Queens Blvd. subway to Jamaica center, with a replacement for the Jamaica "EL" through this commercial hub. 304

- 23 **Southeast Queens Extension:** this extension continues the Queens Boulevard spur of the Archer Avenue subway southeast along the LIRR to Springfield Boulevard. The initial segment of this extension is under construction, although fiscal constraints rule out rapid completion of this extension.
- 24 **Airport Access, JFK:** direct rail access from Manhattan and from Jamaica and points east is planned. A double-track branch of the LIRR will follow the abandoned Rego Park-Ozone Park line and cross airport property into the central terminal area where an internal transit system will distribute passengers to each of the individual airline terminals. 400
- 25 **Nassau Expressway:** completion of the Nassau Expressway will relieve severe congestion on Rockaway Boulevard and improve access to Kennedy Airport, the Rockaways and Long Beach. 11
- 26 **Brookville Corridor:** with completion of the Nassau Expressway, Brookville Boulevard will become overloaded. Although the Clearview Expressway extension has been dropped from consideration, alternative improvements should be examined for this corridor.
- **Publicly Operated Bus Systems:** the bus system in New York City will continue to be improved. New buses, equipped with special features for the elderly and the handicapped, will be purchased. Bus maintenance facilities will be upgraded. Bus signs and shelters will be provided. 160
- **Private Bus Operators:** private carriers in New York City will receive new equipment. Signs and shelters will benefit these operations. 30
- **Other Regional Highway Improvements:** numerous smaller scale improvements on the Region's limited-access and major arterial highways include: rehabilitation or minor reconstruction of pavements, structures and interchanges; safety improvements; and traffic management and information systems. 343
- **Subregional Highway Improvements:** additional improvements off the regional system include: rehabilitation or widening of minor arterial and collector streets; traffic operations and safety improvements; carpool programs; high-occupancy vehicle priority; expanded parking at public transit stops and outlying business areas; careful regulation of on-street parking; and bikeways and pedestrianways. 262

Future Proposals

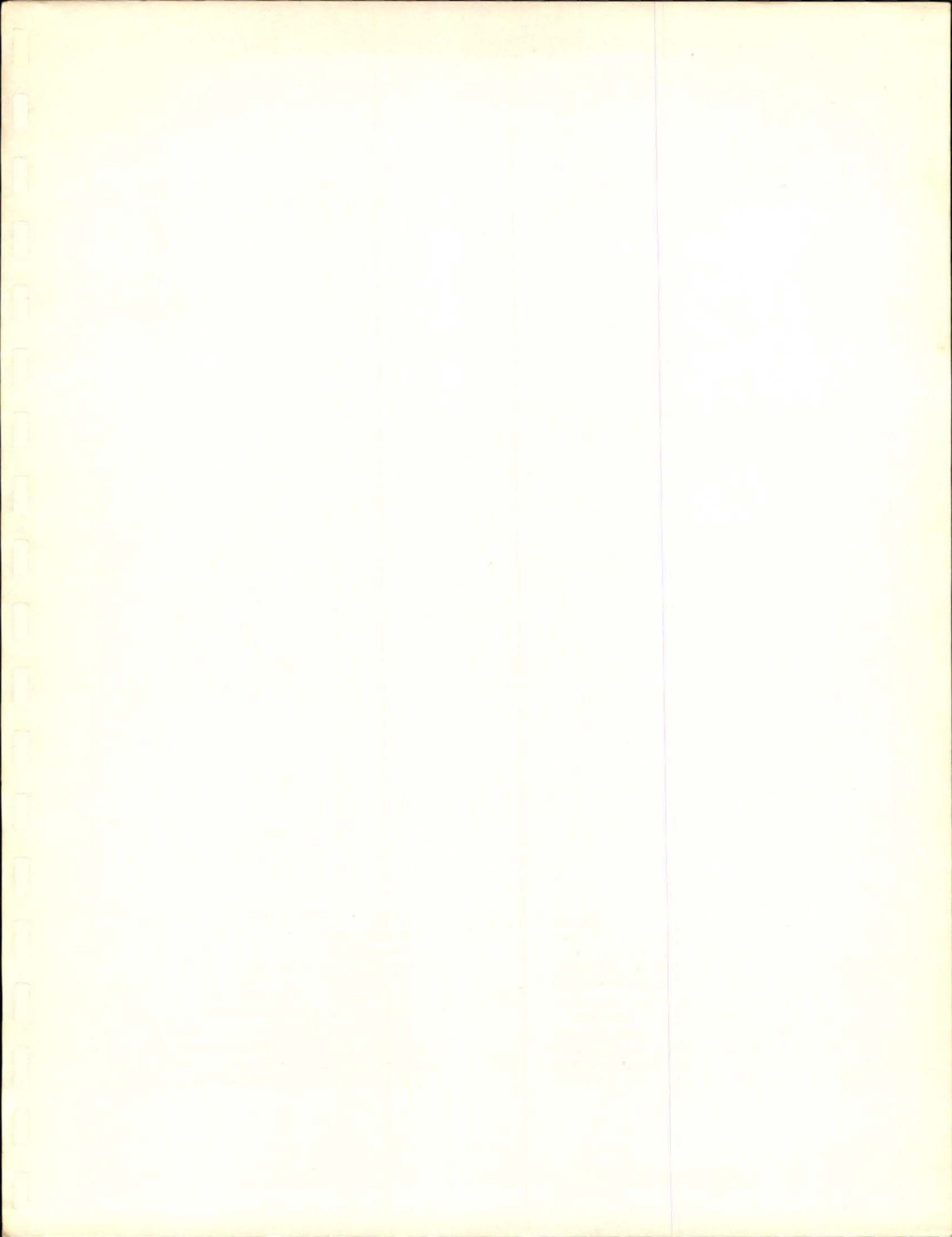
- 27 **Hylan Boulevard Improvements:** as the development planned for the southern portion of Staten

Island takes place, local traffic increases will warrant improved service on Hylan Boulevard.

- 28 **Hudson River Rail Tunnel:** see discussion under New Jersey sector, Number 50.
- 29 **LaGuardia Airport Access:** over the longer term, improvements in access will be designed. Options include direct rail service to Manhattan or extension of an internal transit system to existing rail lines. More immediate improvement to the existing airport bus service is required.
- 30 **Northeast Queens Extension:** the corridor

centered on the Long Island Expressway continues east from Flushing Meadow Park to Springfield Blvd. Proposals for rail transit service and additional limited-access highway capacity previously have been advanced. A wide range of options should be studied.

- 31 **Pennsylvania Avenue:** planned growth along Jamaica Bay will require upgrading of Pennsylvania Avenue, as well as improved interchanges and rehabilitation of the Shore Parkway.



RECEIVED
Bureau of Common Carrier
PLANNING

OCT 03 1975

N. J. Dept. of Transportation
Trenton, N. J. 08625

