Expressway Plans

Expressways have raised sharply the distances in the New York Region that can be travelled quickly and conveniently by car. Our daily relationships to jobs, recreation and friends are changed by the new "time-distances" that expressways create: subdividers along expressways advertise for buyers willing to commute fifty miles to Manhattan; corporations look along expressways for factory locations; shopping centers locate almost exclusively at expressway exits.

Nowadays most of the investment in roads in the Region goes into "limited-access" highways: highways whose opposing streams of traffic are separated, which no other roads cross and few roads join —merging gradually when they do.

Fully limited-access highways usually are called freeways by highway engineers. In this Region, they have been spoken of generally as expressways or parkways although official names include turnpike, thruway and skyway. New Jersey's newest routes will be named freeways. Parkways usually are limited to private automobiles because they were originally designed as much for the pleasure of the ride as for the achievement of a destination, but this difference has become fuzzy, especially on weekday mornings and evenings. In this newsletter, the word "expressway" will be used to include parkways and other limited-access highways.

Expressways can move three times as many cars per lane as other highways, at twice the speed and with a fifth the accidents. Because they use much more space—an interchange between two expressways covers forty to fifty acres—and because at intersections one pavement goes over or under the other, expressways are costly, particularly in land-short metropolitan areas with a thick network of local streets to be crossed. For example, the nearly completed Cross Bronx Expressway—through an intensively developed area—cost about \$23 million per mile; the Clearview Expressway, in a completely but less densely developed area, cost \$71/2 million a mile, and the Wantagh-Oyster Bay Expressway, through

a newly-developing area, cost about \$3 million a mile.

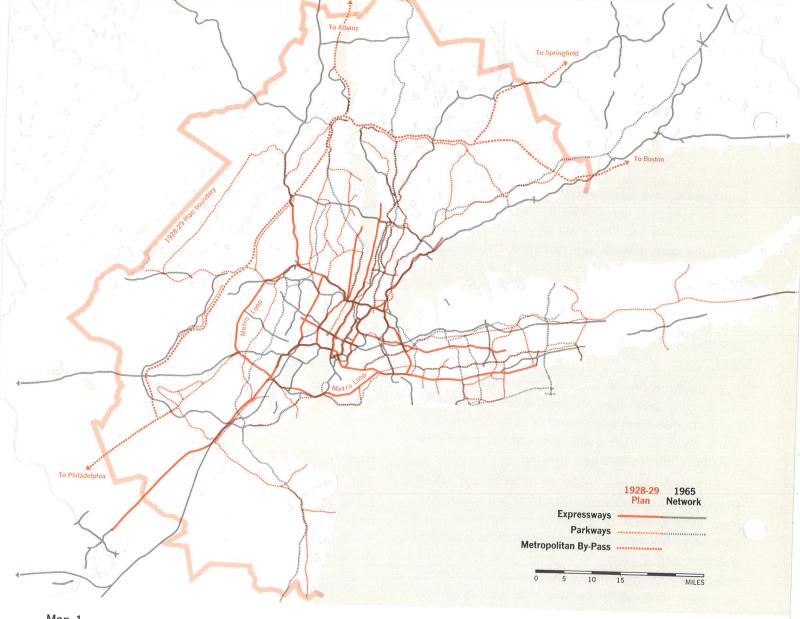
As to appearance, designing an expressway in a suburban or urban setting offers more opportunity for grace than a highway which allows direct access to landowners at the edges. Limited access prohibits strip development: stores, hamburger stands, gas stations or houses next to the right-of-way. On the other hand, expressways can achieve an ugliness and dullness perhaps more depressing than other highways if they are poorly designed because they cut such a broad swath through the landscape or city-scape.

How the expressway evolved

The New York Metropolitan Region has about 1,150 miles of expressways completed or under construction, not much less than the whole State of California, which has about the same population as the Region and twenty-three times its area.

The Region has the earliest as well as the most metropolitan expressways. The Bronx River Parkway was begun in 1916, opened in part in 1921, completed in 1924. It was not completely limited access, but there were many roads which bridged rather than intersecting it and many miles in which it ran through a park and so the public controlled access to it. (Legally, abutting property owners have access to a public thoroughfare unless control is specifically obtained for the public.) It was so successful that by 1934, the Westchester County Park Commission, Long Island State Park Commission and the City of New York had completed 114 miles of parkways with few intersections or access roads. Little of this was divided in the middle, however. The world's first cloverleaf was built in Woodbridge, New Jersey, in 1928. The first road that conformed fully to expressway standards of today was the Meadowbrook Parkway to Jones Beach, opened in 1934.

Not until 1940 did the capital of the "freeway," Los Angeles, open its first. After World War II, toll



Map 1

The 1965 Limited Access Highway Network Compared to the 1928-29 Regional Plan

expressways were built in nineteen states—3,000 miles of them.

In 1956, Congress approved the 41,000-mile Interstate highway program through which the federal government would contribute 90 percent of the cost of high-standard fast expressways that were to connect all the major cities in the country by 1972. The states build the roads and contribute 10 percent.

The Interstate system is about 51 percent completed or under construction in about 45 percent of the scheduled time, but much of this mileage was already built or underway before the interstate program began and was just covered into the system. This was done, for example, with sections of the New Jersey and Connecticut Turnpikes and the

New York State Thruway. In fact, there are serious delays in building the Interstate system, and some observers feel the program will not be completed on time unless there is more pressure from interested citizens to speed it. In this Region's three states, New Jersey has completed or has under construction 44 percent of its Interstate program, New York 75 percent and Connecticut 77 percent.

Most of the expressways recently built in the New York Region and most of those now being designed are part of this Interstate system. But because the New York area expressway system was started before the Interstate program, a number of regional highways that would have been in the free Interstate system are tollroads. Also, important Long Island routes are excluded from the Interstate program be-

cause there is no major eastern terminus. The Long Island Expressway outside of New York City, for example, is financed only 50 percent by the federal government instead of 90 percent, even though it carries one of the greatest highway loads in the nation.

The expressway pattern in the Region

When Regional Plan Association's predecessor, the Committee on the Regional Plan, began to devise a metropolitan highway network, the main planning goal was to free people from having to crowd into the Region's center. The Committee did not, however, anticipate the extent to which jobs and other activities of the center also would locate in the suburbs. So the highways the Committee proposed in the 1929 Plan of New York and Its Environs (Map 1) focused on Manhattan and principally radiated from it. But the Committee also conceived the "Metropolitan Loop," connecting the radials about a dozen miles from New York's City Hall. The George Washington, Throgs Neck, Narrows and Goethals Bridges are major points on the Loop. It soon will be completed via the Belt Parkway in Brooklyn and Queens and the Garden State Parkway in New Jersey-just about where the 1929 Plan recommended the Loop-but only for automobiles. A loop now exists for commercial vehicles closer to the center, via the Brooklyn-Queens Expressway and the New Jersey Turnpike.

The Committee saw the Loop as a way of reaching a particular part of the Manhattan central business district (which lies between 60th Street and the Battery) without cutting through the center. It would also connect the four other boroughs and New Jersey cities and act as a magnet for new activities.

A metropolitan by-pass was proposed farther from the center. All the highways fitting into a metropolitan by-pass similar to the one recommended on the 1929 Plan are on the ground or are part of the Interstate program, scheduled for completion by 1972.

The basic pattern proposed in 1929 (see Map 1) of radials with a major loop and circumferential highways connecting the radials is being followed for the most part. (See Map 3, pages 10-11.)

This pattern fits a fairly centralized metropolitan area. In Los Angeles, where the center of the region exercises less magnetism and dispersal is more general, the expressway network is more of an

even grid of parallel highways. It is focused on downtown Los Angeles but not as much as the New York Region's network has been focused on Manhattan. However, even here in New York, as the expressway network stretches out, the pattern on the edges is becoming more like a grid of parallel highways than like a spiderweb focusing on the center.

Current Plans

The present expressway network in the Region—completed or under construction—has these dimensions:

| SIOIIS. | Population per Mile of Expressway | Registered Motor Vehicles per Mile of Expressway | of Urbanized Land per Mile of Expressway |
|--|---|---|--|
| Fairfield County, Connecticut | 7,300 | 3,700 | 2.7 |
| Nine Northeastern New Jersey Counties | 14,100 | 5,400 | 3.0 |
| Westchester, Putnam, Rockland, Orange and Dutchess Counties, N.Y. | 4,000 | 1,800 | 1.6 |
| Nassau and Suffolk Counties, (Long Island) New York City Region | 8,900 38,900 13,900 | 4,200 8,000 4,400 | 2.3 1.3 2.1 |
| | | | |

The proposals for added expressways (Maps 2 and

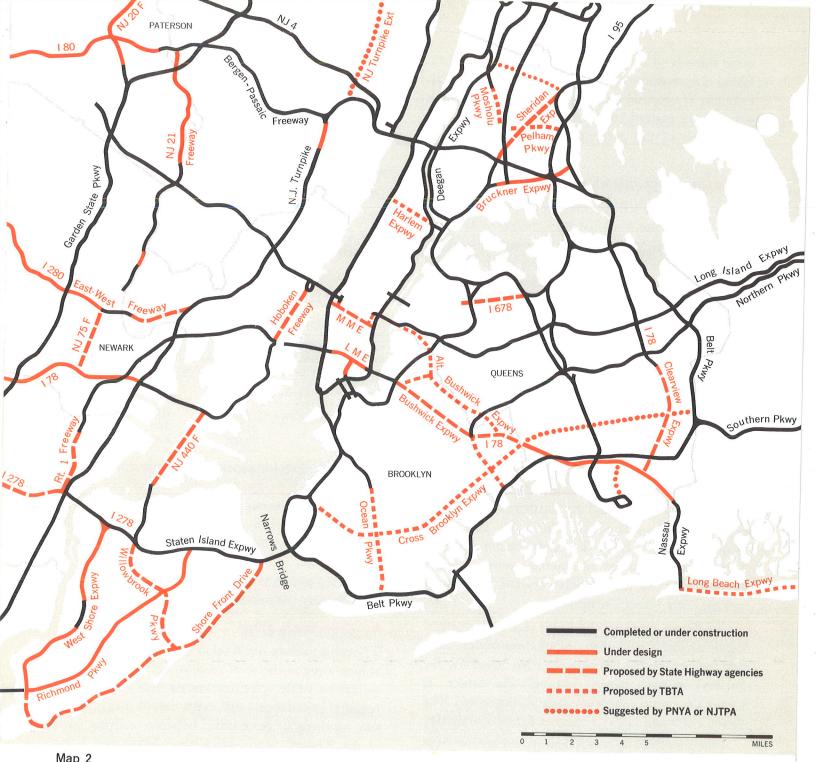
- 3) aim at:
- 1. Closing gaps between key expressways.
- 2. Bringing expressway access closer to heavily developed areas that are now without expressway service.
- 3. Serving newly-developing areas.
- 4. Relieving congestion on present expressways.

1. Expressway gaps

The need to cross the Region quickly and efficiently is increasing as the metropolitan area spreads in all directions while activities remain linked. A strong regional cohesiveness still exists despite the growing size, resulting in more travel between outlying parts of the Region, particularly New Jersey and Long Island. Since the primary expressways bring people into the center, the main gaps—now that a great deal of traffic must go from one side of the center to the other—lie between arteries leading to Manhattan from the east and from the west.

Of the vehicles using the Holland Tunnel on a typical working day, 59 percent (23,000 cars and 11,000 trucks) are just passing through Manhattan. Of the vehicles using the Lincoln Tunnel, 34 percent (about 23,000 per day) neither begin nor complete their trip in Manhattan.

Expressways crossing both downtown and mid-



Existing and Proposed Limited Access Highways in the Region's Core, 1964

Note: M M E — Mid-Manhattan Expressway; L M E — Lower Manhattan Expressway; T B T A — Triborough Bridge and Tunnel Authority; P N Y A — Port of New York Authority; N J T P A — New Jersey Turnpike Authority

town were proposed on the 1929 Plan, but there have been disagreements on the design even where there is agreement on the need. The design disagreement reflects different answers to two questions: (1) how much is it worth to keep neighborhood disruption and ugliness to a minimum? and (2) should the use of cars in Manhattan be discouraged as much as possible even though routes across Manhattan are improved?

The Lower Manhattan Expressway (Map 2) was proposed on the 1929 Plan to connect the Holland Tunnel with Brooklyn. In 1941, it was included in New York City's master plan; in 1955, it was included in the recommendations of a joint Port of New York Authority-Triborough Bridge and Tunnel Authority "study of important links in the arterial highway system" of the metropolitan area. The next year, it was scheduled as part of the Inter-

state highway program and in 1960, it was added to the official map of the City.

The Expressway would allow vehicles to cross in three minutes a two mile stretch that now takes about half an hour. By speeding the increasing traffic from Long Island to New Jersey and to the significant industrial area in the Lower West Side of Manhattan, the Lower Manhattan Expressway probably would improve prospects for more industry in Brooklyn, Queens, Manhattan, and the Hudson County-Newark area. The economic and real estate tax base could be strengthened in the older areas of the Region and jobs provided for the many blue collar workers living there. Faster connections to the mainland would help to add and diversify jobs in Nassau and Suffolk Counties, now highly dependent on quickly fluctuating government defense and space orders.

Nevertheless, in 1962, the Board of Estimate rejected a budget appropriation for the Expressway, apparently because of protests by residents and property owners along the route. Expressway opponents failed to have it erased from the official map however, and the City Council and Board of Estimate have just included a sum for the right-of-way in the capital budget—in effect giving the Mayor the opportunity to decide whether to build the Expressway or not.

The opposition to the Lower Manhattan Expressway typifies a growing resistance to the disruption of neighborhoods and the blighting effect of urban expressways. The current proposal calls for a tenlane elevated section along Broome Street—160 feet wide, more than three-quarters as wide as a typical Manhattan north-south block in width, and rising in places to forty feet—from the Holland Tunnel to the Bowery. So the resistance of people living and working in the area is understandable. Many of these objections could be alleviated by putting the highway below grade in a cut, underpassing the subways. In view of extra costs and engineering difficulties, this may or may not be considered feasible.

Some opposed the Expressway because it would make it easier for people to drive their cars to Manhattan as well as across and they feel that Manhattan-bound traffic should not be facilitated. But the Expressway could be designed to be of primary value to those going across Manhattan and the river cross-

ings into Manhattan need not be enlarged. Gradually, through traffic would increase, competing for space with traffic heading for Manhattan itself. This would tend to crowd some Manhattan-bound cars from the bridges and tunnel because there is a better public transportation alternative to Manhattan destinations than across Manhattan. As a result, traffic on downtown streets would be reduced.

The Mid-Manhattan Expressway (Map 2) is not yet on the City map. First proposed in 1926 and designed in the late '30's as a twin tunnel under 36th and 37th Streets—for which connections were provided to the Queens Midtown Tunnel, the current Triborough Bridge Authority proposal is for an elevated expressway along 30th Street (because property values are lowest there). The elevated Expressway is on the Port Authority-Triborough program and the Interstate schedule, but there is opposition to the elevated plan. A 36th-37th Street tunnel remains a feasible alternative.

The Port Authority and Triborough also studied a 1929 Plan recommendation for a Cross-Harlem Expressway and new Hudson River crossing at 125th Street (Map 2), connecting to a second deck of the Triborough Bridge. They recommended waiting for the changes in traffic flow following the completion of the second George Washington Bridge deck, the Narrows Bridge and the Throgs Neck Bridge before deciding whether this route is needed. Though Robert Moses declared it necessary in 1962 and again in 1963, there has been no major effort to put the Cross-Harlem Expressway on the construction schedule.

The most apparent gap in the expressway network outside of Manhattan is in Brooklyn. Several proposals have been made to remedy this, most important the Cross-Brooklyn and Bushwick Expressways. Two alternate alignments for the latter have been proposed. (See Map 2.) A Northern Queens Expressway either to the Triborough Bridge or along Northern Boulevard also has been proposed. (I-678, Map 2.) A Hoboken Freeway (Map 2) also would fill an important gap by connecting the approaches to the Lincoln and Holland Tunnels, allowing traffic flow to be adjusted between them during peak periods and providing a through route in a highly congested part of the Core. The Bergen-Passaic Expressway (I-80) will close another gap this fall, connecting the George Washington Bridge to the New Jersey Turnpike and Garden State Parkway and continuing west.

An entirely different kind of expressway gap is visualized by some businessmen and civic spokesmen on Long Island. They are asking for a bridge to the east, a direct connection to New England. (Map 3, pages 10-11.) They argue that it would benefit Long Island by opening all of eastern Long Island to industry and by connecting two major military electronics production centers (Long Island and the Boston area). Some bridge proponents emphasize it as a way of avoiding New York City's traffic bottlenecks for Long Island trucks going south and west as well as to New England and claim that speedier access to the mainland is necessary if Long Island's manufacturing is to be diversified. Comparison has not been made to the cost and benefit of improved expressway travel through New York City or to other bridge locations between Long Island and the mainland.

2. Expressways for areas without them

To some degree the expressways which will close the gaps in Brooklyn and New Jersey also will bring large numbers of people into convenient range of the expressway network for the first time. A large percentage of the homes of Brooklyn's 21½ million residents are now a tedious drive from an expressway. New Jersey's three new radials—I-80 west from the George Washington Bridge; I-280, the East-West Freeway from North Newark through West Orange to I-80; and I-78 from a large interchange at Newark Airport west to Pennsylvania—will fill in the New Jersey expressway grid in the suburbs, though expressways will still be more widely spaced than in Westchester or on Long Island.

Where urbanization already is intense, as in some New Jersey and Long Island areas where expressways are planned, it is difficult to follow the optimum routes. Differences in development intensity vary the cost and political difficulty of acquiring the rights-of-way so that highways often follow the path of least resistance rather than a logical and clear system. Compare, for example, the location of the Long Island Expressway with the more even grid proposed for Long Island by the 1929 Plan. Future New Jersey plans also follow a rather irregular network. (Map 3)

3. Highways to serve new development

Although the center of this Region retains a great deal of magnetism, mainly as a job location but also for shopping, services and special activities, more and more people in the Region, particularly those living on its outer edges, satisfy all their needs outside Manhattan. Because there are few major centers of activity or great variations in population density beyond the inner suburbs, there are few natural points to connect with transportation. Barring topographic considerations, which are of decreasing importance because of modern earth-moving methods, the only logical expressway pattern is a regular grid that brings an expressway within a few miles of almost any home or job or shopping center.

Some experts suggest that an expressway network may not fit this "spread-city" pattern of development well—that a closer mesh of regular highways or partially limited-access parkways might be more suitable where people go in every direction almost equally. Though the 1929 Plan called for a skeleton of major expressways, within this skeleton it envisioned a closer mesh of arterial boulevards and parkways designed for slower speeds. (See Map 1.)

To a large extent, the new and proposed express-ways do not form an even grid, nor do they form a skeleton on which some pattern of urban development other than an even spread of housing and scatter of other facilities could be created. By and large, new expressways are merely meeting traffic problems that development already has brought or clearly is about to cause, modified by right-of-way obstacles, or they connect two cities on the Interstate system, simply passing through the Region as they do.

4. Congested expressways

Roughly speaking all the radial expressways leading to the Core of the Region—New York City, Newark and Hudson County, New Jersey—appear to be congested during rush hours, except perhaps the Major Deegan from the north. So also is Westchester's Cross County Parkway, a circumferential of obsolete design connecting four of the five expressways into the City from the north. Some of the radials are clogged quite far out, particularly the Long Island Expressway and a portion of the Garden State Parkway. (See Map 5.) This is partly because they serve secondary job centers as well as Manhattan.

If more drivers try to jam onto an expressway than it was designed to handle, the flow usually slows and becomes erratic; the total number of cars passing a given point drops. More accidents may result because cars usually run closer together than at other times without slackening their speed commensurately.

(The Los Angeles freeways customarily move large numbers of cars at high speeds and much closer to each other than safety rules suggest. But the result might be inferred from a remark of a Los Angeles newspaper editor: "I know this metropolitan area is inter-related because if a dog crosses the freeway in downtown Los Angeles, a woman in Anaheim twenty miles away crumples a fender.")

Most indicators point to increased commuting toward the center from outlying parts of New York City and the suburbs, so congestion of the radials must be seen as a continuing and spreading problem.

Part of the cause of congestion in this Region is old-fashioned design of the early limited-access roads. Some curves are sharp; there are no acceleration and deceleration lanes or shoulders to which disabled cars can limp; often the pavement is broken. Even some later expressways were designed skimpily to save money, resulting in lowered capacity. Until recently, expressways were built no wider than six lanes in the Region, unlike freeways in Los Angeles and Chicago which typically have eight lanes and occasionally widen to ten, twelve and even fourteen.

What can be done now to relieve congestion?

Highway capacity probably can be expanded by operating adjustments, such as electronic control of the number of cars entering the expressway, since fewer cars actually reach their destination in a given time when it is overcrowded. But for substantial increases in highway capacity, new construction would be needed.

New York City's Traffic Commissioner Henry Barnes has proposed continuous frontage roads along the Long Island Expressway in inner Queens to provide for overflow traffic. This would require bulldozing some houses but it would be a *relatively* painless way to enlarge its capacity. Frontage roads now exist in the World's Fair area and from mid-Nassau County outward.

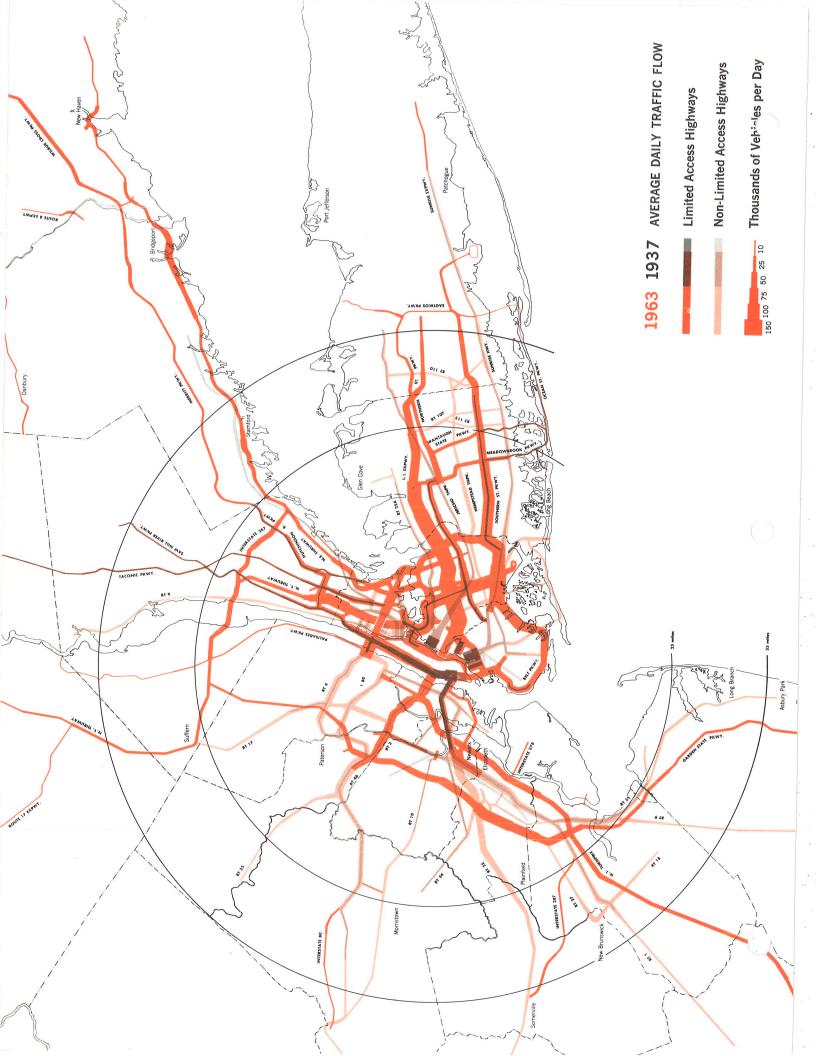
Barnes also has suggested double-decking the Expressway, with the cars that are travelling long distances using the top and relatively local traffic using the present roadway. Technically, building on top of an existing right-of-way is quite difficult, very costly and more disruptive of the surrounding area than it would seem, because of the space needed for access roads to reach the height of the second deck. In addition, the Expressway capacity would be reduced substantially during the construction period. Furthermore, it would be unattractive and blighting.

Alternatively, the last bits of green in some areas could be commandeered for extra highway lanes, as was done along Grand Central Parkway through Kew Gardens. Or tremendous sums could be spent to retain attractive rights of way while adding lanes, but with the expectation that the families and business owners to be displaced will delay if not block construction.

And finding room for the cars once they get into the center would still be a problem. If everyone working in a typical office building drove his car to work, it would take another building about the same size to store the cars. Picture the Empire State Building, for example, with a 102-story parking garage next door. In somewhat less crowded parts of the Core, parking is less of a problem, but it is costly nonetheless compared to alternative uses of the land. And if large tracts must be given over to parking, the closeness that some central functions seem to thrive on is broken up.

There is an alternative to increased highway capacity to the Core, however: peak-hour highway demand could be cut instead. This could be done in three ways: staggering working hours so the rush is spread over a longer period and fewer persons try to enter at the same time; dispersing jobs from the center; and encouraging drivers to shift to public transportation. The first two ways seem unlikely prospects unless transportation becomes a good deal worse. The trend, in fact, is the other way. More office space has been added in Manhattan since World War II than in all the rest of the country combined, and the Hackensack and Newark Meadows appear to be close to development, further centralizing jobs.

The possibility of staggering working hours is still under study by the City of New York, but since



people crowd into Manhattan to work together, little staggering of hours seems likely there. Jobs in other parts of the Core and blue-collar Manhattan jobs conceivably might be staggered somewhat, but most people are tied to similar schedules by all sorts of non-work activities, and organizing systematic staggering of hours could be a huge and not particularly popular undertaking. In any case, staggering of working hours, though it might save considerable public transportation costs, probably would not be very helpful in saving highway space because the highway peaks already last a long time and traffic origins and destinations are so diffuse that organizing effective staggering of hours would be difficult.

Public transportation could help with highway congestion to a substantial degree, however, because most of the excess traffic is going to and from the Region's Core, the kind of traffic that public transportation can serve efficiently. The possibility of relieving rush-hour congestion on expressways by switching some automobile riders to bus, train or subway or some bus riders to rails, as long as they are going to the Core, might be demonstrated by the fact that highway congestion is greatest in those sectors where public transportation is now least adequate.

Not much change from automobile to bus, train or subway would be needed to relieve a great deal of highway congestion, in fact. For example, in the peak hour, five motor vehicles out of six entering the central business district of Manhattan are automobiles or taxis, each carrying fewer than two persons on the average. Altogether, these cars and taxis bring less than a tenth of those entering the district in that hour. So an increase of only about 1 percent in peak hour public transportation riders to Manhattan's central business district would reduce the

Maps 4 and 5

1937 Average Daily Traffic Flow on Major Highways

Source: Regional Plan Bulletin #41, March 1938.

1963 Average Daily Traffic Flow on Major Highways

Sources: Connecticut State Highway Department, East Hudson Parkway Authority, Highway Transportation Studies Group, Long Island State Park Commission, Nassau County Bridge Authority, New Jersey State Highway Department, New Jersey Turnpike Authority, New York State Department of Public Yorks, New York State Thruway Authority, The Port of New ork Authority, Taconic State Park Commission, Triborough Bridge and Tunnel Authority.

Note: Traffic volumes below 15,000 per day are not shown for highways without limited access for 1937 and 1963.

number of vehicles entering the district by 10 percent.

On the other hand, the cost would be staggering to relieve congestion by adding 10 percent to the highway capacity into Manhattan.

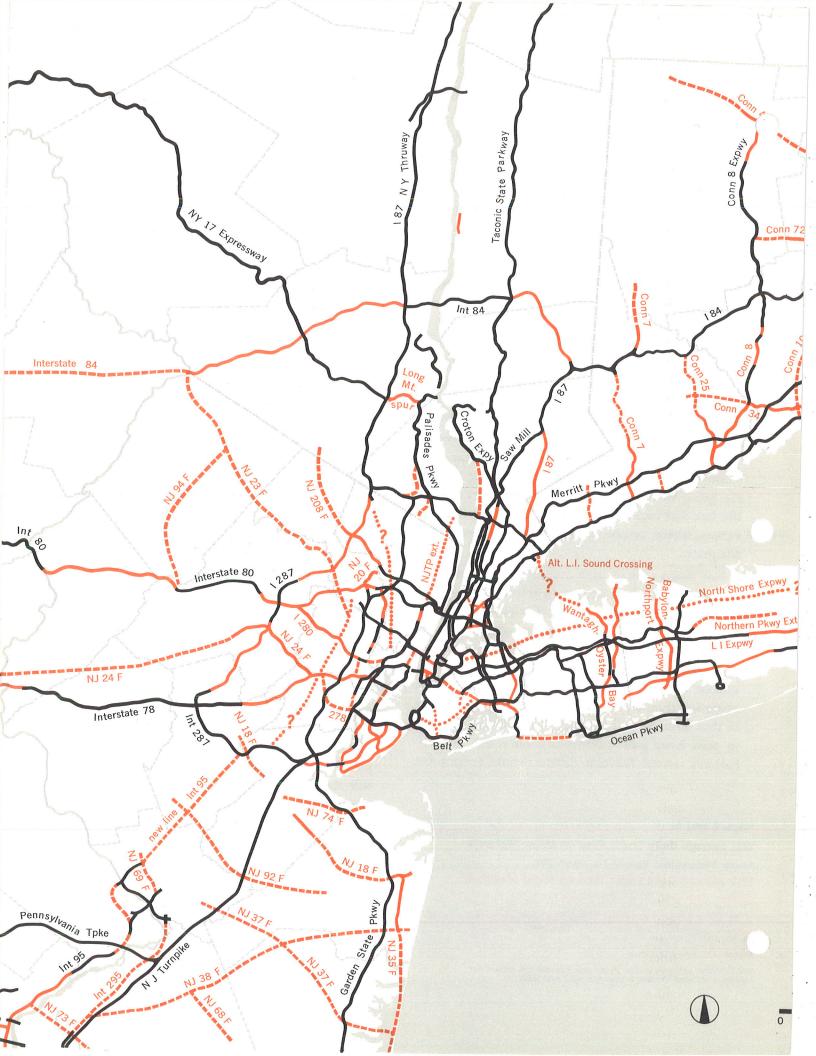
In other words, if all forms of transportation to the Region's Core are seen as a single system, there is opportunity to get a good deal more transportation for the money.

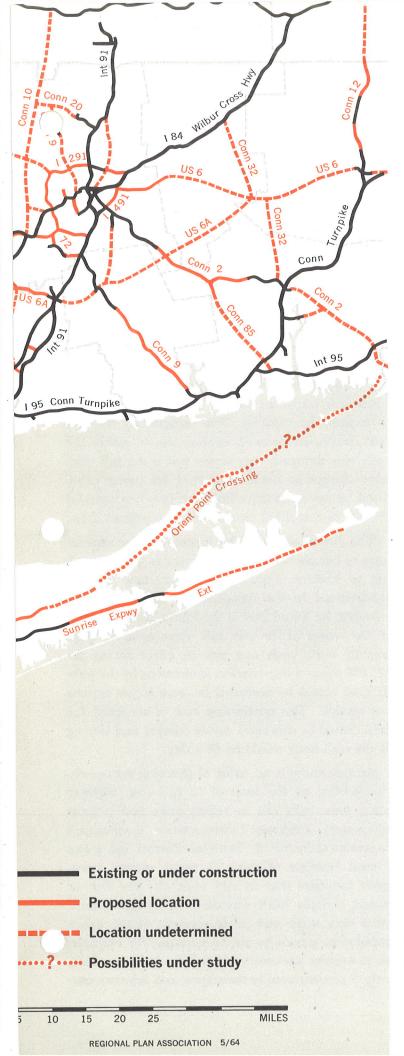
Why do people undergo the stresses of expressway driving on overloaded roads when public transportation is available in and to the Core? Different people seem to have different reasons, but a major one certainly is speed. For those who live or work far from an express bus, train or subway stop, an automobile even on crowded highways usually saves time. For example, the New Jersey resident who lives, say, three miles from a train which takes him to a ferry which brings him to the West Side downtown from which he has to reach the East Side midtown is quite likely to be able to drive faster than he could come by train under almost any highway condition. (This does not consider the possible usefulness of the train or bus time for reading, dozing or working, however.) If he works outside Manhattan's central business district, public transportation may be slower yet, and the bulk of the rush-hour automobile traffic on radials toward the center does not go into the central business district but gets off rather in Newark, Queens and Brooklyn.

In addition, few suburban railroad or bus stops or outlying subway stations have adequate parking.

Other people probably choose a car to travel to work because public transportation is uncomfortable or because trains or buses are too infrequent. Still others need cars during the day. And others find catching a bus or train too much effort compared to getting into their own private box alongside the kitchen and trundling it to a garage or lot alongside the office. Finally, there are those for whom driving to work represents prestige as well as comfort and riding on an unkempt train, bus or crammed subway seems degrading.

All of these causes can be overcome to some degree, and probably at much less cost than cutting through the Core with new highways. Philadelphia officials, for example, have proven what they suspected several years ago—that a small investment in better train service could save a great investment





in additional highways downtown. By increasing the number of trains and decreasing the fares, the net loss incurred by railroad service has been cut, service has improved and many people have been diverted from their cars. Ridership of the rail lines in the program is up 40 percent over the year before the program began on each line, and most of the additional riders are thought to be former motorists.

Better public transportation—faster runs terminating in more convenient points in the City, more parking along the way, more comfortable and much more frequent and dependable service—would seem a reasonable alternative to highway congestion. Some federal grants have been given to demonstrate the effect of some of these changes in this and other metropolitan areas, including the establishment of express stations and large parking lots on long New York Central runs from Westchester and Putnam Counties and a large parking lot at a new station outside New Brunswick.

One method of inducing more people to use public transportation to the center without improving the service or the fares would be some method of rationing highway access more tightly. This could be done by the price system—charging substantial sums for use of roads entering Manhattan during rush hours, or through cutting down on parking in the central business district, or by allocating expressway lanes to buses—slowing automobile travel and speeding bus schedules, or by closing access roads near adequate public transportation stops with parking lots—speeding travel for those far from public transportation by siphoning from the highways those who live near it.

Further congestion can be predicted on circumferentials within the inner suburbs as well as on the expressways to the center. Suburban jobs are increasing and few can be reached by public transportation. Housing and job location patterns that can be projected on the basis of present trends and public and corporate policies would mean trip-to-work traffic going in all directions through most of the inner suburbs. Public transportation improvements by themselves would not be sufficient to avoid this, because suburban jobs generally are too scat-

Map 3
Limited Access Highways
Existing and Officially Proposed or Under Study
in the Region, 1964

tered to be served by public transportation. In order to keep down traffic enough to avoid adding highways in the inner suburbs, where practically all the land is committed, job locations would have to be planned to fit public transportation at least for some workers.

Some Considerations

This Region is well ahead of the country in express-ways probably because it was ready to build at the time a great deal of highway money became available—during the depression when the government was looking for useful public works for the unemployed to carry out. New York had the Regional Plan Association highway program and a "master builder," Robert Moses.

Today, a plan and a hard-driving expediter are not enough to get highways built. Currently, highway construction in New York State and New Jersey is limited by lack of funds. Perhaps an even more important obstacle to highway building has been the resistance of neighborhoods through which the roads would pass. There is also a growing indifference, even opposition, by some who assert exaggeratedly that expressways do not solve metropolitan transportation problems because they constantly attract more traffic. The congestion remains, they assert, while the city disappears.

Therefore, cost, including the intangible cost of human disruption and neighborhood blight, plus the influence of highways on the Region's development pattern must be considered in making plans.

Cost

An eminent transportation economist, Professor William S. Vickrey of Columbia University, has said about urban transportation "that in no other major area are pricing practices so irrational, so out of date, and so conducive to waste. . . ." Most economists try to put a price on choices roughly equal to the real costs the choices will entail—so that people are free to make decisions as they will but the decisions bear their full cost.

It is during the weekday rush hours in metropolitan areas that charges are most at odds with the full cost of providing transportation. In rush hours, a great deal of travel capacity must be provided which would not be needed at other times of the day: extra lanes of expressway, extra railroad and subway cars and personnel, extra buses and drivers. So any form of transportation costs far more to provide during these brief periods than during other times of the day. But rush-hour travellers in the Region do not pay the extra costs they entail. In fact, low-priced commuter tickets for public transportation and for toll facilities are used principally during the rush hours so most peak users pay less than most off-peak users instead of more. Prices, in other words, are exactly the reverse of costs.

This affects transportation choices in three ways: (1) there is little pressure to avoid using scarce transportation space during rush hours; even more important, (2) there is little encouragement to use buses or rail during rush hours though it is much cheaper than providing enough peak-period highway space for automobiles, all costs considered; and (3) transportation planners get no indication of when it is worth the money to users of a highway to expand its capacity. Not recognizing the full costs, motorists demand expressways to satisfy the rush-hour demand; they might not if the full costs were charged to them. Now they are partly subsidized by motorists travelling during other hours of the day or travelling outside of metropolitan areas.

The extent of the added investment for express-ways to handle the rush-hour driver is high, according to Vickrey. Looking at typical new housing subdivisions in the Washington, D. C. area, for example, he found that if the home buyers worked in the center of the city and chose to drive their cars to work, each one was in effect asking for \$23,000 more transportation investment by the public than would be needed if he were to use express bus service. The continuing cost of servicing the debt caused by this extra driver coming and leaving in the rush hour would be \$9 a day.

Because there is no habit of choosing transportation service on the basis of its full cost, highway plans sometimes fail to reflect costs and benefits adequately. Tri-State Transportation Committee's Executive Director J. Douglas Carroll has given a good example of this: "A quick mental assessment indicates that in city after city the first or second freeway built was directed to the airport, yet a very small and select segment of the urban population travels by air. In Chicago, for example, on an average weekday, of 10 million journeys made, only .3 percent were to the airport and less than one-

half of these were made by persons who were going to fly."

More consideration has been given recently to the relative costs of public and automobile transportation. In the New York Region, the commuter railroads have been aided by all three states on the assumption that if the railroads stopped carrying employees into Manhattan and Newark, the Region would be "one big spaghetti bowl of highways," in the words of New Jersey Highway Commissioner Dwight R. G. Palmer.

City subsidies for the New York subway system were raised without protest this year. Even the National Good Roads Association newsletter has supported the federal aid to public transportation bill (introduced by New Jersey Senator Harrison A. Williams, Jr.) now pending in the House of Representatives.

One final cost is receiving growing attention—air pollution. Automobiles are thought to contribute somewhere in the neighborhood of half the pollutants in metropolitan air. During the two-day ban on cars in Manhattan after the 1961 blizzard, the Air Pollution Control Department recorded a marked decline in pollution. Scientists have not detailed the dangers or costs except on days when pollutants are pinned near the ground by a layer of cold air. On those days, statistics have shown unusually high death rates. It is generally accepted, however, that air pollution is a cumulative danger to health, to crops and to trees: even a little can eventually add up to damage.

Disruption and ugliness

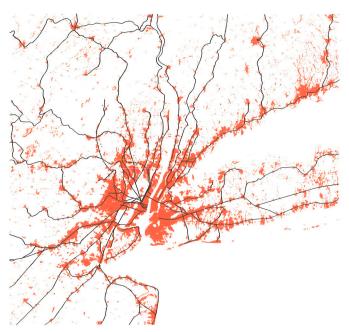
Many highway planners are becoming discouraged by the increasing resistance of neighborhoods to expressways that would cross through. The idea of maintaining a neighborhood, with its informal relationships, known shops and services and old friends, seems to be increasingly important to many people—and not just to those affected. Usually, urban expressways have been cut through the lowest-priced land, meaning the poorest houses. Picking the cheapest land and the least attractive and valuable housing to destroy is defensible highway policy. But recently, attention has been directed to the special problems of lower-income groups who live in these areas and particularly to the problems of the

poor if they also are Negroes or Puerto Ricans. On closer look, we find, first, that these people have great difficulty finding new places to live in this metropolitan area, not only because of housing discrimination but also because there is a shortage of low- to middle-income housing. In addition, some sociologists have found that people in lower economic groups are more dependent on the social fabric of the neighborhood and feel more threatened by wholesale changes in it than families with higher incomes. Much easier to remedy, but still a problem in some instances, the full loss of those moved by a new highway is not always compensated, particularly for small businessmen and especially those who rent quarters without a long-term lease.

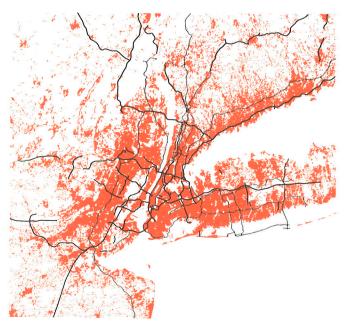
More care and investment in design and location might protect neighborhood values in some instances. For example, there are sometimes fairly clear neighborhood boundaries. The sense of community in these neighborhoods could be strengthened rather than disrupted if the expressway ran along these boundaries. Also, raised expressways usually create a feeling of blight around them and expressways at grade level set up a barrier and cause maximum noise and fumes. Expressways below ground level also cause a physical barrier, but if covered over in places by walkways, parks, local streets and even intermittent buildings, the least possible ugliness and disruption is created. The possible danger of air pollution in buildings set over expressways is not known, however.

Neighborhood groups are increasingly successful in thwarting expressway construction, according to reports from several parts of the country. As long as they are, the realistic cost of a highway project is the cost of a design that is satisfactory to the neighborhood and of relocation assistance that is acceptable to those moved. In many instances, the expressway probably is worth the investment, even including the heavier costs that more care in preserving the neighborhood and adequate financial assistance for the displaced would entail. Without this additional cost and effort, there may be no new expressway.

The appearance of expressways raises the same issue. Ugly design apparently has diluted support for expressways. The selection of Tunnard and Pushkarev's book, Man Made America, Chaos or Control, for the National Book Award this year



Map 6
1935 Land Development and Passenger Railroads



Map 7

1962 Land Development and Limited Access Highways

and the stir caused by Peter Blake's God's Own Junkyard certainly herald a rising concern for urban appearance. Man Made America has a pioneering section on highway aesthetics by co-author Boris Pushkarev, Regional Plan Association's chief planner.

Effect on the Region's development

Regardless of how much money people will spend to drive places, there is a limit to how much space can be allocated to highways without a radical change in the appearance of the Region and how we live in it. Cars take a great deal of space. The pattern of development suited to easy and fast automobile travel is quite different from one designed for public transportation and walking, with less driving. Every study, for example, has demonstrated that the central business district of Manhattan cannot work if most people insist on driving cars there during the day. Even between 10 a.m. and 7 a.m. the next day—before and after the morning rush—only two persons out of five entering the district come by car or taxi.

The point is that each transportation decision we make today affects the choice we will have tomorrow, as when we do not regularly use bus or train service and find when we need it that it has been discontinued. Furthermore, our decisions cumulate with everyone else's until they affect the location of jobs, recreation and open space. If most people choose automobiles for most trips, the pattern of development will have to be more spread out than if many choose public transportation, because automobiles require a great deal of space to work efficiently while public transportation requires compact development to be efficient. Yet we each make our transportation and living choices without any reference to their effect in the aggregate on the transportation and the over-all appearance, convenience, efficiency and tone of the metropolis.

Furthermore, highway locations themselves affect the way other things are located. If, for example, highways are close together with frequent access points, locations are likely to be little affected by them. If highways are far apart or have widely spaced entries, access points will draw activities (shopping, jobs, etc.) and intensive residential development so far as the zoning will let them—just as the railroad stations did in the early days of suburbia. (See Map 6.)

By and large, the influence of transportation on urban development has declined (see Map 7) as wealth and leisure have expanded and good transportation has become more evenly distributed. Nevertheless, transportation continues to exercise an influence on the way land is used and it can be designed to manipulate land development to some extent.

So the final element to be considered in highway

planning is the desirable shape of the metropolitan area.

All of these considerations—cost in relation to benefits, neighborhood disruption, aesthetics, and the effect on the way we live in the Region—should be part of the highway planning process.

Growing need for highways

Admittedly, there are no accurate studies encompassing all of these elements. There is not even a clear agreement among the Region's residents nor among officials nor even among planners on the best pattern of growth for the metropolitan area. Nevertheless, many highway decisions will have to be made promptly.

Fortunately there are facts, though perhaps not always decisive facts, to evaluate current proposals.

In 1960, only a third of the employees of this Region used cars to get to work as compared to two-thirds in the country as a whole. But the trend is toward the automobile. Much of the development of the Region since World War II has been in a pattern that requires automobile travel—too spread for walking and too scattered for public transportation except to New York City and Newark. About 7 million people now live in areas which are virtually dependent on the automobile—except to get to work, and an increasing number of jobs are located outside of job centers large enough to be served by public transportation.

In addition, the pattern of homebuilding is not closely related to the pattern of job location. Homes are being pushed out faster than jobs. On the average, employees will be travelling longer distances to work. Furthermore, the spread of homes and scatter of jobs make carpooling difficult. The result of these three trends—more jobs that public transportation cannot serve, greater distance from home to work on the average, and a spread between homes—would be a burst of added car-miles driven.

Present development trends could change, however. There are many proposals for grouping homes and jobs and transportation in closer relation to each other to cut the average trip to work and allow public transportation for those who want it. Nevertheless, even assuming some sharp shifts in development practices over the next generation, the journey-to-

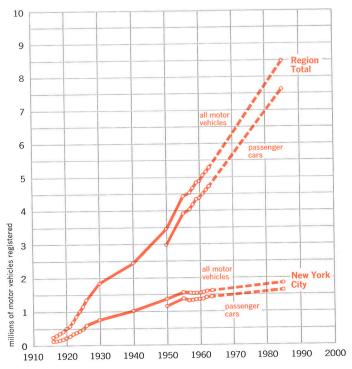


Chart 1
Motor Vehicle Registration in the Metropolitan Region, 1916-1962, and Projections

Note: Projections based on population distribution and household size as given in Spread City, RPA Bulletin #100.

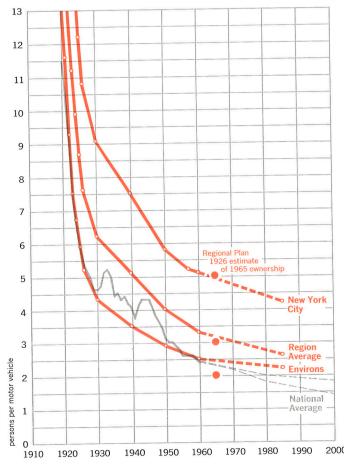


Chart 2
Persons per Motor Vehicle in the Region and the Nation, 1920 to 1960, and Projections

work demands on the highways cannot help but increase.

Non-work trips by highway probably will be rising even more rapidly. With increasing incomes and increasing leisure, the Region's residents will be driving for recreation more—to beaches and ski slopes, woods and picnic grounds, museums, theatres, restaurants and department stores. This normally will not coincide with journey-to-work highway peaks. Some of the capacity needed for recreation will be the same as that needed during other hours for work trips, for example highways to cultural activities or professional sports in New York City. Much may not, for example highways to the mountains.

Already, many miles of highway in the Region are jammed on summer Sunday evenings, even in remote areas such as Rockland and outer Nassau County in New York and Warren County in New Jersey—the last is even outside of the formally defined Region. The Long Island Expressway somehow manages to jam up at many odd hours, including 1 o'clock in the morning on Sundays.

Clearly, it is necessary for highway planners to consider journey-to-play as well as journey-to-work peaks, especially in this Region where still only a minority of employees use automobiles to get to work. Already, the peak use of the George Washington Bridge, for example, comes during recreation not work times.

While personal preference for leisure trips seems very heavily in favor of automobiles, traffic problems in the City and inner suburbs and the continuing low percentage of car ownership in New York City (only 42½ percent of the families own cars—see Table 1) probably point to continued and perhaps growing demand for public transportation in non-work hours as well as for highways. Nevertheless, the highway demand even in the crowded cities is great and growing.

The clear trend is for more use of automobiles for both work and non-work trips over the next quarter-century. The projection of automobiles in the Region (Table 2) reflects this increased dependence on and use of the car: four cars for every ten persons in the Region by 1985 compared to three for every ten persons now. (Table 3) Conceivably the growth in car rentals could reduce this

figure without changing its implications for highway use. Table 4 shows a similar rise in registrations of all vehicles in the Region.

Summary

A highway engineer commented recently that the present network of expressways in the New York Region will be filled by the early 1970's. But citizen resistance to new expressways is growing—resistance to the human disruption caused by cutting through a neighborhood and resistance to the ugliness that often results from expressway construction in urban areas. Public funds also lag behind highway demands.

Highway planning has become an amalgam of considerations of economic cost and benefits, community impact and aesthetics. This means looking at transportation as a whole, public as well as automobile, and at land development in relation to both.

The Tri-State Transportation Committee—a planning agency established by the three governors of the Region and assisted by the federal government—as well as Regional Plan Association are now studying highway requirements and possibilities for the Region's next thirty years.

Bibliography

Tri-State Transportation Committee, Regional Highways Status Report. November 1962. 142 pp., map.

The Chairman of the Triborough Bridge and Tunnel Authority, ed. *Arterial Progress*. January 1964. 38 pp. (Also previous quarterly issues.)

New Jersey State Highway Department, New Jersey State Highway Needs, 1963-1975. 1963. 42 pp.

Triborough Bridge and Tunnel Authority, Future Arterial Program. June 1963. 32 pp.

The Port of New York Authority, Metropolitan Transportation 1980. 1963. 380 pp.

The Port of New York Authority-Triborough Bridge and Tunnel Authority, Joint Study of Arterial Facilities New York-New Jersey Metropolitan Area. January 1955. 62 pp.

The Port of New York Authority, Regional Highway System. June 1963. (map) (Also previous annual issues.)

Highway Research Board, Community Values as Affected by Transportation, Highway Research Record Number 2. 1963. 100 pp. (2101 Constitution Ave., Washington, D.C.)

Motor Vehicle Registrations—New York Metropolitan Region

Table 1. All Motor Vehicles (in thousands)

| | | | | | | | Projection |
|---|-------------------------|------------------|----------------------|--------------|----------------|----------------|------------|
| | 0 | 1930 | 1940 | 1950 | 1960 | 1963 | 1985 |
| | Connecticut | | | | | | |
| | Fairfield | 89.0 | 133.1 | 182.4 | 305.0e | 344.1e | 590 |
| | New Jersey | 610.3 | 811.3 | 1,160.8 | 1,642.7 | 1,738.2 | 3,226 |
| | Bergen | 86.5 | 123.7 | 183.7 | 314.8 | 337.9 | 511 |
| | Essex | 173.8 | 217.4 | 291.1 | 329.1 | 332.7 | 402 |
| | Hudson Middlesex | 88.1 | 120.4 | 156.6 | 169.6 | 166.1 | 175 |
| | Monmouth | 41.1 48.6 | 57.7 55.5 | 77.4 | 164.6 | 179.1 | 459 |
| | Morris | 30.2 | 40.3 | 88.1 53.1 | 136.3 113.1 | 147.0 123.5 | 527 |
| | Passaic | 59.2 | 78.7 | 118.0 | 152.6 | 164.2 | 414 254 |
| | Somerset | 16.6 | 22.7 | 34.6 | 46.1 | 56.4 | 180 |
| | Union | 66.4 | 94.8 | 151.2 | 216.6 | 231.2 | 304 |
| | New York | 1,163.8 | 1,492.7 | 2,103.5 | 2,944.5 | 3,248.8 | 4,649 |
| | Dutchess | 29.7 | 34.9 | 47.9 | 70.7 | 82.1 | 153 |
| | Nassau Orange | 109.7 38.5 | 146.0 | 268.3 | 546.2 | 617.6 | 750 |
| | Putnam | 5.5 | 43.7 8.0 | 58.2 11.1 | 78.3 | 87.4 | 189 |
| | Rockland | 16.9 | 20.8 | 29.9 | 19.1 54.8 | 22.3 70.3 | 73 161 |
| | Suffolk | 59.4 | 75.5 | 124.6 | 293.3 | 370.6 | 900 |
| | Westchester | 140.0 | 169.1 | 213.0 | 341.7 | 374.4 | 604 |
| | N.Y. excl. N.Y.C. | 339.7 | 497.9 | 753.0 | 1,404.1 | 1,624.5 | 2,830 |
| | Bronx | 89.8e | n.d. | n.d. | 239.0 | 244.9 | 255 |
| | Brooklyn Manhattan | 254.9e 206.7e | n.d. | n.d. | 479.9 | 492.5 | 536 |
| | Queens | 183.8e | n.d. n.d. | n.d. n.d. | 241.1 511.8 | 269.1 | 247 |
| | Richmond | 28.9e | n.d. | n.d. | 68.6 | 540.6 77.3 | 596 185 |
| | New York City | 764.1 | 994.8 | 1,350.5 | 1.540.4 | 1,624.3 | 1,819 |
| | Environs | 1,099.1 | 1,442.4 | 2,096.2 | 3,351.8 | 3,706.8 | 6,646 |
| - | Core ¹ | 823.3e | 7.0.•100 SEMENTAL OF | | 1.641.4 | 1,713.2 | 1,809 |
| | Inner Ring ² | 664.5 | | | 1,969.6 | 2,135.2 | 3,010 |
| | Outer Ring ³ | 375.5 | | | 1,281.3 | 1,482.8 | 3,646 |
| | REGION | 1,863.2 | 2,437.1 | 3,446.7 | 4,892.2 | 5,331.1 | 8,465 |
| | | | | | | | |

Columns may not add to the totals shown because of rounding of numbers. ¹Core includes: Manhattan, Brooklyn, Bronx, Queens and Hudson Counties.

Table 2. Passenger Cars (in thousands)

| | | | | Projecti | on |
|-------------------------|---------|---------------|---------|----------|----|
| | 1950 | 1960 | 1963 | 1985 | |
| Connecticut | | | | -500 | |
| Fairfield | 152.6 | 270.0e | 298.4e | 531 | |
| New Jersey | 1,007.2 | 1,488.8 | 1,583.5 | 2,937 | |
| Bergen | 162.7 | 291.4 | 314.1 | 465 | |
| Essex | 257.8 | 294.7 | 299.3 | 366 | |
| Hudson | 135.4 | 152.2 | 148.7 | 159 | |
| Middlesex | 66.5 | 148.6 | 162.5 | 418 | |
| Monmouth | 73.8 | 121.3 | 132.3 | 480 | |
| Morris | 46.2 | 102.5 | 112.4 | 377 | |
| Passaic | 101.0 | 137.4 | 149.5 | 231 | |
| Somerset | 29.6 | 40.8 | 50.7 | 164 | |
| Union | 134.3 | 200.0 | 214.0 | 277 | |
| New York | 1,812.1 | 2,608.4 | 2,877.6 | 4,146 | |
| Dutchess | 38.4 | 59.3 | 69.0 | 135 | |
| Nassau | 239.0 | 497.2 | 558.3 | 675 | |
| Orange | 45.7 | 63.3 | 70.9 | 163 | |
| Putnam | 9.1 | 16.4 | 18.9 | 65 | |
| Rockland | 25.3 | 48.0 | 61.7 | 145 | |
| Suffolk | 101.6 | 251.7 | 318.5 | 801 | |
| Westchester | 188.9 | 308.0 | 336.5 | 544 | |
| N.Y. excl. N.Y.C | . 648.0 | 1,243.9 | 1,433.7 | 2,528 | |
| Bronx | n.d. | 219.7 | 227.1 | 235 | |
| Brooklyn | n.d. | 435.5 | 444.5 | 482 | |
| Manhattan | n.d. | 174.8 | 202.5 | 185 | |
| Queens | n.d. | 472.4 | 499.4 | 548 | |
| Richmond | n.d. | 62.0 | 70.4 | 168 | |
| New York City | 1,164.1 | 1,364.5 | 1,443.9 | 1,618 | |
| Environs | 1,807.7 | 3,002.7 | 3,315.6 | 5,996 | |
| Core ¹ | | 1,454.7 | 1.522.1 | 1.609 | |
| Inner Ring ² | | 1,790.6 | 1,942.1 | 2,726 | |
| Outer Ring ³ | | 1,121.9 | 1,295.3 | 3,279 | |
| REGION | 2,971.8 | 4,367.2 | 4,759.5 | 7,614 | |
| Columns may | not add | to the totals | shown | because | of |

Columns may not add to the totals shown because of rounding of numbers. ¹Core includes: Manhattan, Brooklyn, Bronx, Queens and Hudson Counties.

Table 3. Persons Per Motor Vehicle

| Connecticut | 1930 | 1940 | 1950 | 1960 | Projection 1985 |
|--|--|--------------|--------------|------------|--------------------|
| Fairfield | 4.3 | 3.1 | 2.8 | 2.1e | 1.9 |
| New Jersey | 5.0 | 3.8 | 3.1 | 2.7 | 2.3 |
| Bergen | 4.2 | 3.3 | 2.9 | 2.5 | 2.2 |
| Essex | 4.8 | 3.9 | 3.1 | 2.8 | 2.5 |
| Hudson Middlesex | 7.8 5.2 | 5.4 3.8 | 4.1 3.4 | 3.6 2.6 | 3.1 |
| Monmouth | 3.0 | 2.9 | 2.6 | 2.5 | 2.2 2.2 2.1 |
| Morris | 3.7 | 3.1 | 3.1 | 2.3 | 2.1 |
| Passaic Somerset | 5.1 3.9 | 3.9 3.3 | 2.9 2.9 | 2.7 | 2.2 |
| Union | 4.6 | 3.5 3.5 | 2.6 | 3.1 2.3 | 2.1 2.0 |
| New York | 7.1 | 6.0 | 4.7 | 3.8 | 2.9 |
| Dutchess | 3.6 | 3.5 | 2.9 | 2.5 | 2.3 |
| Nassau | 2.8 | 2.8 | 2.5 | 2.4 | 2.0 |
| Orange Putnam | 3.4 2.5 | 3.2 2.1 | 2.6 1.8 | 2.3 1.7 | 2.1 1.8 |
| Rockland | 3.5 | 3.6 | 3.0 | 2.5 | 2.2 |
| Suffolk | 2.7 | 2.6 | 2.2 | 2.3 | 2.2 |
| Westchester | 3.7 | 3.4 | 2.9 | 2.4 | 2.0 |
| N.Y. excl. N.Y.C. | 3.2 | 3.1 | 2.6 | 2.4 | 2.1 |
| Bronx Brooklyn | 14.1 ^e 10.0 ^e | n.d. n.d. | n.d. n.d. | 6.0 5.5 | 5.3 4.6 |
| Manhattan | 9.0e | n.d. | n.d. | 7.0 | 6.0 |
| Queens | 5.9e | n.d. | n.d. | 3.5 | 3.2 |
| Richmond | 5.5e | n.d. | n.d. | 3.2 | 2.8 |
| New York City | 9.1 | 7.5 | 5.8 | 5.1 | 4.2 |
| Environs | 4.3 | 3.5 | 2.9 | 2.5 | 2.2 |
| Core ¹ Inner Ring ² | 9.1e 4.6 | | | 5.0 2.5 | 4.3 |
| Outer Ring ³ | 3.7 | | | 2.4 | 2.2 2.2 |
| REGION | 6.2 | 5.1 | 4.0 | 3.3 | 2.6 |
| UNITED STATES | 4.6 | 4.1 | 3.1 | 2.4 | * |
| eBased on estimat | od figuros | | | | |

eBased on estimated figures.

Table 4. Passenger Cars and Households, 1960

| | Perso | ns Cars | Pe | rcent of | Households | With |
|-------------------------|------------|------------|--------------|--------------|--------------|------------|
| | per | per | No | One | Two | More |
| | Car | Household | | Autor | mobile(s) | |
| Connecticut | | | | | | |
| Fairfield | 2.4e | 1.4e | 14.7 | 53.3 | 27.8 | 4.2 |
| New Jersey | 3.0 | 1.1 | 20.6 | 56.7 | 19.8 | 2.9 |
| Bergen | 2.7 | 1.3 | 11.2 | 60.5 | 25.2 | 3.1 |
| Essex | 3.1 | 1.0 | 29.3 | 52.2 | 16.0 | 2.6 |
| Hudson Middlesex | 4.0 2.9 | 0.8 | 39.7 | 52.0 | 6.7 | 1.6 |
| Monmouth | 2.8 | 1.2 1.3 | 11.6 12.6 | 64.6 59.4 | 21.0 | 2.8 |
| Morris | 2.6 | 1.4 | 6.9 | 55.5 | 25.1 32.9 | 3.3 4.7 |
| Passaic | 3.0 | 1.1 | 22.6 | 55.9 | 18.7 | 2.8 |
| Somerset | 3.5 | 1.0 | 7.9 | 55.8 | 31.7 | 4.6 |
| Union | 2.5 | 1.3 | 14.1 | 59.2 | 23.4 | 3.2 |
| New York | 4.3 | 0.7 | 45.8 | 44.3 | 8.7 | 1.2 |
| Dutchess | 3.0 | 1.3 | 14.9 | 64.6 | 17.6 | 2.9 |
| Nassau Orange | 2.6 2.9 | 1.4 | 7.7 | 61.5 | 28.1 | 2.7 |
| Putnam | 1.9 | 1.2 1.8 | 17.5 9.4 | 64.7 61.8 | 15.8 | 2.0 |
| Rockland | 2.9 | 1.4 | 11.7 | 59.7 | 26.1 25.2 | 2.7 |
| Suffolk | 2.6 | 1.5 | 8.4 | 65.0 | 24.1 | 3.4 2.5 |
| Westchester | 2.6 | 1.3 | 17.5 | 58.6 | 21.0 | 2.9 |
| N.Y. excl. N.Y.C. | 2.7 | 1.4 | 11.6 | 61.7 | 24.0 | 2.7 |
| Bronx | 6.5 | 0.5 | 59.7 | 37.1 | 2.4 | 0.8 |
| Brooklyn | 6.0 | 0.5 | 56.3 | 40.2 | 2.8 | 0.7 |
| Manhattan Queens | 9.7 3.8 | 0.3 0.8 | 80.3 | 18.2 | 0.3 | 0.6 |
| Richmond | 3.6 | 1.0 | 33.8 24.5 | 58.0 64.2 | 7.3 | 0.9 |
| New York City | 5.7 | 0.5 | 57.5 | 38.3 | 10.3 | 1.0 |
| Environs | 2.8 | 1.2 | 16.8 | 58.3 | 3.5 | 0.7 |
| Core ¹ | 5.6 | 0.5 | | | 22.0 | 2.9 |
| Inner Ring ² | 2.8 | 1.2 | 57.0 16.9 | 38.8 58.3 | 3.4 | 8.0 |
| Outer Ring3 | 2.7 | 1.3 | 11.7 | 60.0 | 22.0 24.9 | 2.8 3.4 |
| REGION | 3.7 | 0.9 | 38.0 | 47.9 | 12.3 | 1.8 |
| UNITED STATES | 2.9 | 1.2 | 21.5 | 57.0 | 19.0 | 2.5 |
| eBased on estimated | | | | 07.0 | 13.0 | 2.3 |

²Inner Ring includes: Essex, Union, Nassau, Richmond, Bergen, Passaic and Westchester

³Outer Ring includes: Middlesex, Fairfield, Rockland, Suffolk, Monmouth, Morris, Somerset, Orange, Dutchess, Putnam **e**Estimate

Sources: RPA, N.J. Dept. of Motor Vehicles, N.J. Auto Lists, Inc., New York State Dept. of Motor Vehicles, Connecticut Dept. of Motor Vehicles.

Note: The projection is based on population and household size projections made for Spread City, RPA Bulletin 100. Past and likely future trends in passenger cars per household and in the ratio of commercial vehicles to passenger cars were also considered.

²Inner Ring includes: Essex, Union, Nassau, Richmond, Bergen, Passaic and Westchester

³Outer Ring includes: Middlesex, Fairfield, Rockland, Suffolk, Monmouth, Morris, Somerset, Orange, Dutchess, Putnam

eEstimate

Sources: New York State Department of Motor Vehicles, New Jersey Auto Lists, Inc., Connecticut Department of Motor Vehicles

¹Core includes: Manhattan, Brooklyn, Bronx, Queens and Hudson Counties.

²Inner Ring includes: Essex, Union, Nassau, Richmond, Bergen, Passaic and Westchester

Outer Ring includes: Middlesex, Fairfield, Rockland, Suffolk, Monmouth, Morris, Somerset, Orange, Dutchess, Putnam

^{*}National projections of persons per motor vehicle in 1980-85 range from about 1.4 to 2.2

^{**}Based on estimated figures.

1.2 21.5 57.0 19.0 2.5

**Based on estimated figures.

1.3 Elmer Ring includes: Manhattan, Brooklyn, Bronx, Queens and Hudson Counties.

2.4 Elmer Ring includes: Essex, Union, Nassau, Richmond, Bergen, Passaic and Westchester

3.5 Union, Nassau, Richmond, Bergen, Passaic and Westchester

3.6 Union, Norris, Somerset, Orange, Dutchess, Putnam

Note: The first two columns are based on motor vehicle registrations by county, as in Table 2. The last four columns are derived from the U.S. Census of Housing. Census figures for the Region average 8.5% lower than registration figures in part because they exclude public and corporate ownership.

STATUS REPORT

Tri-State Transportation Commission

The most comprehensive study of New York metropolitan area transportation—to and from the metropolitan area as well as within it—has been underway since August 1961, when the governors of New Jersey, New York and Connecticut established the Tri-State Transportation Committee. It is made up of representatives of the governors but heavily financed by federal highway research funds. The Committee now has several hundred employees and is evolving both a long-range and short-range study program, yet it operates only by the fiat of the three governors and could be dissolved or altered by a change of any of the three administrations. The format makes internal administration difficult since financing must be carried out through agencies of three states. Furthermore, the federal government has expressed concern about alloting large sums to an ad hoc organization.

To establish a more permanent framework for achieving these broad and long-range purposes and for the large-scale financing it demands, New York and Connecticut passed legislation last year transforming this ad hoc committee representing only the governors into a commission representing the states. New Jersey's legislature unexpectedly turned down the legislation. New York legislative leaders then went to New Jersey legislative leaders and later announced that New Jersey's objections had been worked out in a new draft bill. New York adopted the new version; but New Jersey's Republican senators recently announced opposition, apparently sufficient to kill the matching New Jersey bill.

The commission would be the official metropolitan planning body for the Tri-State Region—though the New York bill specifically states that "it is not the intent of this act nor shall it be construed to restrict or diminish any powers heretofore or hereafter conferred by law upon any political subdivision of the state or any governmental agency, interstate or local, including, without limitation, powers relating to planning and zoning."

The Federal Highway Act prohibits the allocation of highway money after 1965 to any metropolitan area that does not have an official metropolitan planning program.

U.S. aid to public transportation

Sen. Harrison A. Williams, Jr.'s bill to provide \$500 million in federal aid to public transportation, which passed the Senate last year but has been held up in the House because a majority appeared to be lacking, may pass in this session, according to the House floor manager of the bill, Rep. Albert Rains of Alabama. President Johnson is giving active support.

Preserving commuter rail service

In 1961, Regional Plan's Commuter Transportation study for the U.S. Senate demonstrated the necessity of maintaining commuter rail service to Manhattan if the business functions of the Region were to be fulfilled. The Ford Foundation subsequently financed a study by the Institute of Public Administration to see whether the commuter service of two lines, the bankrupt New Haven and the New York Central,

could be separated from other railroad operations and run economically as a single operation.

The Institute concluded that the service could not be performed as efficiently by any other form of transportation and that railroad service could be provided more cheaply than it now is if a public agency were formed to invest in its modernization and integrate the commuter operations of the two lines. The report shows that sufficient operating savings could be achieved by integration and modernization—assuming union agreement—to allow the service to come close to breaking even, while paying debt service on the new investment.

The railroads seemed to support the basic lines of the recommendations, but Governor Rockefeller's office challenged the accounting procedure used and maintained its support for continuing present operations with new (but not advanced design) cars for the New Haven, which would save considerable maintenance costs. Under the Governor's program these could be bought with New York State funds and leased to the road. Negotiations to do this are going on.

Taxing the beauty of buildings

New York City's Tax Commission has assessed the Seagram Building more than other buildings of comparable rental potential because it is aesthetically outstanding and therefore has prestige value. The Appellate Division upheld the City's assessment which was based on the cost of construction rather than rental value. Regional Plan Association, joined by the American Institute of Architects, the New York chapter of the American Institute of Architects, the Municipal Art Society and the Fine Arts Federation of New York, has submitted an amici curiae brief to the New York State Court of Appeals where an appeal of the assessment will be heard in May. The brief was written by former Regional Plan President Paul Windels.

Meadowlands development

Governor Hughes has named a commission to recommend procedures for the best possible development of the New Jersey Meadowlands, the largest vacant area in and just adjacent to the Region's Core. Former Governor Meyner is chairman; Regional Plan's New Jersey Committee chairman, George F. Smith, is vice chairman. The commission has been recruiting a staff.

New Jersey middle-income housing bill

A bill to enable builders to construct housing in blighted areas of New Jersey's cities at rents middle-income families can afford has been introduced in the legislature. It is similar to New York's Mitchell-Lama law, providing low interest loans. Loans would be available only if private building for this income group was not going on without aid. The purpose is to assure a balanced city population and inhibit urban deterioration.

Milford A. Vieser, chairman of the Urban Renewal Subcommittee of Regional Plan Association's New Jersey Committee, collaborated with technical experts on government, finance, mortgages and loans in drafting the bill. It follows the policy statement approved in November by the New Jersey Conference.

BOOKSHELF

God's Own Junkyard: The Planned Deterioration of America's Landscape by Peter Blake. Holt, Rinehart and Winston, 1964. 144 pp. \$4.50, paper \$2.95

An indictment of politicians, businessmen, and the public for the ugliness of our cities and countryside, "written in fury" by the managing editor of Architectural Forum and

amply illustrated with photographs.

Metropolis: Values in Conflict, edited by C. E. Elias, Jr., James Gillies, and Svend Riemer. Wadsworth Publishing

Co., Inc., 1964. 326 pp. \$3.50

A stimulating potpourri of conflicting opinions on urbansuburban issues—the background reading for National Educational Television's discussion series, "Metropolis: Creator or Destroyer?"

The Withering Away of the City by York Willbern. University of Alabama Press, 1964. 139 pp. \$3.95

An examination by a distinguished professor of political science of the adjustments in governmental structure needed for the mobile pattern of life characterized by the new spread pattern of urban settlement.

Metropolis in Transition: Local Government Adaptation to Changing Urban Needs by Roscoe C. Martin. Housing and Home Finance Agency, Washington, D.C., 20410, 1963. 159 pp.

Case studies of procedures used by nine metropolitan areas in the U.S. to meet new problems and opportunities.

Government in Metropolitan Areas (New York Metropolitan Region). Joint Hearings before Subcommittees on Intergovernmental Relations of the U.S. Senate and House Committees on Government Operations, June 7, 8, and 10, 1963. U.S. Government Printing Office, Washington, D.C., 1963. 326 pp.

Statements by elected officials, private groups, and individuals of the New York area on government organization

to meet metropolitan problems.

National Survey of Metropolitan Planning. U. S. Government Printing Office, Washington, D. C., 1963. 121 pp. 50¢ The most complete tabulation of the jurisdiction, structure, activities, and financing of metropolitan planning bodies in 142 Standard Metropolitan Statistical Areas, compiled by the Housing and Home Finance Agency and the American Society of Planning Officials.

Economic Study of the Pittsburgh Region. Pittsburgh Regional Planning Association, 200 Ross St., Pittsburgh, Pa. University of Pittsburgh Press, 1963. 3 vols., \$26.00 A detailed analysis of the six-county region centered on Pittsburgh, similar to Regional Plan's Harvard Study. Volume I examines the past and present economy of the region, Volume II looks at each county, Volume III projects trends. Major findings will be summarized later this year.

Waterfront Development: A Planning Approach. Office of the Mayor/Division of Planning, Jersey City, N. J., 1964.

61 pp.

\ long-range plan for development of industrial, commercial, residential, and recreational areas on presently unproductive land that would radically change the appearance and use of Jersey City's waterfront.



Regional Plan Association

230 West 41st Street New York, N.Y. 10036 LO 5-1714

Regional Plan Association, a nonprofit civic organization, works for the satisfactory development of the three state metropolitan region surrounding the Port of New York.

BOARD OF DIRECTORS

President
James S. Schoff
Executive Vice-President
C. McKim Norton

Vice-Presidents
Cesar J. Bertheau
Walter D. Binger
Luther Gulick
Willard G. Hampton
Otto W. Manz, Jr.
Treasurer
John W. Larsen
Max Abramovitz
Cowles Andrus
George L. Bliss
Charles F. Bound
Amory H. Bradford
James W. Carpenter
Ralph W. Crolly
Charles A. Cronheim
Thomas J. Deegan, Jr.

James W. Carpenter
Ralph W. Crolly
Charles A. Cronheim
Thomas J. Deegan, Jr.
Percy L. Douglas
Paul H. Folwell
Frederick H. Groel
Mason W. Gross
Albert Mayer
Albert W. Merck
Arthur R. Nelson
Otto L. Nelson, Jr.
Harold S. Osborne
William S. Renchard
Alfred Rheinstein
George A. Roeder, Jr.
Elmo Roper

Wallace S. Sayre
Orville H. Schell, Jr.
George F. Smith
Perry Coke Smith
Harry Van Arsdale, Jr.
Milford A. Vieser
Howard B. Wakeman
John Wilkie
Paul Windels, Jr.
David L. Yunich

Executive Director
John P. Keith

Membership in Regional Plan Association is open to individuals, corporations, and public and non-profit organizations. For information, write the membership secretary. Members receive all research bulletins and periodicals of the Association, including Regional Plan News six times yearly, Zoning Bulletin quarterly and New Homes annually and may register without charge at the annual Regional Plan Conference.

Regional Plan News was prepared by the Association staff, principally Boris Pushkarev and Philip Israel, and written by William B. Shore. It is not a policy statement of the Association; it is simply a round-up of recent events and ideas.

maps: Gustavo Porta design: D. H. Acheson printing: DeTroy-Bergen, Inc.



New York, N. Y. 10036 230 West 41st Street

Regional Plan Association

Report on the development of the New York Metropolitan Region

NO. 73-74 MAY 1964

BULK RATE
U.S. POSTAGE
PAID
New York, N.Y.
Permit No. 3554