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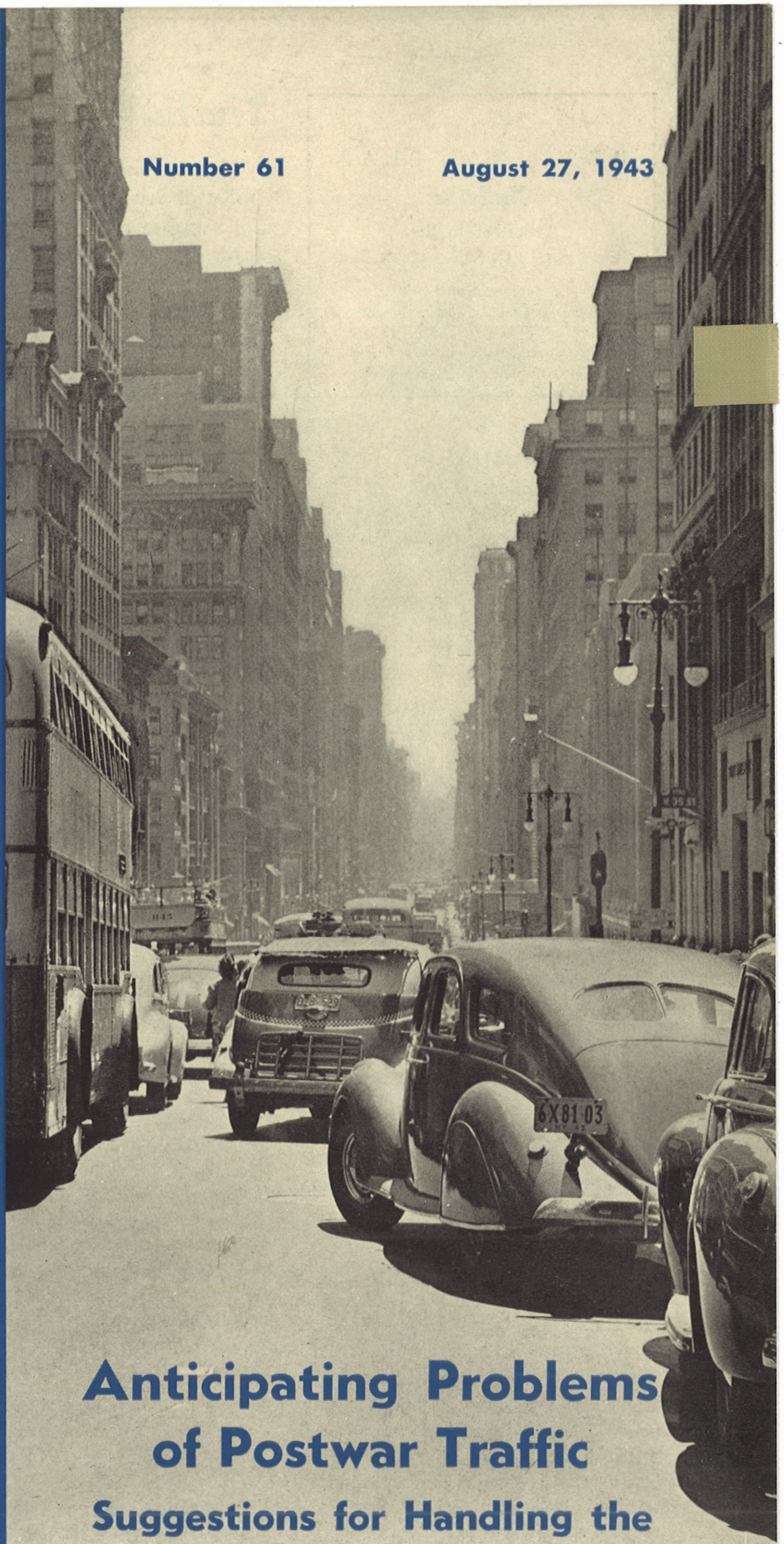

Anticipating Problems of Postwar Traffic

Suggestions for Handling the Return of Congestion

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The Regional Plan Presents First of Series on Planning to Meet Postwar Community Problems

With increasing interest and activity being devoted to community problems which will return with the end of the war, the coming REGIONAL PLAN BULLETINS will present information and suggestions of value in the preparation of practical plans to meet postwar problems.

This bulletin deals with the problems of traffic congestion and parking in central business districts of the larger cities of the Region. The recent comprehensive "Traffic and Parking Study" of central New York City business districts has been drawn upon for material of general value to all the larger central districts of the Region.

This bulletin has been prepared under the direction of C. Earl Morrow, planning engineer of the Association staff.

Traffic Problems Baffling, Not Hopeless

Many cities were involved in a seemingly hopeless struggle against traffic difficulties before the scarcity of gasoline and rubber reduced the number of motor vehicles operating and also their use. No one panacea will solve all the complicated aspects of this problem, which is sure to return in greater intensity, but by a coordinated attack on all of the phases of congestion the city can be made a much more efficient place for working and living.

The First Step . . .

. . . is a thorough understanding of the problem utilizing all the information available and supplementing it with new studies. This comprehensive study can be made most effectively with the cooperation of city officials and other organizations closely identified with the problem.

A Broad Approach Needed; Piecemeal Planning Will Fail

In the Region with its nearly 500 separate governmental entities the intercommunity vehicular travel is enormous. A glance at the traffic flow map in Figure 1 is convincing on that score. A great network of highways has been created to take care of regional traffic movement. The primary problem now lies in accommodating the vehicles when they arrive at their destination in the several central points of this regional highway network.

No one in the Region can be complacent or unconcerned about the improvement of traffic conditions in its central districts. He may live in the suburban area, but when he drives to the larger central districts he is faced first of all with the necessity of driving through narrow streets along with thousands of other cars, and then perhaps hunting vainly for a free parking space or paying a relatively high fee for parking in an inconvenient place.

Even the suburbanite who never comes into the central areas still has a stake in their efficiency, since many of the things he buys locally are first sent to central districts and then distributed by truck to suburban communities. Congestion increases distribution costs and the prices he pays.

The plan must be comprehensive in character, both as to the area it affects and the various phases of traffic control it includes. Any piecemeal program to relieve congestion is doomed to failure and waste of money.

Now Is the Time to Get Plans Ready

The time to plan is now, so that the measures worked out will not have to be hastily prepared under pressure of emergency. An orderly plan consisting of well-timed steps is needed instead of a disconnected series of piecemeal efforts.

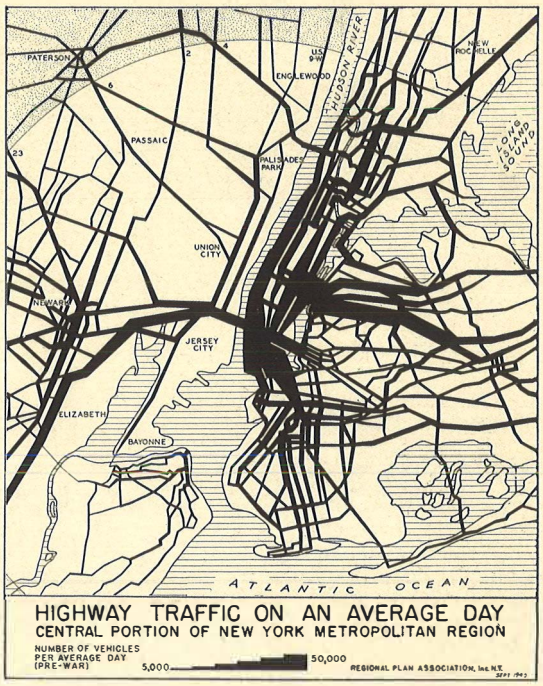


Figure 1

TRAFFIC CONGESTION IS OBVIOUSLY A REGIONAL PROBLEM.

Congestion in Central Districts Primarily A Terminal Problem

Downtown Areas Not Adapted for Traffic They Serve

Highways, roads and streets have a dual function which is deep-rooted in the traditions of this country. They may be used for movement or for access to private abutting property, including the right to stop on the pavement for loading and unloading. The relative importance of movement and stopping varies from the dead-end residential street, where the only movement is occasioned by a few cars that serve the houses, to the metropolitan artery with its continuous stream of vehicles that have no relation to abutting property. In central districts the stopping of vehicles is as important as vehicular movement.

With a street and block pattern that crystallized before the coming of the motor vehicle, the downtown districts are not well adapted and cannot readily be made to accommodate all the cars and trucks that are attracted by the central office, business and amusement establishments.

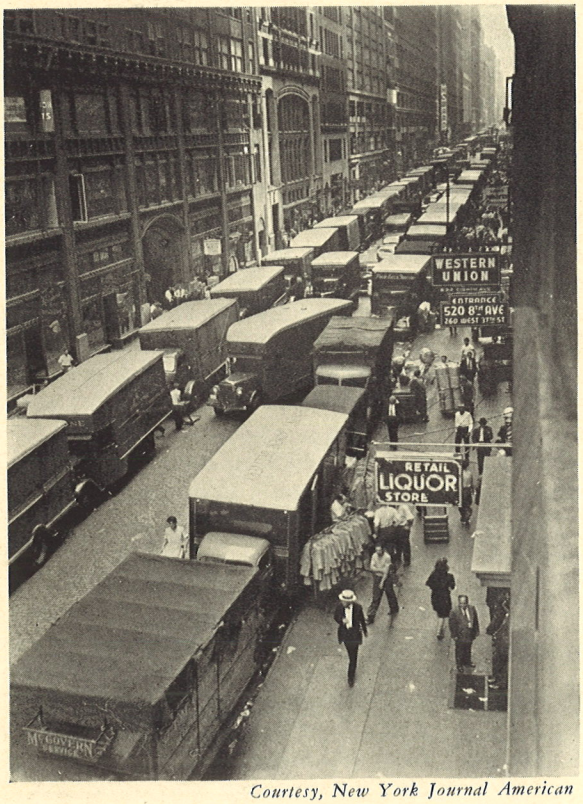
Mass transportation, either railroad, rapid transit, trolley or bus, must be counted on to bring the majority of people into these large central districts. However, all necessary steps must be taken to free the central district from the inefficiency, discomfort and inconvenience caused by traffic congestion which will be with our cities again at the end of the war.

One method of relief is to provide additional facilities for vehicular movement in the form of widening of streets, elevated highways, marginal drives and by-passes. Another method is to provide offstreet loading and parking spaces and garages for the vehicles which need to stop.

To the extent that adequate parking and loading facilities are provided, the need of expensive street widenings and additional traffic arteries may be lessened.

However, the stopping of cars is so important to the operation of central areas that it cannot be prohibited at the curb until adequate provisions are made for offstreet loading and parking.

Those who park passenger cars for long periods have the weakest claim on curb space. They should therefore be the first ones to be forced to park in offstreet facilities in the central districts.



Courtesy, New York Journal American

A Place to Stop is as Important as Space for Moving.

Increased traffic to central areas

The trend in the number of persons entering southern Manhattan on an average business day is illustrative of the trends (although not the amounts) in most other large centers. In the eight years following 1924, persons entering Manhattan below 61st Street increased from 2.3 millions to 2.7 millions. In the next eight-year period a further increase occurred of two-thirds of a million, bringing the total in 1940 to 3.3 millions.

This means that there was an increase of 42 per cent in daily influx between 1924 and 1940. Compare this with the 22 per cent increase in the population of the Region during the same period and it is obvious that the tendency to come into the central area daily is increasing more rapidly than is population.

This fact is not surprising when the process of decentralization is taken into account. When people move out of the central part of the city, the head of the family, at least, usually continues to work in the center. To the extent that residential decentralization occurs more rapidly than decentralization of employment, an increased flow of transportation is bound to be required. This is taking place on a proportionate scale in most of the central business districts throughout the Region.

Even where job decentralization takes place soon after the movement of residents, there is some additional travel since certain types of shopping would still be done in the main center and occasionally trips for amusement and visiting of friends would be made. Not only is the number of people entering southern Manhattan increasing but the percentage of the total who come in by motor vehicles is also increasing. In 1924 the percentage was 14.6; in 1932 it was 20.6; and in 1940 it was 23.8. In other central districts of the Region not as heavily served by rail and rapid transit as is southern Manhattan, this trend may be more pronounced.

Highways have been improved to carry this increasing vehicular traffic to and from the larger centers, but comparatively little provision has been made for stopping in the centers. Emphasis in the future should be on the terminal phase of the problem.

Solving the Problem

A. Through Facilitating Vehicular Movement

The principal opportunities for facilitating movement of vehicles in central districts are: regulation of the use of curb space, control of trucks and buses, and new or improved highway facilities.

Regulation of the Use of Curb Space

Street space next to the curb has a wide variety of uses in central districts. In addition to parking it is used for loading and unloading, taxicab stands, bus stops, alighting of passengers from cars and taxicabs, entrances to private driveways, pedestrian crossings and for access to fire hydrants.

The importance of some of these uses varies with the particular street and block. In a wholesale business district, for example, loading and unloading are important; along the avenues of travel, space for bus stops is required; in hotel and office districts taxicab stands are in demand.

A well-studied plan is needed to regulate all the curb space in the central business area so that it yields the greatest return to the city and to the people who use the space.

In the most intensely congested sections loading and unloading will eventually have to be provided for in off-street spaces. Until this can be brought about space at the curb must be used for this purpose. In the case of large new buildings, whether lofts, hotels, department stores or office buildings, they can be required by zoning to provide such offstreet space at the time the building is constructed. Unless such zoning could become retroactive, say in a period of ten years, not much relief could be expected through zoning ordinances for a long time.

The various uses made of street space next to the curb are responsible for much of the traffic congestion. In peak traffic periods the importance of moving traffic on certain sections of certain streets is such that all of the street pavement should be free for moving traffic. One car or truck stopped along the curb often plugs up a whole lane of traffic. Parking, taxicab stands and loading would have to be prohibited during hours of peak traffic if the whole width of street is needed during these hours for unimpeded vehicular movement.

For example, in the Association's recent "Traffic and Parking Study" a system of express streets was proposed for Manhattan which would be allotted to movement entirely in rush hours. These express streets are segments of one-way crosstown streets, spaced at intervals between Union Square and Central Park, and extending from Third Avenue to Ninth Avenue.

Some of these streets require widening of the roadway pavement by narrowing the sidewalks, so that they will have adequate width for efficient traffic movement when the recommended regulations are applied to them.

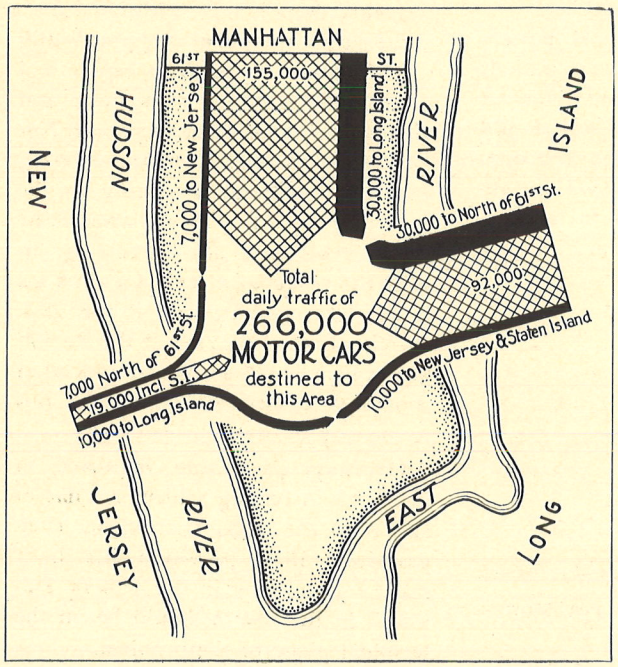


Figure 2

SOME TRAFFIC PASSES THROUGH CENTRAL AREAS WITHOUT STOPPING. (Data for a typical business day in 1940.)

The following traffic regulations are proposed for the designated "express" streets in the center of New York City. Parking of private passenger cars would be prohibited between 7 A.M. and 7 P.M. on weekdays; loading and unloading would be prohibited in the rush hours, namely, between 7 A.M. and 11 A.M. and between 4 P.M. and 6 P.M. Taxi stands would be vacated on these streets in the rush hours so that, except for passengers alighting or mounting at the curb, there would be four moving lanes at these times. In the rush hours parking would be prohibited on the avenues also.

Where parking is permitted it is necessary to enforce strict regulations on the spacing and the length of parking time of the cars. A useful device for accomplishing this in central districts is the parking meter.

To permit an experimental trial of meters in New York City it will be necessary to amend the New York State Vehicle and Traffic Law to legalize the use of parking meters. For all other municipalities of the Region laws have been enacted permitting their use. Many communities have already installed parking meters.

Trucks and Buses Responsible for Much of the Congestion

Very large trucks, whether moving or stopped, do not fit the narrow streets of central business districts. The remedy is to keep them out at the time of day when they would cause the worst congestion.

A precedent for a regulation of this kind is found in the "Traffic Regulations of the Police Department of the City of New York" which became effective October 1, 1935. It states that "no driver of a vehicle or of a combination of vehicles for the transportation of merchandise having an overall length of 33 feet or more, including load and bumpers, shall at any time enter or traverse" certain designated streets in the Washington Market area of southern Manhattan.

In the "Traffic and Parking Study," four areas in New York City, three in Manhattan and one in Brooklyn, were selected and recommended by the Association as areas from which very large trucks should be excluded. Within them are high-class retail stores, theatre districts, large department stores,

large office buildings, hotels, high-class apartment areas, and Manhattan's two railroad passenger terminals.

Bus Terminals

Bus terminals, in order to serve the convenience of the passengers must locate in or near the congested centers of cities. Here they come up against the regular vehicular and pedestrian traffic of the area. In smaller population centers it may be possible to so locate the terminal or terminals that a minimum of disturbance is created in the traffic of the area. In larger centers special facilities for bus movement may be justified.

In the case of midtown Manhattan on the West Side, where buses through the Lincoln Tunnel create quite a disturbance as they approach and leave their nine separate terminals, it has been proposed by the Association, the Port of New York Authority and the Borough President's Office that a union terminal be constructed with an offstreet approach from the Lincoln Tunnel.

The Association has made studies of a corresponding need on the east side of midtown Manhattan near the plaza of the Queens Midtown Tunnel. Here the problem includes passenger car parking facilities as well as a bus terminal.*

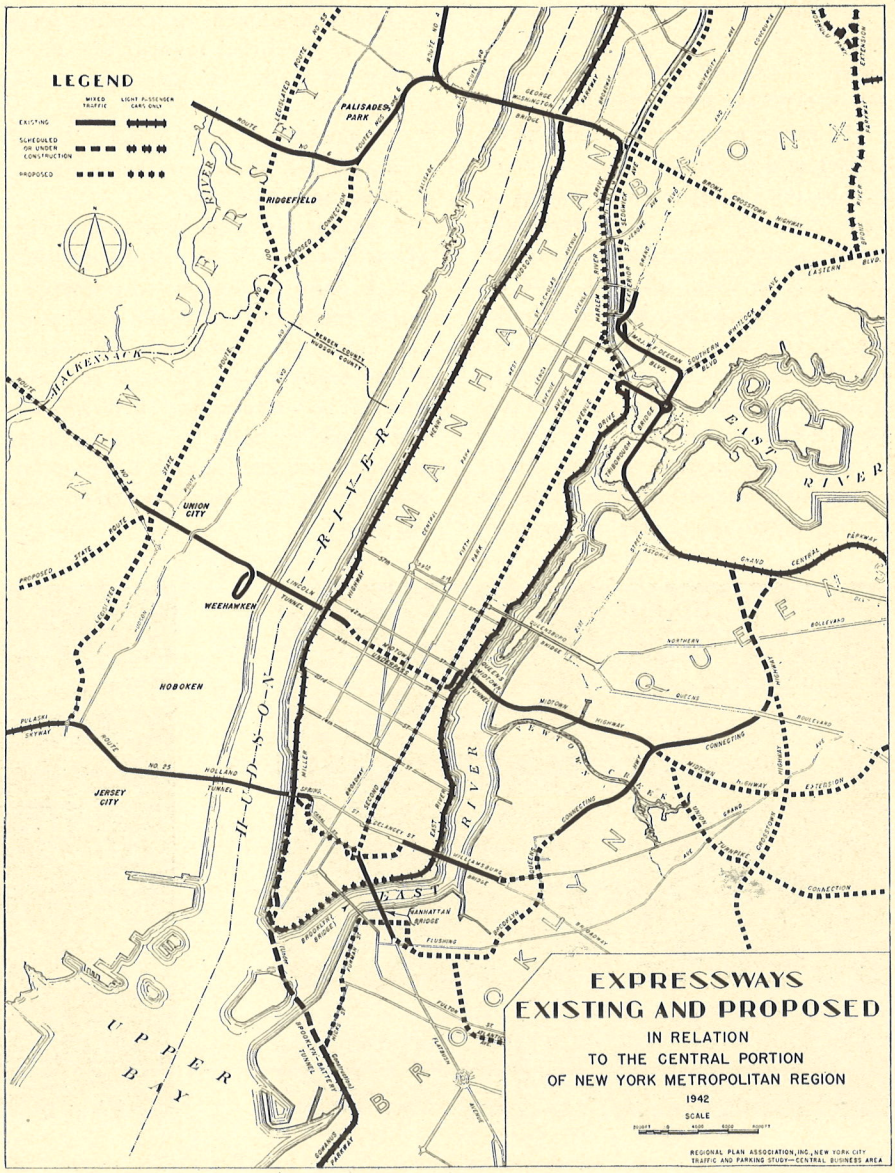
New Highway Improvements May Be Needed

The huge volume of traffic that tends to pour into the central area, is limited only by the capacity of the area itself or by the channels of approach. It is not limited in normal times by the number of motor vehicles registered or the willingness of people to drive in when provided with good facilities.

The radial system of routes that makes possible the daily ebb and flow of traffic can often be relieved of some of its difficulties, and more important still, the central area may be relieved by means of circumferential or bypass routes that keep out of the central district traffic which comes into it only because there is no convenient way to get around it. An origin and destination study of traffic is needed to determine how important a bypass route would be in avoiding needless and costly congestion.

Figure 2 indicates the quantity of motor vehicles that come into southern Manhattan, but are destined for points beyond. The diagram shows the value of the West Side Elevated Highway and the East River Drive in keeping through traffic off the street system of Manhattan. It also points to the need for an offstreet crossing in the Canal Street district.

A broader area than the immediate vicinity of the central business districts must be encompassed, however, if the full advantage of the bypass principle is attained. The problem is regional. In the case of Manhattan it is necessary to provide certain new facilities in the boroughs of Brooklyn, Queens, and The Bronx, and in New Jersey. Figure 3 shows additional express routes that will eventually be needed in the center of the New York-New Jersey-Connecticut Metropolitan Region. By means of these routes much traffic can be kept out of Manhattan entirely, and much can be kept out until it is opposite its destination point in Manhattan.



* For detailed studies of these terminals see "Traffic and Parking Study", Regional Plan Association, 1942.

Figure 3

A Well-Rounded Highway System is a Basic Requirement to Relieve Traffic Strains.

Solving the Problem

B. Through Provision of Terminal Facilities

The primary object of providing terminal space for motor vehicles may be to release pavement area for movement, but there are other advantages. For example, in the case of trucking a more efficient service can be maintained, saving on the overall cost of transporting goods. In case of private passenger cars it makes possible a reasonable use of the limited curb space, reserving it for short-time parkers.

Offstreet Loading and Unloading

The confusion resulting from the majority of trucks is due in a great measure to loading and unloading. This condition can be improved in a long-term program of construction of offstreet loading spaces.

For large buildings requiring considerable truck access, loading spaces can be provided at the time the building is constructed, without an unreasonable additional expense. Zoning ordinances can incorporate such requirements.

The initial requirements for offstreet loading and unloading spaces as accessory to certain types of buildings in New York City became effective under the Revised Zoning Resolution of the City of New York, adopted June 28, 1940. These stipulate that new buildings or parts thereof hereafter used for manufacture, storage of goods display, or for a department store, hotel or hospital be provided with a truck loading or unloading berth for each 25,000 square feet and fraction thereof exceeding 5,000 square feet of aggregate gross floor area. Existing buildings not now used for such purposes cannot be used for them without complying with the same provisions.

Three types of changes in the existing provisions were recommended by the Association:

1. An extension to include adequate loading and unloading space as accessory to large office buildings.
2. The establishment of a sliding scale in the permitted number of square feet of gross floor area per truck berth.
3. A requirement that existing buildings install similar facilities after a fixed period of time.

A similar provision in a smaller city (New Rochelle, N. Y.), stipulates that:

"All loft buildings, department stores, retail and wholesale food markets or stores, warehouses or supply houses erected after the date of adoption of this Ordinance shall provide one unloading berth for motor vehicles of 200 square feet for each 8,000 square feet of gross floor area devoted to such purposes."

This does not apply to buildings smaller than 8,000 square feet.

In the case of smaller buildings it is often possible to establish offstreet loading service spaces cooperatively in the open spaces in the middle of the blocks. This cannot be done directly but certain regulations, which would improve conditions anyway, would also tend to induce the cooperative effort.

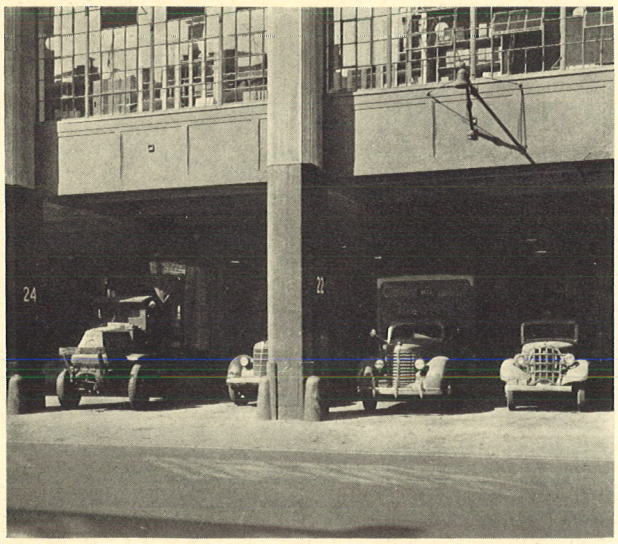
Among these are prohibition of the classification of freight on the sidewalk, restriction of the hours that curb loading could be carried on and reduction to a minimum of curb zones assigned to loading and unloading.

In some cities with irregular block and street patterns this can be done more readily than in New York City. In the centers of large blocks parking space as well as loading space could be provided.

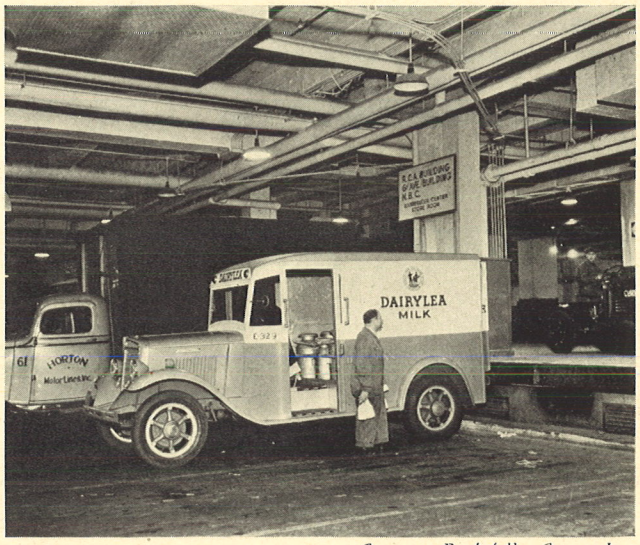
Supply of Parking Lots and Garages

Central districts that are not adequately supplied with parking lots, garages or loading spaces face the possibility of a marked decline, if they have not already felt its beginnings. The efficiency of these areas is decreased by congestion to such an extent that business tends to move to outlying locations, which are less crowded.

How far the municipality should go toward correcting this condition may properly vary, but in any case the problem should be an active concern of the community. It cannot afford to ignore the situation.



Courtesy, Port of New York Authority



Courtesy, Rockefeller Center, Inc.

OFFSTREET LOADING AND UNLOADING SPACES CONSTITUTE PART OF THE ANSWER.

One thing it can do without much expense. That is to find out why private enterprise has not done something. It may be possible, when the facts are known, to devise some method of inducing private capital to provide the necessary facilities.

The study of midtown Manhattan revealed that one of the economic weaknesses of parking garages was due to inadequate enforcement of restrictions on curb parking, thereby enabling the long-time parker to "hog" the space that might better be used by short-time parkers. Another cause was poor locations of many parking garages, partly the fault of the zoning ordinance.

Some municipalities have taken the situation in hand in a bold way and have provided parking facilities. Garden City, L. I., is a notable example of a suburban center taking such action in the New York Metropolitan Region.* For larger centers, getting into the business of building and operating public facilities is regarded by many as a last resort.

Instead of putting the whole problem in the hands of a parking authority in New York City, the Association proposed an administrative agency with the following five functions:

1. Research and determination of need and location of new parking facilities.
2. Coordination of curb and offstreet parking facilities.
3. Regulation of operations of offstreet parking facilities to conform to minimum standards.
4. Promotion of parking developments, where needed, either by private capital or by existing quasi-public agencies (such as the Port of New York Authority).
5. Building and operation of offstreet parking facilities either by the city itself or a parking authority, in specific locations where private capital cannot or does not act.

* Information Bulletin No. 45 "New York World's Fair of Significance to City and Regional Planning."

Standards for Control of Type and Operation of Parking Garages Suggested for Central Districts in "Traffic and Parking Study" for New York City. Regional Plan Association. 1942.

(a) Within specified central areas, each garage shall have entrances and exits on each of two parallel, or approximately parallel, and adjacent streets (in Manhattan, this would mean on two separate streets).

(b) No part of any vehicular entrance or exit shall be located within less than 150 feet of the corner of a block.

(c) No vehicular entrance shall be located within 200 feet, along a street, of an exit from or entrance to: a public school, a public playground of one-half acre or more in area, a hospital maintained as a charitable institution, a public library, or a public museum; also no portion of any such premises or building may be within 200 feet of any hospital maintained as a charitable institution. The same provisions shall apply to the minimum permissive distance of such vehicular entrance or garage premises from the site of any public school, park, playground, hospital, library, or museum shown on the adopted Master Plan of the City Planning Commission.

(d) The maximum capacity of any garage operated as a separate unit and served by common entrances and exits shall not be such as to exceed, in combination with other established or approved garages, a maximum desirable capacity for the block within which it is located, as determined by the administrative agency in control. In general, a 500-car garage is deemed a maximum desirable size in central areas.

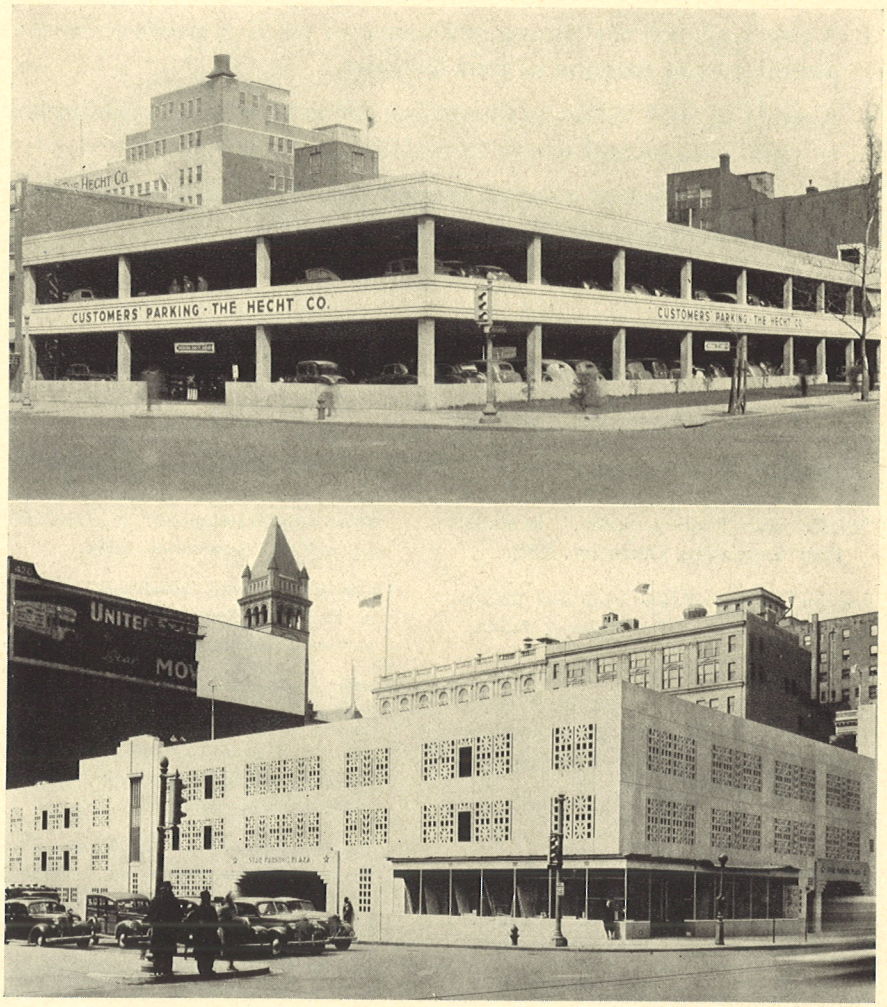
(e) The outward appearance of the building shall be such that it will equal the standards set by existing buildings on adjoining or opposite lots and will not detract from the appearance and values of the neighborhood.

(f) Direct circulation between the required vehicular entrances or exits, as provided under paragraph (a), shall be provided in the design of the garage and shall be kept open.

(g) There shall be floor space within the building on the entrance floor, and not normally used for the parking of cars to provide a reservoir for the receipt and delivery of cars sufficient in area to prevent congestion on the abutting streets during hours of peak operation.

(h) An attendant shall direct the movement of any cars across the adjoining sidewalks at each entrance and exit.

(i) Any services in the form of mechanical repairs or the sale of gasoline shall be limited to emergency services unless a special permit is granted as a variance by the Board of Standards and Appeals.



Courtesy, Public Roads Administration

LOCATION, DESIGN AND OPERATION OF PARKING GARAGES ARE IMPORTANT.

A Comprehensive Program for Action Now

Much Can Be Done to Prepare the Way for Better Handling of Peacetime Traffic

Private enterprise, if left unaided and unguided, will establish at best only a patchwork of unrelated facilities which may or may not solve the parking problem.

In order that the municipality may be able to provide the proper direction, it must make a city-wide plan for parking based upon a thorough factual background. This parking plan should logically be tied in with, and be part of, a community master plan. The location of parking lots or garages should be related to the location of business, industrial and other areas which attract automobiles, buses and trucks. They should also be properly located with regard to traffic arteries, transportation lines and their terminals.

The preparation of a comprehensive parking plan requires:

1. A well-organized record of existing offstreet and curb spaces that are available, including their capacities as well as locations.
2. A study of the areas which attract substantial automobile traffic to determine the capacity of parking space needed and the best locations for it.
3. A check against the zoning ordinance to see if it needs revision to permit proper location of new facilities.
4. A study of land values to determine the areas where it is economic to build garages and where to establish parking lots.
5. The preparation of a set of general parking facility specifications that would apply to different types of location.

Traffic and parking in recent years has reached out into nearly every activity of human life. Measures designed to regulate the moving and stopping of motor vehicles will thus have repercussions on many complex phases of the city's existence.

Many agencies are concerned with parking and related problems: the city government through its departments which deal with planning, constructing and supervising the facilities used by motor vehicles and with the control and operation of the vehicles themselves; the automobile user; concerns making, selling and servicing automobiles; business and industrial establishments dependent upon motor vehicles to supply their materials and products and for the transportation of their workers.

It is necessary to bring all these interests together in a cooperative effort to solve the problems of traffic and parking in congested central districts.

When the end of the war will come, with the resumption of this serious peacetime problem, it is impossible to say. It may come suddenly. Too much emphasis cannot be placed on the urgency of planning now to be ready for that day.

Helpful References on Traffic and Parking Problems

"Traffic and Parking Study," Regional Plan Association, December, 1942.

Regional Survey of New York and Its Environs, Volume III, "Highway Traffic," 1927.

Information Bulletin No. 30 "Parking Facilities Found Inadequate in Communities of the Region," Regional Plan Association, May, 1936.

Information Bulletin No. 33 "The Freeway, a Modern Highway for General Traffic in Metropolitan Areas," Regional Plan Association, December, 1936.

Information Bulletin No. 46 "Defects of Existing Subdivisions Suggest Need for More Effective Control," Regional Plan Association, September, 1939.

"Traffic Engineering Handbook," Institute of Traffic Engineers and National Conservation Bureau, 1941.

"Traffic Accidents and Congestion," Maxwell Halsey, 1941.

"Parking and Terminal Facilities," American Automobile Association, March 6, 1940 (mimeographed).

"A Traffic Control Plan for Kansas City," Erskine Bureau, Harvard University, The Chamber of Commerce, Kansas City, Mo., 1930.

"Planning for City Traffic," The Annals, American Academy of Political and Social Science, September, 1927.

"Regulation and Licensing of Automobile Parking Lots," Report No. 183, the U. S. Conference of Mayors, October, 1939.

"The Law of City Planning and Zoning," Frank B. Williams, Macmillan Company, 1922.

"Too Many Cars—Too Little Space," Publication No. 58, New England Regional Planning Commission, November, 1939.

"The Problem of Parking Facilities," Proceedings, 20th Annual Meeting, Highway Research Board, Washington, D. C., 1940.

"The Parking Problem in Central Business Districts," American Society of Planning Officials, Chicago, 1938.