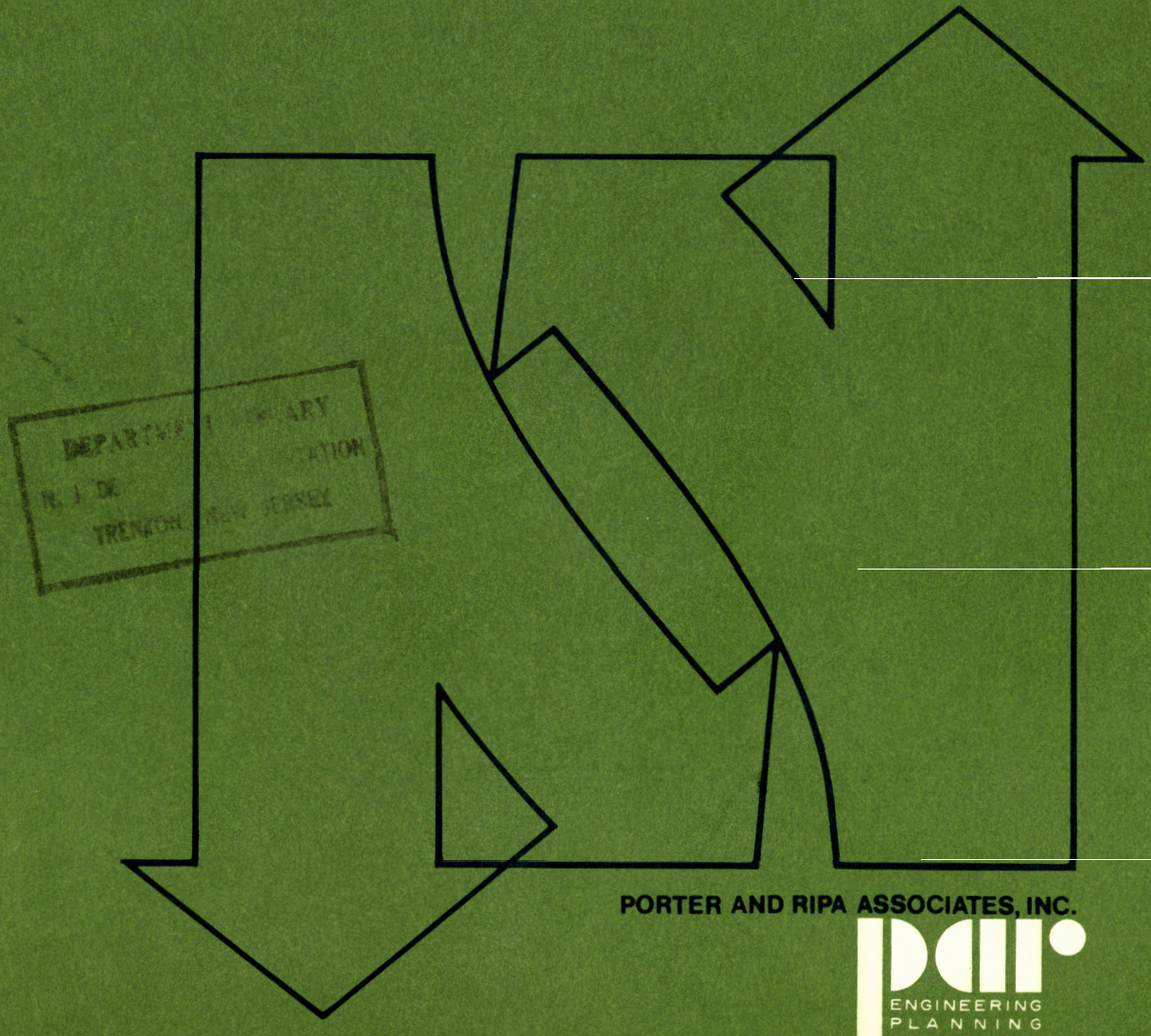
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for
TOWN OF WEST NEW YORK
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NEW JERSEY DEPARTMENT OF TRANSPORTATION



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In Cooperation With

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

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LOUIS C. RIPA
CHAIRMAN OF THE BOARD

November 15, 1973

The Honorable John C. Kohl
Commissioner of Transportation
New Jersey Department of Transportation
1035 Parkway Avenue
Trenton, New Jersey 08625

The Honorable Anthony M. DeFino
Mayor of the Town of West New York
Municipal Building
428 - 60th Street
West New York, New Jersey 07093

Gentlemen:

We are pleased to submit our TOPICS study report for the Town of West New York. This report has been made possible through the efforts of the Town of West New York with the cooperation of the New Jersey Department of Transportation and the Federal Highway Administration of the United States Department of Transportation.

The pre-selected study system envisaged the investigation of existing conditions along just under 12 miles of streets. In order to arrive at a comprehensive appraisal of all factors contributing to the prevalent traffic patterns in so densely a populated community with such a tightly knitted street grid system as is the case in West New York, practically the entire town's street network of close to 25 miles came under observation and study.

To increase traffic capacity and safety in West New York, a series of recommendations is made relative to areawide, arterial and specific location improvements. These are tied to a staged improvement program which will permit their effective implementation over a period of no more than three years.

We wish to express our thanks for the cooperation brought to this study by all agencies interested in its development, and to express our appreciation for the opportunity to have been of service to both the Town of West New York and the New Jersey Department of Transportation in a so much needed traffic improvement program.

Very truly yours,

PORTER AND RIPA ASSOCIATES, INC.

Louis C. Ripa

Louis C. Ripa, P.E., I.T.E.
President and
Chairman of the Board

ACKNOWLEDGEMENTS

The preparation of this report was made possible through the cooperation and efforts of many people who provided necessary information and timely input.
Of particular help were--

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IMPROVEMENT PROGRAM

Three fundamental factors were carefully taken into account as the basis for all improvement recommendations made for the Town of West New York:

- The high density of population
- The lack of available space
- The tightly knit street network.

All solutions are founded on what is practical within the restraints of these conditions. Recommendations are made for the improvement of:

- The quality of traffic flow
- The safety of both motorists and pedestrians
- The definition and control of intersections
- The parking situation
- The traffic signal system and its responsiveness to traffic demands.

The approach to the solutions of West New York's problems with regard to traffic flow and traffic safety was made from three interlocking directions:

- AREAWIDE RECOMMENDATIONS - concerning principally planning, operational devices, parking usage, road-user behavioral patterns and enforcement.
- ARTERIAL RECOMMENDATIONS - concerning principally changes to the direction of traffic in particular segments of streets, as well as traffic signal progressions along major arteries.
- SPOT IMPROVEMENTS - with detailed recommendations at specific locations.

The basic philosophy underlying the spirit of these recommendations is to realize improvements without destroying the existing framework of the Town's traffic operations. This expresses itself in these terms:

- Enforcement of traffic regulations -- not without an educational program to involve the public.
- Extension of parking restrictions -- not without planning for replacement parking.
- Intersection improvement -- not without respect for private property.
- Upgrading of traffic signal system through selective inactivation -- not without recommendations for selective retention and improvement of remainder.

The study phase of the TOPICS program must be translated into reality by an early implementation stage to bring the benefits as soon as possible to the people of the Town of West New York.

I. THE TOPICS PROGRAM

In order to give added meaning to the nationwide Interstate Highway System, where traffic expeditiously handled by these facilities has to intermix with local traffic on a restricted urban roadway network, the U.S. Department of Transportation administers the recently implemented

URBAN TRAFFIC OPERATIONS PROGRAM TO INCREASE CAPACITY AND SAFETY

The TOPICS Program, for short, is authorized by Section 10 of the Federal Aid Highway Act of 1968. Having seen its first application in a demonstration model as early as 1967, the program is designed to benefit urban areas of over 5,000 inhabitants to cope more efficiently with the growing complexities of increasing traffic flow and diminishing capacity characteristics in towns. These conditions, and their effects on safety, accident occurrence and driver satisfaction, are to be assessed and recommendations made for their improvement. Improvements under the program may include, but are not necessarily limited to:

Channelization of intersections.

Widening of traffic lanes.

Providing additional traffic lanes on approaches to intersections.

Control systems to make traffic signal operation responsive to traffic conditions.

Diverting traffic from congested areas.

Reversing direction of traffic.

Addition and upgrading of traffic control signs, pavement markings, signals and other devices.

Upgrading of roadway lighting.

Restricting curb parking to increase capacity and safety.

Under the TOPICS Program, the cost of the STUDY and REPORT PHASE is borne:

50% by the Federal Highway Administration,

37.5% by the State of New Jersey,

12.5% by the Town of West New York.

Upon approval and acceptance of the TOPICS report, the Town of West New York will be eligible to receive Federal Aid for the IMPLEMENTATION PHASE on a 50-50% basis to carry out the recommended improvements.

II. THE STUDY AREA

The portion of New Jersey which is bounded by the Kill Van Kull, the Hackensack River, Overpeck Creek and the Hudson River almost forms a mirror image to the island of Manhattan. In fact, it shares many of the characteristics of that New York City Borough. The economic life and transit facilities of both are closely tied together. The Town of West New York commands an important position on the New Jersey side of these Hudson River settlements. The word "commands" is more than apt in this context because the heights of what is now 62nd Street in West New York were for very many years the favorite picnic grounds for New York City dwellers. They would cross the river on the old Bull's Ferry to view their city's skyline from here.

The location of West New York has today a different significance. The town is equidistant between the Holland Tunnel and the George Washington Bridge. It straddles the major arterial roads between these points and, in addition, lies only two miles north of the Lincoln Tunnel. In fact, the town holds the key to the roadway system connecting the Lincoln Tunnel to the George Washington Bridge. West New York is thus close to the heart of the nation's largest metropolitan transportation center (Plate 1).

Inter- and intra-state as well as inter- and intra-county commerce courses through such major arteries of West New York as J.F. Kennedy Boulevard West, Bergenline Avenue, Park Avenue, J.F. Kennedy Boulevard East, River Road and 60th Street. The most direct lines of travel and frequently used routes between the two Hudson River Tunnels and the George Washington Bridge are via J.F. Kennedy Boulevard East, or Park Avenue and 60th Street, and thence along River Road.

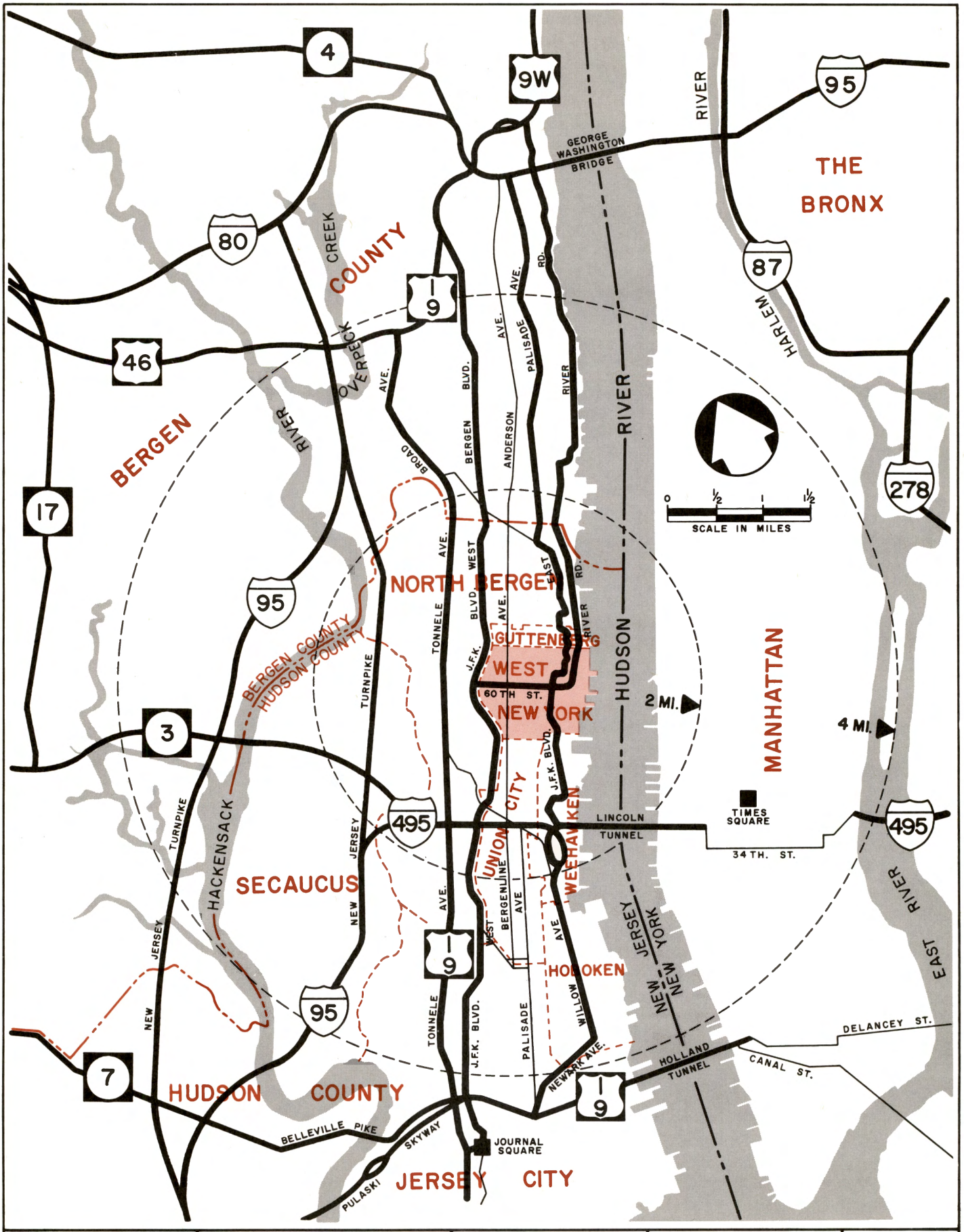
The only alternatives are Tonnele Avenue (U.S. Routes 1 & 9), the inadequacies of which are well known, or the N.J. Turnpike which adds the cost of tolls and over five miles of additional travel. Inter- and intra-city traffic can be found on all of West New York's avenues and its major cross streets. Important localities and transportation facilities having their direct impact on the town are listed in Table I.

TABLE I

DISTANCES FROM WEST NEW YORK
MUNICIPAL BUILDING
BY ROAD MILES TO:

North Bergen (Township Hall)	1.0
Tonnele Avenue (U.S. Rtes. 1 & 9)	1.1
Union City (City Hall)	1.2
Weehawken (Township Hall)	1.7
Lincoln Tunnel	2.3
New Jersey Turnpike	2.9
Manhattan (Times Square)	4.3
Jersey City (Journal Square)	4.8
Holland Tunnel	5.1
George Washington Bridge	5.5
Newark (Broad & Market Streets)	10.2
Garden State Parkway	10.6

The corporate line of West New York encloses an area of 650 acres or 1.02 square miles. This includes, however, 115 acres or 0.18 square miles of presently inaccessible railroad land at the waterfront below the Palisades Cliffs. As far as actual land use, from the town's point of view, is concerned, West New York is in fact bounded by J.F. Kennedy Boulevard West and J. F. Kennedy Boulevard East to River Road in an east-west direction, and stretches from between 49th and 50th Streets to the south to between 67th and 68th Streets to the north. These limits give the town an almost square shape of 0.84 square mile area.



PATH	TOPICS WEST NEW YORK NEW JERSEY	T-4001 (52)	AREA MAP	PLATE NO. 1

TOPICS

WEST NEW YORK
HUDSON COUNTY,
NEW JERSEY

TOWN OF WEST NEW YORK · NEW JERSEY

PLAN NORTH

0 250 500 750
SCALE IN FEET

TOWN OF GUTTENBERG

CORPORATE LINE

CITY OF UNION CITY

TOWNSHIP OF WEEHAWKEN

HUDSON RIVER

KEY
- S - SCHOOL - PUBLIC OR PRIVATE
- P - PARK OR PLAYGROUND
- M.B. - MUNICIPAL BUILDING
- CORPORATE LINE
- EXISTING DIRECTION OF TRAFFIC

STUDY SYSTEM : 11.5 MILES

PORTER AND RIPA ASSOCIATES, INC.
200 MADISON AVENUE MORRISTOWN, N.J.
SCRANTON, PA. BOSTON, MASS. RECIFE, BRAZIL

T-4001 (52)

STUDY SYSTEM

PLATE NO. 2

III. THE STUDY SYSTEM

In cooperation with representatives of the Town of West New York, the New Jersey Department of Transportation and the Federal Highway Administration, a Federal Aid Type II Study System was selected for study (Plate 2). Included in this system, and already forming a part of the Federal Aid Urban System, are:

J. F. Kennedy Boulevard West,
Bergenline Avenue and
J.F. Kennedy Boulevard East (south of 60th Street).

These arteries comprise a length of 2.6 miles and represent 11 percent of the town's entire street network. Further included in the study system are all the County Roads in West New York except River Road. These are:

J.F. Kennedy Boulevard West,
J.F. Kennedy Boulevard East and
60th Street (between Park Ave. and JFK Blvd. East).

The road mileage in West New York, with regard to the study system, is divided in this manner:

TABLE II

ROAD MILEAGE IN STUDY SYSTEM

	In West New York	In Study System
Town Streets and Avenues	21.7 Mi.	9.3 Mi. 43%
Hudson County Roads	2.8 Mi.	2.2 Mi. 79%
Totals	24.5 Mi.	11.5 Mi. 47%

The fact that the entire westerly perimeter of the study system (J.F. Kennedy Boulevard West) is along a County Road commonly shared by West New York and North Bergen, will mean that many of the improvement recommendations made in this study must be closely coordinated with the responsible agencies of Hudson County and the Township of North Bergen. The county, in addition, will have to be consulted with regard to those improvements recommended for J.F. Kennedy Boulevard East and its intersection with River Road. Finally, the cooperation of the City of Union City to the south must be sought, for many of the improvements contemplated for West New York affect that city, as much as Union City's TOPICS improvements have an impact on West New York.

Although the town is not laid out in a true north-south orientation, it will be assumed for the ease of description that West New York's avenues have a north-south direction, while the cross streets generally run from east to west.

IV. POPULATION AND LAND USE

The Town of West New York with a population of 40,600 inhabitants, according to the 1970 U. S. Census, occupies an area of 1.0 square mile. This is an increase of 14.3 percent over the 1960 figure of 35,500 inhabitants. Of the available land area, nearly 115 acres representing practically 18 percent of the town's land have been given over to railroad purposes. The railroads have been in West New York since 1881. First the New York-West Shore and Buffalo Railroad Company, then the New York Central and finally the Penn Central began in turn to occupy practically the town's entire waterfront. West New York is anxious to acquire the railroad lands as "the town's last frontier." But, at present, the future still lies in the hands of a court appointed receivership. On that basis, the town's gross area results in a population density of 40,600 inhabitants per square mile, whereas the net area on the other hand would give West New York a density of 48,600 inhabitants per square mile. This makes it one of the most densely populated communities not only in the State of New Jersey but also in the nation.

TABLE III

MAJOR COMMUNITIES

Population in 1,000 Inhabitants Per Square Mile

West New York	49 (41 gross area basis)
Union City	45
Hoboken	35
Guttenberg	29
New York City	26
East Orange	19
Jersey City	18
Newark	16
Trenton	14
Camden	12

Together with all the older Hudson County communities, West New York shares the feature of a tightly developed street network. Not only does the street system take up better than 30 percent of the town's land area, the block size between streets approaches an average of 200 by 500 feet. Modern planning methods, incidentally, use a normal ratio of 20 percent for the street network to the total land area. Hemmed in on all sides by neighboring communities and the Hudson River, West New York was as of the last count totally developed.

With the possible exception of the railroad lands at the foot of the Palisades Cliffs, there is no room for lateral expansion. Yet the population of the town has not remained stable. In common with Hudson County, West New York had experienced a falling off in population growth over the two decades between 1940 and 1960. In the last decade, however, the town's population once again increased to a palpable extent. Forced into vertical expansion due to the lack of space, much has been done in high-rise apartment building construction. This policy had the result that, in spite of a population increase of 14 percent during the last decade, the town has been able to maintain a stable ratio of 2.7 persons per dwelling unit. As recently as 1950, on the other hand, this ratio had been 3.1, with 3,000 persons less inhabiting the town than today. The number of available dwelling units grew from 12,970 in 1960 to 14,600 in 1970.

It is interesting to note the population forecasts contained in the comprehensive Master Plan of 1961 prepared for the Town of West New York. Basing itself on the accelerating trend of population loss over the preceding two decades, the plan foresaw the possibility of a total population of only 32,000 inhabitants by 1980. Even the most sanguine methods projected no more than 40,000 people by that same year. The 1970 U. S. Census, however, shows the actual development as having reached a figure of 40,600 ten years before the target date of the Master Plan.

The out-migration from West New York, and Hudson County as a whole, which took place between 1940 and 1960 has in recent years been more than regained and the negative trend reversed due to the arrival of a substantial number of new citizens.

With employment opportunities not existing in their home countries of Latin America and encouraged by the nation's traditional policy of welcoming additions to its lifeblood, West New York has carried its share of making a homestead for a significant number of recent arrivals to the area. The population of the town is today approximately 55 percent Spanish speaking. Many of these new citizens have left an agricultural economy and are adjusting themselves to city life in a highly motorized society. West New York is making every effort to assist them in this period of adjustment. This traffic study has been given an awareness of these factors in many of the recommendations which arise from it.

Land use patterns in West New York have over the years exhibited a diversity of scattered aims. The essential zoning of the town is planned for three basic purposes, namely: residential, commercial and industrial use. Actual land use and its possible subdivisions, however, are not always in conformity with the regulated zoning provisions. The official zoning map of West New York of 1965 (Plate 3) and the accompanying ordinances have over the last few years been the subject of constant revision, updating and codification in order to bring plan and use patterns into a more logical relationship with one another. As recently as 1960, the divergence between the two directions was as expressed in Table IV.

TABLE IV

WEST NEW YORK - LAND USE DISTRIBUTION

	LAND USE		ZONING	
	Acres	%	Acres	%
One and Two Family	137.4	21.4	72.1	11.2
Multi-Family	46.3	7.1	92.4	14.2
Commercial	46.1	7.0	130.8	20.2
Industrial	33.7	5.2	145.9	22.4
Railroad	114.5	17.6		
Public and Semi - Public	34.5	5.3	0.4	0.1
Parks and Playgrounds	16.9	2.6	4.0	0.6
Vacant	16.2	2.5	0	0
Streets	204.4	31.3	204.4	31.3
Totals	650.0	100.0	650.0	100.0

These are the figures expressing prevailing conditions of 1960. As mentioned before, much work has since been done to revise the zoning plan in order to give it a more meaningful direction in terms of today's best land use requirements. A map of 1961 showing actual land use in all its details displays a crazy-quilt pattern of poorly coordinated use distribution. The present aim of simplified zoning will greatly aid in a more realistic development plan and lead to a better segregation of the various traffic trip purposes in the town.

V. SUMMARY OF TRAFFIC CONDITIONS

Unsatisfactory traffic flow characteristics and inadequate parking facilities hurt everyone. At best, such poor conditions fray tempers and at worst, they cause accidents. Accidents cost money in terms of disability to either vehicle or occupant. In all too many cases, but fortunately not in West New York so far, they waste lives. Below-normal speeds and avoidable delays represent an added financial loss in wasted time and undue wear. Finally, though not the least important is the loss to merchants, businessmen and professionals alike of a potential clientel which would rather go elsewhere with less trouble. West New York has had its share of these problems. A forward looking administration is seeking solutions and with energetic planning -- possibly on a county-wide basis -- the conditions can be greatly improved. The chapter dealing with the summary of improvement recommendations lists a strategy of what can be done in a positive way.

The Streets

Starting as one of a number of North Hudson settlements in the first half of the nineteenth century, the former Union Township was incorporated as the Town of West New York in March of 1898. At that time, its population had reached over 5,000 inhabitants. The town first doubled and then tripled its population during the first two decades of the present century. By 1948, its inhabitants were estimated to have reached 43,000 -- a figure at least as high as that of today. Maps of circa 1855 show the street system of the future town almost fully designed and already substantially laid out in the west-central portion. Maps of 50 years later show today's street grid system to be firmly established.

The town's forefathers must be given the credit for adopting a street network of somewhat more generous dimensions than those prevailing in the neighboring Union Hill, the Union City of today. Still, their planning had been for another day, a time when the automobile was only just making its first tentative appearances on the nation's roads. Automobile traffic, with today's enormous proportions, is frozen into a framework of streets that has to serve use patterns for which it was not intended.

Small wonder therefore that nearly one quarter of the town's streets in the study system alone -- that means the busiest streets in town -- operate under a pavement width of 30 feet or less. At best, this is a minimal condition for one-way travel and parking, and, in a great number of cases, is totally inadequate. Lateral expansion of the streets is impossible without affecting property holdings. Sidewalks abut building lines in most cases. And the sidewalks, with their trees and signs and utility devices, are as often as not only ten feet and less in width.

Traffic Volumes

The significantly high numbers of traffic volumes in West New York are, of course, carried by the town's eight major arteries. The magnitude of traffic is expressed in terms of the Average Annual Daily Traffic (AADT). These numbers represent the year's total two-way traffic volumes as they would appear during the average 24-hour day (Plate 4). The highest AADT volumes in the town occur in the most travelled segments of the following routes:

TABLE V

HIGHEST AVERAGE ANNUAL TRAFFIC VOLUMES

Facility	1972 AADT	Remarks
J.F.K. Boulevard West	28,000	Two-Way Traffic
Bergenline Avenue	14,000	" "
Palisade Avenue	4,500	One-Way Couplet
Hudson Avenue	4,500	" "
Broadway	6,500	Two-Way Traffic
Park Avenue	7,500	" "
J.F.K. Boulevard East	16,000	" "
60th Street	7,500	" "

A comparison with 1960 figures shows an increase in traffic volumes of up to 30 and even 80 percent on some of these arteries. Bergenline Avenue serves as a good example to what extent pavement width affects vehicular capacity. To the south of 49th Street, in Union City, the pavement width is 30 feet and the greatest traffic volume in any segment of the avenue in that area is just over 11,000 AADT. To the north of that point, however, in West New York, the Bergenline Avenue pavement widens to 55 feet and the artery carries a maximum of 14,000 AADT with the same trip purposes as before.

AADT volumes picture the average day's traffic spread over the entire 24-hour period. To express what happens during the one or two hours of the day when seemingly nearly all the traffic concentrates in the street, that is when the traffic reaches its peak, the measure of peak hour flow is used. Traffic counts taken throughout the town have established that the average peak hour volumes in West New York represent between 7 and 11 percent of the 24-hour traffic. These values are based on the highest direction of flow in the street during either the morning or the evening peak period. Thus, for instance, the highest peak hour volume of 2,900 vehicles on J.F.K. Boulevard West falls well within that range.

Accidents

Accident records were collected and examined for all the roughly 210 street intersections in West New York. As only less than 40 of these are not included in the study system, the accident investigation was extended over the entire town. The three-year period from 1969 to 1971 was selected for examination. The total three-year accident occurrences were then averaged out over the record period to obtain a representative evaluation (Plate 5). It is interesting to note that, with only a dozen exceptions, all intersections throughout the town had at least one accident for the average year. At 39 intersections, accidents occurred at the rate of at least 5 and a maximum of 19 during the average year. A constant total of approximately 1,100 accidents was maintained for the entire town during each of the three years of record. The greatest number of accidents occurred at the six intersections along 60th Street from J. F. K. Boulevard East to Bergenline Avenue and at the intersection of the last with 61st Street. At these locations, the frequency was steadily above 10 accidents per year.

TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

TOWN OF WEST NEW YORK · NEW JERSEY

PLAN NORTH

0 250 500 750

SCALE IN FEET

TOWN OF GUTTENBERG

CORPORATE LINE

BERGEN

NORTH

HUDSON RIVER

JOHN F. KENNEDY BOULEVARD EAST

JOHN F. KENNEDY BOULEVARD

TOWNSHIP

CITY OF UNION CITY

TOWNSHIP OF WEEHAWKEN

LEGEND

- RESIDENTIAL
- COMMERCIAL
- PRINCIPAL SHOPPING AREAS
- INDUSTRIAL
- PARKS
- ACTUAL RAILROAD USE
- S SCHOOL - PUBLIC OR PRIVATE

NOTE: INFORMATION TAKEN FROM 1965 TOWN OF WEST NEW YORK ZONE MAP.

KEY

P - PARK OR PLAYGROUND
M.B. - MUNICIPAL BUILDING
- CORPORATE LINE
- EXISTING DIRECTION OF TRAFFIC

PORTER AND RIPA ASSOCIATES, INC.
200 MADISON AVENUE MORRISTOWN, N.J.
SCRANTON, PA. BOSTON, MASS. RECIFE, BRAZIL

T-4001 (52)

LAND USE MAP

PLATE NO. 3

TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

TOWN OF GUTTENBERG

CITY OF UNION CITY

TOWNSHIP OF WEEHAWKEN

TOWNSHIP OF NORTH BERGEN

HUDSON RIVER

CORPORATE LINE

TOWN OF WEST NEW YORK · NEW JERSEY

PLAN NORTH

0 250 500 750

SCALE IN FEET

A.A.D.T. VOLUMES PROJECTED TO 1980 30,000

A.A.D.T. VOLUMES PREVALENT IN 1972 27,600

36 32 28 24 20 16 12 8 4 1

BAND WIDTH SCALE
(IN THOUSANDS)
(1972 VOLUMES)

KEY

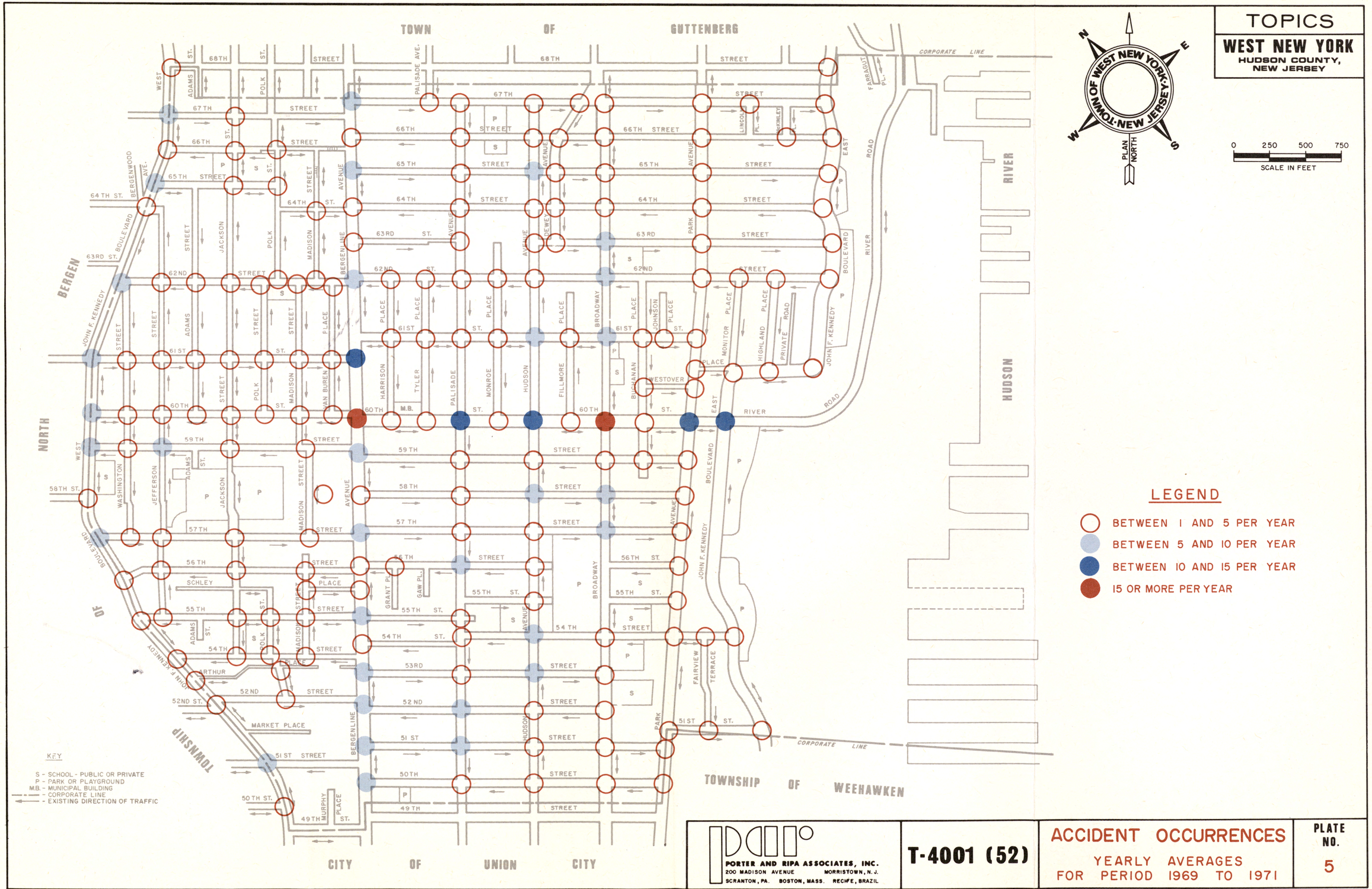
S - SCHOOL - PUBLIC OR PRIVATE
P - PARK OR PLAYGROUND
M.B. - MUNICIPAL BUILDING
- - - - CORPORATE LINE
←—— - EXISTING DIRECTION OF TRAFFIC

PORTER AND RIPA ASSOCIATES, INC.
200 MADISON AVENUE MORRISTOWN, N.J.
SCRANTON, PA. BOSTON, MASS. RECIFE, BRAZIL

T-4001 (52)

TRAFFIC VOLUMES

PLATE NO. 4



TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

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ACCIDENT OCCURRENCES

YEARLY AVERAGES
FOR PERIOD 1969 TO 1971

PLATE NO. 5

TOWN OF GUTTENBERG

TOWNSHIP OF NORTH BERGEN

CITY OF UNION CITY

TOWNSHIP OF WEEHAWKEN

HUDSON RIVER

CORPORATE LINE

KEY

S - SCHOOL - PUBLIC OR PRIVATE
P - PARK OR PLAYGROUND
M.B. - MUNICIPAL BUILDING
- CORPORATE LINE
- EXISTING DIRECTION OF TRAFFIC

TOWN OF WEST NEW YORK · NEW JERSEY

PLAN NORTH

0 250 500 750

SCALE IN FEET

TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

LEGEND

- HUDSON COUNTY ROADS
- EXISTING HUDSON COUNTY SIGNALS
- EXISTING WEST NEW YORK SIGNALS

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EXISTING TRAFFIC SIGNALS
LOCATIONS & JURISDICTIONS

PLATE NO. 6

Fortunately, however, not a single fatality was caused during the three-year record period but 253 injuries were sustained due to 191 traffic accidents involving injuries over those same years. According to the overall analysis, every fifth traffic accident in town brought with it one or more injuries.

Traffic Signals

A solution to the traffic snarls and accidents which beset the town was sought some 30 years ago in the installation of traffic signals by the municipal administration of that time. The impetus to that action had been provided by the traffic signal installations of Hudson County along both J.F.K. Boulevard East and West which preceded those of West New York proper by 10 or 20 years. Altogether 95 intersections in West New York are presently operating under traffic signal control. Their distribution by jurisdiction and whether they fall within or outside the study system are both shown in Table VI. One of these installations at Bergenline Avenue and 49th Street, while partially in West New York and partially in Union City, is not included in this investigation as the traffic signals at this intersection have already been fully dealt with in a separate study for the latter community. Plate 6 illustrates the present traffic signal system in West New York.

TABLE VI

SIGNALIZED INTERSECTIONS IN WEST NEW YORK

Jurisdiction	In Study System	Not in Study System
Hudson County Installation	23	0
West New York Installation	66	5
Union City Installation	1	0
Totals	90	5

The present status of the art of traffic engineering, based on a range of knowledge and experience far greater than was available at the time of the original installations, recognizes the fact that a traffic signal in itself is not a cure-all for all traffic ills. Unless the control operation is based on a well thought out and fully integrated plan, the arbitrarily placed traffic signal may create more problems than it was intended to overcome. Properly considered traffic signals placed at the most effective intervals create platoons of vehicles and with them acceptable gaps in the traffic stream which will allow safe cross movements for vehicles and pedestrians alike. A traffic signal at every corner creates delays and back-ups and often results in dangerous practices by the motorist who is exasperated and not too infrequently confused. In other words, the greatest number of traffic signals does not by any means afford the greatest degree of safety. Where, however, the numbers of vehicles and pedestrians are such as to exceed the capacity of the gaps in the traffic stream, where accident occurrences and faulty sight distances prevail to a contributory degree, or where any combinations of such factors go hand in hand, at such locations traffic signals are not only warranted but are recommended.

One of the tasks of this study is to make a logical appraisal of these conditions, based on the latest knowledge and technical standards, and to recommend a truly improved system. The benefit will be to all road users as well as the easing of the traffic flow. As the situation in West New York now presents itself, traffic has to obey a red light in one direction or another at nearly one-half of all the cross roads in town and at more than two-thirds of all the through-street intersections.

The applicable provisions of the state law require official approval of every traffic signal installation. A thorough check of the files of the Department of Transportation established that there is no record of State approval for any of the traffic signal installations throughout West New York, regardless of jurisdiction. In the total absence of the requisite approval, all 94 intersections presently under traffic signal control became the subject of special study. As a result, it was found that only a portion of these signal installations meet full warrant or justification. The saturation of the town with so great a number of traffic signals as now in operation, presents the additional problem expressed in the delays and lost time experienced by the road users. How to deal with this situation effectively and positively is outlined under the chapter on improvement recommendations.

Parking

At first glance, parking may appear as the major problem in West New York. In reality, however, the sometimes chaotic parking practices prevalent in the town are merely the symptoms of the root cause -- the complete lack of available space. The fact has to be recognized that the effectual land area of West New York is totally developed. The outmoded street system of the town further contributes to the problem.

An investigation was made of the parking situation within the study area which concerns itself with the busiest 47 percent of the street network. The resulting estimate concluded that at present the city affords on-street parking to only 70 percent of the automobiles available in town. Much is being done to create parking spaces within the property limits of the newer and especially the high-rise buildings. An estimated additional 24 percent of the town's automobiles can presently be accommodated in private off-street parking spaces.

In spite of the fact that the town is hard pressed for any and all space, it was estimated that approximately 10 percent of the presently available on-street parking is contrary to existing state statute and must for the future be discounted. A further 6 percent of the existing on-street parking will probably be lost due to various recommended street and resulting traffic flow improvements. Available public off-street parking facilities have not seen significant additions during the past twelve years. The comprehensive Master Plan for West New York of 1961 speaks of three public off-street parking lots with a total of 350 spaces. The present status is four public off-street parking lots with a total of 438 spaces. This number will accommodate only about four percent of the town's automobiles. Yet, the same Master Plan, twelve years ago, called for an extensive creation of new off-street parking facilities. No such program has to date become effective.

In the foregoing estimates only private automobile statistics were considered. Trucks, however, compound the problem even further as these commercial vehicles represent 9 percent of the town's total daily traffic. Only three truck loading zones are regulated in West New York's ordinances. None of these is less than five blocks away from any

point on Bergenline Avenue, the town's central business district thoroughfare where the majority of all stores is located. Fortunately, Bergenline Avenue is a relatively wide facility. But double parking and other illegal parking practices continually contribute to the impairment of desirable traffic flow throughout the town. The extreme narrowness of Jefferson Street, as only one example, and its considerable truck use make for an untenable condition.

There is some measure of relief for one segment of Bergenline Avenue. The public parking lot on the east side of Madison Street will, in addition to automobile parking, accommodate about 30 single-unit trucks with direct access to rear entrances to the stores on the west side of Bergenline Avenue between 57th and 59th Streets. However, no more than a half dozen trucks have at any one time been observed to avail themselves of this amenity.

These conditions are the cause of what is indeed a difficult situation. Much of the abuse may be due to thoughtlessness on the part of the driver but, in general, he acts out of frustration. Unfortunately, there is a direct contribution through illegal parking practices to the absence of vehicular and pedestrian safety, as well as to accidents and to a poor quality of flow characteristics. Worst of all perhaps are these frequently encountered malpractices: Parking too close to the intersection -- double parking at the intersection curb return -- parking in fire zones -- parking at fire hydrants and across driveway entrances. The results can only be complete loss of the needed sight distance into the intersecting street -- pedestrians are hidden from the view of traffic -- traffic signals and signs are obscured -- utter chaos is created in emergencies -- all ending in the loss of life and limb.

Traffic Flow

With the conditions here described, the average overall running speed throughout the town -- both during peak and off-peak hours -- is 17.5 miles per hour. Considering the average speed of nearly 25 miles per hour on the two Boulevards apart, the remaining streets and avenues in town averaged a speed of 15.5 miles per hour. The overall delay time, expressed in percentage of the total travel time, is 32 percent on all the streets. Speaking in general terms, the north-south streets and avenues exhibit the best travel speed during the morning peak period, with the off-peak and evening peak periods following in decreasing order of attainable speeds. These differences are perhaps best accounted for by the increasing number of trucks and shoppers as the day progresses. In an east-west direction, with the exception of 60th Street, the average travel speed attained in the off-peak hours is considerably below those of either the morning or afternoon peak periods. While this condition may appear atypical from general experience, it does present the pattern of the older communities of dense population. The off-peak period sees the greatest amount of parking abuse and consequent delay, while the peak periods are marked by a higher degree of awareness of traffic regulations on the parts of both the public and the enforcement agencies. Only 60th Street exhibits the more typical situation with the fastest rate of travel during the off-peak hours while the morning and evening peak periods are about equally below the best speeds registered. This is the traditional condition, there simply being less traffic between the peak periods. But, in addition, 60th Street has to labor under the capacity restraints at both of its terminals which, during the peak hours especially, slow the progress of the greater traffic volumes.

The 94 signalized intersections were examined as to their traffic handling characteristics. By means of capacity analyses, a level of service can be established for the intersection as a whole, taking account of all its contributing features. These levels of service categorize the various conditions of traffic flow from A (relatively free flow with some stops) as the best, down to F (jammed and forced flow). Ninety percent of the intersections so scrutinized registered Levels of Service from A to C which, at the low end of the scale, describe stable flows with significant but acceptable delays. The remaining 10 percent of these intersections which exhibited Levels of Service D to F -- from approaching unstable flow down to forced flow -- were all made the subject of special investigations. Detailed recommendations for the improvement of these intersections and the upgrading of their capacities are made in the body of the report.

Apart from considerations concerned purely with the effects created by intersections, it must be recognized that actual operational practices and mid-block friction factors further dilute the picture to the detriment of the overall traffic flow. The frequency of traffic signals -- and their lack of responsiveness to actual traffic flow variations in a great number of cases -- represents an additional contributory factor.

VI. SUMMARY OF IMPROVEMENT RECOMMENDATIONS

Recommendations for measures to improve the traffic flow and safety in West New York fall into three categories:

- o AREAWIDE RECOMMENDATIONS - concerning principally planning, operational devices, parking usage, road-user behavioral patterns and enforcement.
- o ARTERIAL RECOMMENDATIONS - concerning principally changes to the direction of traffic in particular segments of streets, as well as traffic signal progressions along major arteries.
- o SPOT IMPROVEMENTS - with detailed recommendations at specific locations.

AREAWIDE RECOMMENDATIONS

An Educational Program

The preceding chapter describes the difficulties facing the town, its law enforcement agencies and the general public. No matter how efficient the use of operational devices may be, or how well traffic regulations may be enforced, the general traffic conditions can only be as good as the habits and the performance of the road user. It is therefore strongly recommended that an educational program be initiated to impress on the town's population the need for discipline in the exercise of their rights to the street. Both drivers and pedestrians must have a better understanding of the need for regulations and respect for the rights of others. High density traffic and high density living make unusual demands. We all have to understand their implications.

Such an educational program can be implemented through the facilities available in the press, the schools, neighborhood associations and clubs, as well as the house-to-house distribution of pamphlets. We recommend that all materials be prepared on a bilingual basis -- both in English and Spanish -- to make the program meaningful and successful.

Parking

More space is badly needed. Equally desirable is the reduction in the number of vehicles creating the parking demand. Both aspects need long-range planning, on the local as well as on the regional level.

West New York's administration must involve neighboring communities and summon the county to its side. Parking regulations and prohibitions had been adopted as long ago as the nineteen-twenties. Such measures, however, by themselves do not represent a solution to the problem.

It is recommended that the town be alert at all times to the speedy acquisition of building lots, as they become available due to fire or abandonment, for the creation of public off-street parking facilities. Thought must be given to the eventual construction of multi-level parking garages. A detailed parking study would be useful in identifying local need patterns and in outlining a specific approach to their solutions.

Much can be done, and West New York is not unique in this respect, to reduce the parking demand by forward looking planning for an efficient mass transit system. This cannot be accomplished by any single municipality alone. However, the machinery is available in the Department of Transportation waiting for the cooperation of local communities. At the same time, the rail lines are available for modern-day use and are waiting to be put back into operation as passenger lines. In the meantime, much can be done on the purely local level in the investigation of an efficient mini-bus service.

Parking Regulations

It would be relatively simple to recommend additional parking prohibitions, no matter how desirable on such major facilities as Bergenline and Park Avenues, the Boulevards and 60th Street among others, without planning for provision of replacement parking. Such planning is imperative and practical in view of the fact that federal aid is available on a one-for-one basis to create replacement parking as a complement to parking losses due to measures of traffic improvements.

In the meantime, however, it is essential that certain minimal requirements be enforced. Particular reference is made to two basic provisions with regard to parking contained in N.J.S.A. Title 39, Chapter 4. These provisions prohibit all parking within 25 feet of the nearest crosswalk or side line of an intersecting street. They also prohibit parking within 50 feet of a stop sign. Such prohibitions, applicable by law through the state, must be rigorously enforced.

In addition, and not necessarily provided by law, it is recommended that once provisions for replacement parking are sufficiently advanced, a minimum width be established for a typical, traveled traffic lane in order to improve on the safety of both the moving and the parked vehicle. A minimum of 8 feet is required to accommodate parallel parking, while 10 and 11 feet are needed for each travel lane for one-way and two-way operation respectively. The proposed minimum width for one-way operation is based on the condition of one travel lane only. Where two travel lanes in one street are desired, a width of 11 feet per travel lane is recommended -- even for one-way traffic -- in order to minimize the friction factors caused by vehicles moving in two adjacent lanes. While 10-foot parking and 12-foot travel lanes are desirable, minimum street widths as indicated in the presence of authorized parking would at least result in the following:

TABLE VII

SUGGESTED MINIMUM STREET WIDTHS FOR AUTHORIZED PARKING

One-way	Parking one side	18 feet
One-way	Parking both sides	26 "
Two-way	Parking one side	30 "
Two-way	Parking both sides	38 "

Table VII provides only for the minimum of one traffic lane in any direction. Thus, the minimum width for a one-way street, with two travel lanes and parking on one side, becomes 30 feet.

Signs and Regulatory Measures

Regulatory and guide signs fulfill an important function in easing the flow of traffic through the network of streets. The official standards which apply to the sign's message, size and location have been carefully considered to derive the maximum benefit from their presence

and to prevent all confusion in the mind of the road user. Such signs, from stop and no-entry signs to turn and parking prohibition signs, must conform to the requirements of the Manual on Uniform Traffic Control Devices approved by the Federal Highway Administration, 1971 edition. The signs must further be covered by the town's ordinance which, in turn, need the approval of the New Jersey Department of Transportation.

The signs in West New York do not in all respects and in all cases satisfy these standards. A recent inventory of the signs in about one half the town's streets has been prorated over the entire street system to arrive at a workable estimate. From this it would appear that almost one third of all the signs are either unapproved by competent authority or non-conforming with regard to official standards. The estimated total of 880 regulatory and guide signs in West New York will give an indication of the magnitude involved in correcting this situation. The chapter of this report covering detailed improvements contains the recommendation to bring all signs into conformity with the applicable standards.

Traffic Signals

The administration of the Town of West New York recognizes the implications presented by the traffic signal system now in operation within its boundaries. In common with a great number of such installations throughout Hudson County, the system has been in place for many years and lacks the mandatory state approval. While some of its equipment has been modernized over the years and in general presents a greater degree of conformance with requisite standards than elsewhere, many of the traffic signals in town do not satisfy the official warrants. The need or reason for a traffic signal is expressed as a variety of warrants in the Manual on Uniform Traffic Control Devices for Streets and Highways -- the manual approved and adopted by federal and state agencies.

Before state approval can be given to any traffic signal installation, proof must be submitted that the proposed device satisfies officially recognized warrant requirements. The absence of such approval will deprive the municipality of federal aid in the implementation of the TOPICS Program. The foregoing discussions already demonstrated the extent to which too dense a signal system results in hindrance to a better traffic flow, rather than in its promotion. It is for these reasons that the administration of West New York is anxious to comply with all pertinent stipulations.

In order to provide the town with a modern and efficient traffic signal system, the approach taken by this study was to assume that no signals existed at all. The next step was to examine and determine the number of traffic signals needed -- at which location and for which reasons. On this basis, it is the proposed recommendation to establish traffic signal control at 40 intersections. This will achieve a truly functional and meaningful system. A modern and efficient signals network will replace an outmoded and oftentimes inadequate one. The use of new and modern equipment is recommended throughout. At least two signal indications will face traffic in each direction and supplemental indications for pedestrians will be provided where required.

To make this modern system workable, those existing signals for which a warrant cannot be established will fall under an inactivation program. For the eventuality that such a phasing-out plan will ultimately be put into effect, a three-stage inactivation schedule is

recommended. The three improvement stages could be applied to a period of three consecutive years or any shorter time span deemed practical by the town administration. The psychological value of any traffic signal in so long established a system was not neglected and was given due weight in the decisions affecting the phasing-out recommendations.

The recommended method of procedure will ensure the least possible interrruption to local traffic patterns and, at the same time, be conducive to more gradual community adjustments. The selection of an entire avenue at a time for the recommended signal inactivation throughout its length, will best demonstrate to the public the extent to which the flow of traffic in the city can be improved. This method, which can be termed the arterial improvement approach, is considered best capable of bringing the most palpable results to the benefit of the community.

The inactivation of traffic signals will, at many intersections, establish warrants for the installation of stop signs. This improvement, together with the placement of new traffic signals and the removal of existing ones, will have the benefit of federal aid.

Enforcement

Enforcement of traffic regulations is of primary importance. There is a direct relationship between the absence of enforcement and the presence of disrespect for regulations and the rights of others. Warnings to carry out tow-away provisions should be retained only if the necessary storage space is available to make a tow-away program truly effective. It must be stressed that, as soon as the improvement recommendations contained in this report can be put into effect, the concurrent initiation and maintenance of a rigorous enforcement program of the traffic regulations is not only recommended but absolutely necessary. Traffic summonses and the cooperation of the courts are still the most effective means to curb the misuse of the public street.

ARTERIAL RECOMMENDATIONS

Improvements in this category aim to ameliorate the quality of traffic flow by correcting retarding factors along the length of an artery or within the confines of interrelated segments of the street network.

One-way traffic patterns in West New York mostly follow the rule of a westbound direction on the even-numbered streets and an eastbound direction on the odd-numbered streets. In order to give this rule a more general application and to achieve a less confusing flow pattern -- where the unexpected is suddenly encountered -- the following changes in the direction of traffic are recommended:

49th Street -- between J.F.K. Boulevard West and Bergenline Avenue -- from two-way to one-way eastbound.

54th Street -- between J.F.K. Boulevard East and Park Avenue -- from two-way to one-way westbound.

58th Street -- between Park and Bergenline Avenues -- from one-way eastbound to one-way westbound.

59th Street -- between J.F.K. Boulevard West and Park Avenue -- from one-way westbound to one-way eastbound.

60th Street -- between Bergenline Avenue and J.F.K. Boulevard West -- from two-way to one-way westbound.

61st Street -- between Bergenline and Park Avenues -- from two-way to one-way eastbound.

The major exception to the one-way crosstown system will be 60th Street between Bergenline Avenue and J.F.K. Boulevard East. This is because 60th Street is the principal east-west artery of sufficient width for two-way operation, much like 42nd Street in New York City. The only other exceptions have been permitted to remain on four isolated street segments to answer purely localized dictates in the westernmost section of town.

Together with the ensuing rerouting of bus runs, it is recommended to eliminate alternate bus stop zones along certain segments of Bergenline Avenue and 61st Street. This measure will greatly ease the traffic flow and regain the town an estimated 40 much needed parking spaces.

Angle-parking is presently in force on the south side of 60th Street between Bergenline and Hudson Avenues. Considering the restrictive width of 60th Street for two-way operation, this is a dangerous practice. Especially the backing-out maneuver is a demonstrable accident potential and serious delay factor. For these reasons, federal aid for street improvements is withheld where this practice is not discontinued. It is therefore recommended to replace the angle parking with the usual rule of parking parallel to the curb-side.

The recommended traffic signal network will provide a progression system which permits vehicles, traveling at a set and constant speed, to progress through the length of an artery without being delayed by a red signal indication. Progressions of 90-second cycles are recommended for the two Boulevards and Bergenline Avenues, while 45-second cycles are deemed desirable for Palisade, Hudson, Park Avenues and Broadway, as well as for 60th Street east of Bergenline Avenue. Approximately 60 percent of the signal cycle will be given over to green-time on the major street.

SPOT IMPROVEMENT RECOMMENDATIONS

Recommendations for isolated intersections deal with channelization improvements, changes to the signal system, pedestrian crossings, pavement markings and signing. Eleven such locations are fully described in the chapter covering detailed improvement recommendations. A priority sequence for the implementation of the spot improvements was established on the basis of accident record, traffic volumes, travel speed and delay, as well as level of service.

Such improvement recommendations are made for the following locations which are here listed according to geographic orientation rather than priority sequence:

60th Street at Bergenline Avenue.

60th Street at Palisade Avenue

60th Street at Hudson Avenue.

60th Street at Broadway.

60th Street at Park Avenue.

60th Street at its intersection with J.F.K. Boulevard East and River Road.

Bergenline Avenue at both the west and east legs of 61st Street.

J.F.K. Boulevard West at 51st Street.

J.F.K. Boulevard West at 60th Street.

J.F.K. Boulevard West at 61st Street.

J.F.K. Boulevard West at 62nd Street.

Care has been exercised in the design of the spot improvements in order to keep them within the realm of what is practical. Property lines impose a limitation to what can be done without impinging on private interests. The eleven locations were chosen as those most in need and most susceptible of improvement. Their recommendations will ease the flow of traffic, reduce the accident potential, and yet will not exceed the ratio of cost to the obtainable benefit.

VII. EXISTING CONDITIONS

Data Collection

Improvement recommendations -- how to solve specific problems and how to correct deficiencies of whatever nature -- are the very reasons for the existence of the TOPICS program. Only the collection of traffic data and statistics, followed by their correct analysis and interpretation, can make the solutions meaningful.

The amount of available facts was both sparse and inconclusive. A comprehensive data collection program was initiated to reflect the true nature of current conditions. Available and new statistics were assembled in part through the normal operations of the town's administrative departments and in part by the consultant's personnel during the study period. The field data obtained by the consultant included the assembly of facts and their analyses with regard to the following facets of the town's traffic operations:

- Traffic Volumes
- Traffic Flow
- Traffic Distribution
- Roadway Capacity
- Travel Time and Delay
- Accidents
- Traffic Signals
- Bus Transit
- Street and Signs
- Parking
- Parking Demand
- Priority Rating

The following pages describe, in the context of the various facets of the traffic conditions, the methods used in the collection of data as well as their interpretation and analysis.

Traffic Volumes

All traffic volumes in West New York, whether actual or projected into the future, are based on vehicle and pedestrian count procedures according to established criteria. As a prerequisite to the identification of traffic problems, numerous automatic traffic recorder and manual turning movement counts were made in agreement with officials of both the New Jersey Department of Transportation and the Town of West New York. The basic method employed consisted of machine counts for the duration of one day to one week and manual counts for the duration of one hour to eight hours.

The choice of intersections to be thus covered and methods employed were determined on the basis of known areas of congestion and high accident incidents. A total of 82 intersections were involved in manual counts and over thirty locations were covered by automatic traffic recorder.

Eight-hour manual intersection counts were conducted at 24 major intersections and summarized in 15-minute intervals. All manual counts classified the vehicles observed as passenger car, truck or bus. Each 8-hour manual count was supported by a machine count which registered axle movements during the same period on at least one leg of the intersection. In addition to these, short duration counts were made by tallying the traffic during a minimum of one 15-minute period for each of the four 2-hour intervals between 10:00 A.M. and 6:00 P.M. This method was employed at 58 minor intersections not otherwise covered by 8-hour counts. The short duration counts were subsequently adjusted to arrive at an average hourly volume compatible with the 8-hour count results by checking against the nearest machine or full range manual counts.

Pedestrian volume counts were undertaken on each crosswalk of two locations which were noted for more than usually high pedestrian activities. These are at the intersections of Bergenline Avenue with 60th Street and of J.F.K. Boulevard East with the closed-off 57th Street at the main entrance to Donnelly Park. Both intersections showed considerable pedestrian movements. The former had 700 pedestrians during the one hour period from 1:00 to 2:00 P.M. on the more frequently used walk crossing Bergenline Avenue. At the latter intersection, 230 pedestrians were counted between 6:00 and 7:00 P.M. crossing the Boulevard.

Traffic Flow

The traffic count statistics gathered were used to estimate the average annual daily traffic (AADT) volumes both for 1972 as existent and for 1980 as a projection for the design year. Both sets of traffic volumes are shown on Plate 4. The estimated traffic projections took into account the factors reflecting annual growth and monthly variations of traffic as supplied by the New Jersey Department of Transportation.

As expected, the highest traffic volumes in West New York were registered on J.F.K. Boulevard West. Existing and 1980 AADT's were calculated as 27,600 and 30,000 respectively. These figures were followed by J.F.K. Boulevard East and Bergenline Avenue with 1972 AADT volumes of close to 16,000 and 14,000 each.

Daily traffic counts taken on Bergenline Avenue north of 57th Street indicated that traffic was lowest on Tuesdays with 87 percent of the average daily traffic, and highest on Fridays and Saturdays with 118 and 114 percent of the average daily traffic respectively.

The results obtained at the control stations show hourly traffic variations which indicate that on the average most streets exhibit morning peak periods between 7:00 and 8:00 A.M., while the evening peak period falls into the hour from 4:00 to 5:00 in the afternoon. The shopping activities along Bergenline Avenue show a far less pronounced peak period for this artery than for instance a typical commuter street such as Hudson Avenue. Except on J.F.K. Boulevard West, the amount of traffic during the evening peak hour is much greater than that of the morning peak period. The highest hourly percentage of the total daily traffic was experienced on 62nd Street west of Palisade Avenue with 13 percent during the 4:00 to 5:00 P.M. period.

Traffic Distribution

Both J.F.K. Boulevard West and East serve as the major commuter routes connecting the northern and southern limits of West New York and providing access to Interstate Route 495 and the Lincoln Tunnel. Boulevard West in particular carries greater traffic volumes than any other road throughout the day and is distinguished by the highest morning peak hour use, not only in sheer number (2,300 vehicles per hour) but also in percentage of ADT (better than 7 percent). This morning peak on Boulevard West extends over the 7:00 to 9:00 A.M. two-hour period. Bergenline Avenue is the major route through the town's central business district. In addition, it accommodates considerable inter-city through movements in a north-south direction. The traffic on this artery is characterized by a remarkably even distribution of hourly traffic. Near or over four percent of the total 24-hour traffic was registered during each hour between 6:00 in the morning and 10:00 at night. This is accounted for by a high percentage of non-work oriented trips with particular emphasis on shopping purposes.

Sixtieth Street carries the bulk of east-west traffic in West New York and serves as a major thoroughfare. Hourly traffic variations are relatively small and indicate a high utilitization of commercial vehicles in particular on the segment between Park Avenue and J.F.K. Boulevard East. This condition is due to the total truck prohibition on Boulevard East and the restriction of heavy trucks on Broadway between 50th and 57th Streets. All truck movements between River Road, leading to and from the George Washington Bridge, and the Lincoln Tunnel are funneled through the one-block distance of 60th Street to reach Park Avenue.

The overall weekend traffic, from midnight Friday-Saturday to midnight Sunday-Monday, exhibits peaks between 11:00 A.M. and 2:00 P.M. and remains fairly constant at a relatively high utilization until 6:00 in the evening. Trip purposes are of course almost exclusively non-work oriented. Individual hourly weekend traffic volumes can be practically as high as individual hourly volumes during the work week, except that there is a shift of the high use periods from the workday's 5:00 to 7:00 P.M. peaks to the weekend's noon to 2:00 P.M. crests. The higher utilization span of the typical workday has a broader base of hours from 6:00 A.M. to 10:00 P.M. than the typical Saturday or Sunday when the higher utilization falls between the hours from 10:00 A.M. to 7:00 in the evening.

Vehicles were identified and classified as passenger car, bus or truck at all manual traffic count locations. The highest percentage of truck and bus volumes was registered on Park Avenue south of 60th Street. In descending order of magnitude, the combined truck and bus volumes on major arteries, expressed in percentage of daily traffic, are as follows:

Park Avenue - south of 60th Street	22%
J.F.K. Boulevard West	12%
57th Street,* 60th Street and Hudson Avenue*	10%
Bergenline Avenue	9%
Park Avenue - north of 60th Street	7%
Palisade Avenue*	6%
Broadway***	4%
J.F.K. Boulevard East**	1%

* No Buses
** No Trucks
*** No Buses and No Heavy Trucks (between 50 & 57th Street)

Roadway Capacity

The relationship of traffic volume to roadway capacity is an accepted method of measuring the ability of a street to carry existing and projected traffic loads. The roadway capacity refers to the maximum number of vehicles which can operate under prevailing roadway and traffic conditions at a selected level of service. A level of service is a qualitative measure of differing combinations of operating conditions that may occur on a given street or roadway when it is accommodating various traffic volumes.

The nature of the street system in the study area is such that intersection capacities are the controlling factors in determining the overall adequacy of the streets to handle traffic. The capacity of each intersection experiencing congestion or delay was calculated and the results were compared to the average weekday vehicular peak hour volumes to give an indication of actual traffic demands. Capacity is the maximum number of vehicles which has a reasonable expectation of passing over a given section of roadway in one or two directions during a given time period under prevailing physical and traffic conditions.

The comparison of intersection features and traffic volumes results in the volume/capacity ratio which serves as a useful index to qualify the degree of deficiency prevalent at a given location. As the ratio of v/c approaches 1.0 or unity, the design capacity of the intersection begins to fail in the proper handling of the imposed demands. The results of the capacity analyses of study network intersections identified the following locations, in descending order of magnitude, as most deficient in capacity during peak hour periods:

J.F.K. Boulevard West at 51st Street,
J.F.K. Boulevard East at 60th Street,
J.F.K. Boulevard West at 62nd Street,
J.F.K. Boulevard West at 61st Street,
J.F.K. Boulevard West at 60th Street,
J.F.K. Boulevard West at 59th Street,

Due to accident occurrences and delays experienced in addition to capacity problems, these intersection were assigned high priority ranks as more fully described in the following Section on Priority Ratings. Two more intersections of J.F.K. Boulevard West, namely those with 55th and 68 Streets, showed capacity deficiencies without any significant delay or accident contributions. Only an operational review rather than a detailed analysis was applied here.

Travel Time and Delay

The capacity of an intersection, as discussed above, is not an independent indicator of the quality of travel over a street segment which may include a number of cross streets. To give an expression to this quality of travel, speed and delay runs were undertaken on all system streets. Nine test runs were made for every street with three passes each during the morning peak, off-peak and evening peak periods. All speeds attained and duration and cause of delays or stops were noted for each street segment traversed.

The data collected in this manner served in the evaluation of a level of service for a street segment in particular or an entire artery in general. Table VIII defines the basic criteria used to this end.

TABLE VIII

LEVELS OF SERVICE FOR DOWNTOWN STREETS

Traffic Flow Conditions
(Approximations, Not Rigid Criteria)

Level of Service	Description	Average Overall Speed (MPH)
A	Free flow (relatively; some stops will occur)	25 Minimum
B	Stable flow (delays not unreasonable)	20 "
C	Stable flow (delays significant but acceptable)	15 "
D	Approaching unstable flow (delays tolerable)	10 "
E[a]	Unstable flow (congestion not due to back-ups ahead)	Below 10 but moving
F	Forced flow (jammed)	Stop-and-go

[a] Level E for the downtown street as a whole cannot be considered as a capacity; capacity is governed by that of controlling intersections or other interruptions.

Source: Highway Capacity Manual - 1965

Plate 7 indicates the average travel speeds and delay times experienced during the performance of the test runs. In general, speed and delay studies showed that the average travel speeds on the J.F.K. Boulevard system were higher than on any other of the town's streets and avenues. One interesting observation is that average speeds on east-west streets are higher during peak periods, when traffic volumes are greater, than during off-peak periods, when volumes tend to be less. This is evidently due to excessive roadside friction during the off-peak period when the majority of shopping, parking, loading and unloading activities are attempted.

AVERAGE TRAVEL SPEEDS

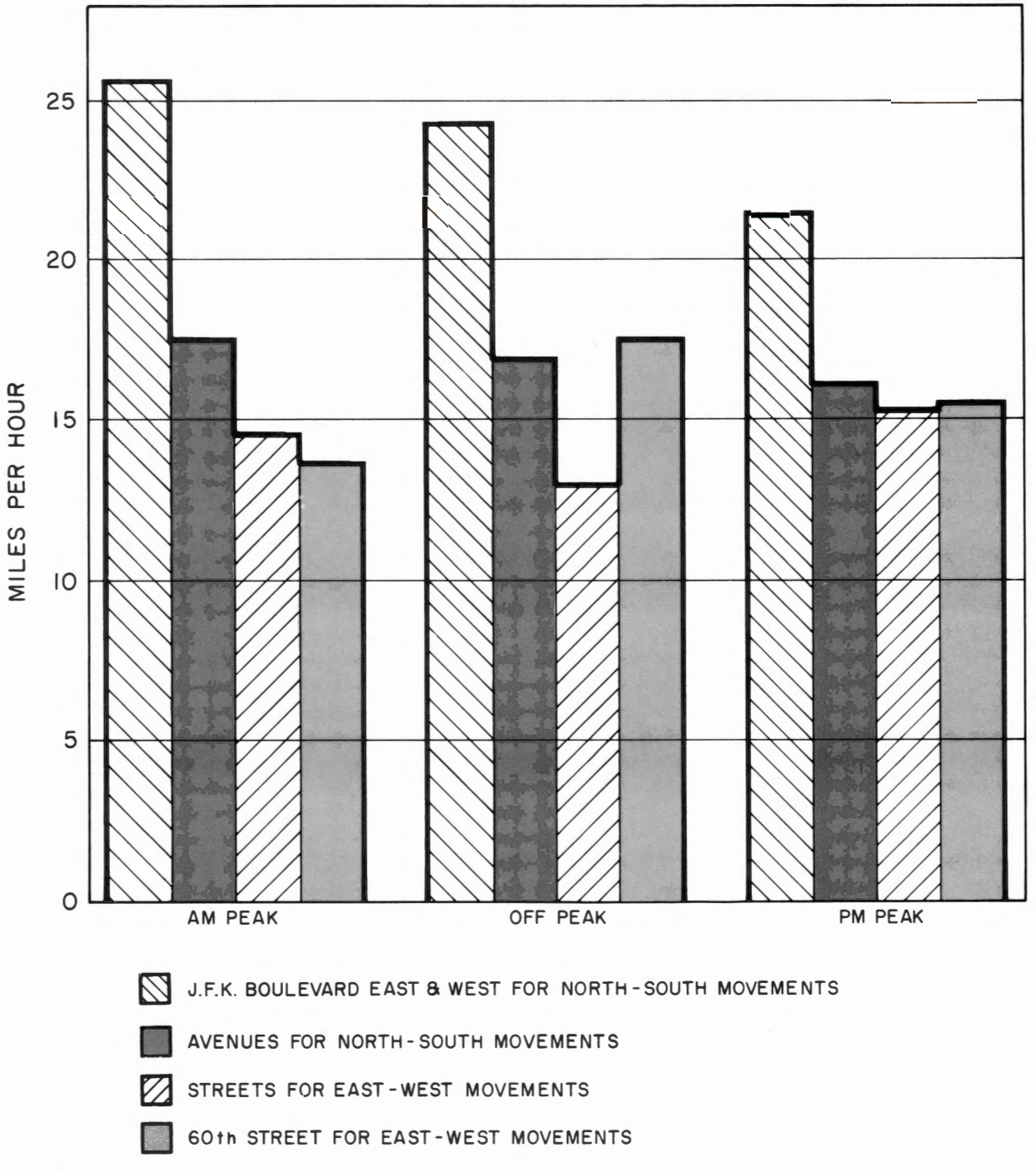


CHART NO. 1

DELAY TIME

IN PERCENT OF TOTAL TRAVEL TIME

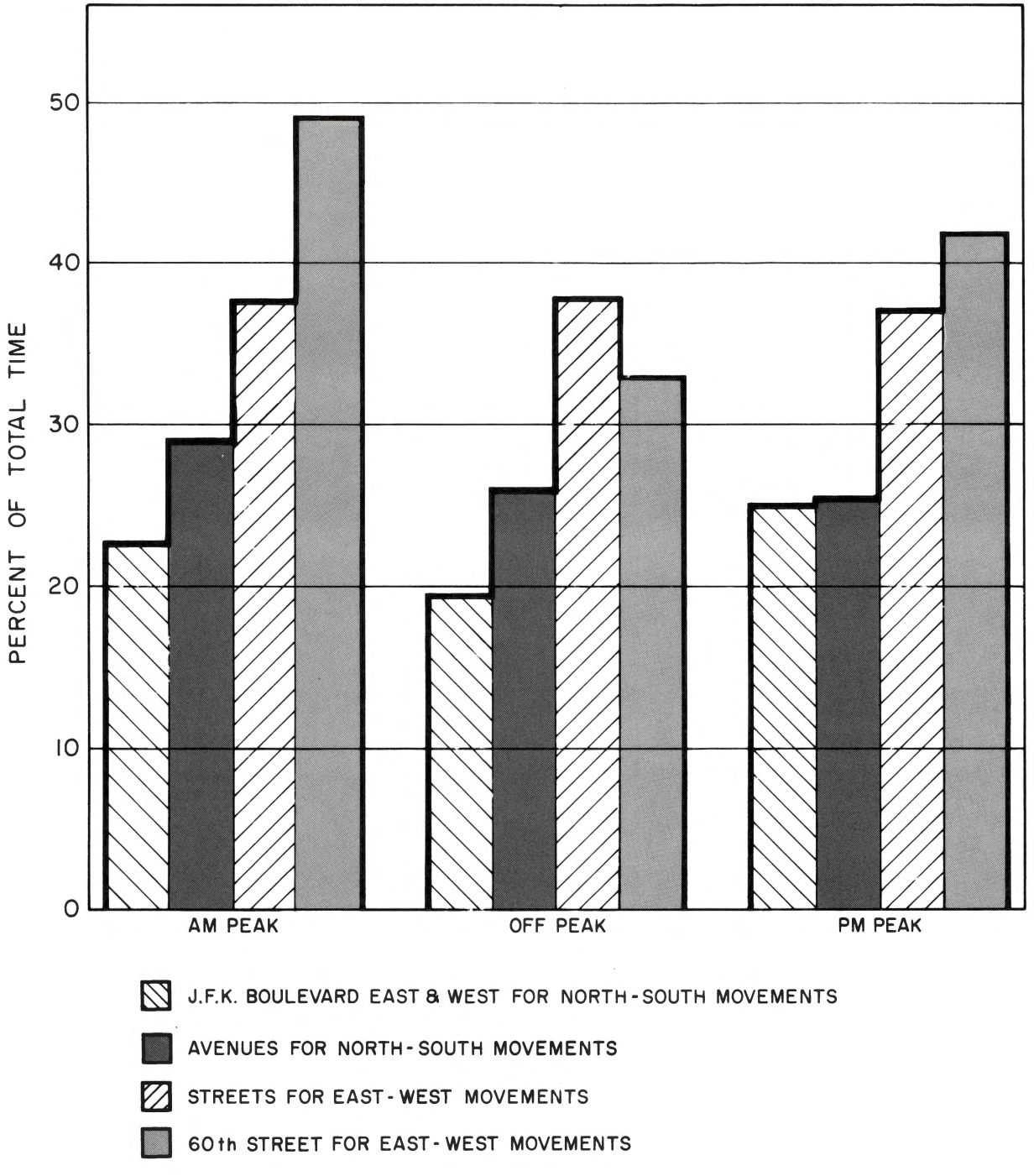
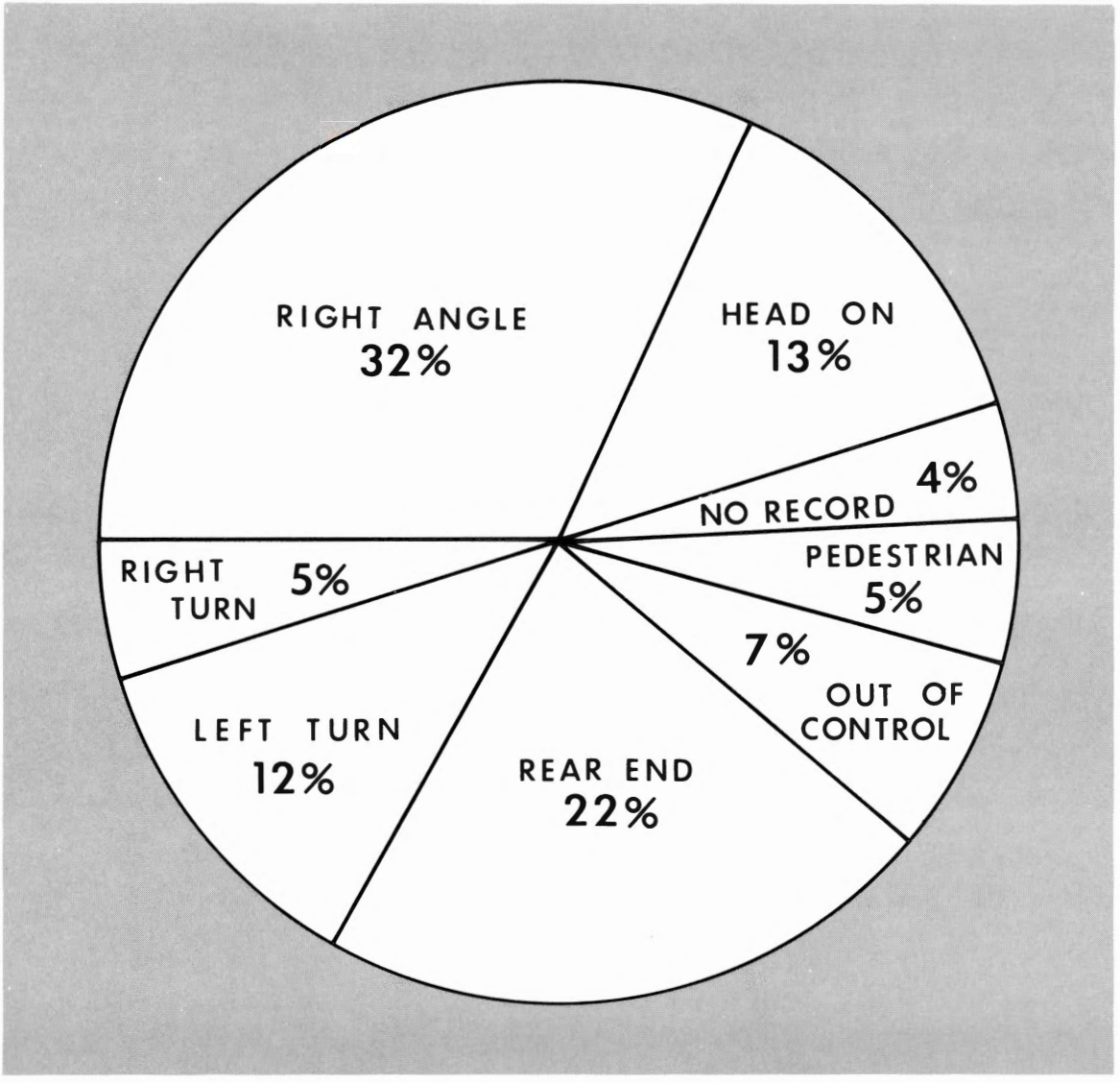


CHART NO. 2

ACCIDENT OCCURRENCES
BY TYPE



TOTAL OF WEST NEW YORK

1969 - 1971

CHART NO. 3

Table IX shows the average speeds and delay times, the latter expressed in percentages of total travel time, on the town's arteries separated into the three time periods of the day and into the main directions of traffic in town. Charts 1 and 2 illustrate these same conditions in graphical form.

TABLE IX

AVERAGE TRAVEL SPEEDS AND DELAYS

	A.M.		Off-Peak		P.M. Peak	
	Avg. Speed MPH	Delay Time As percent of Total Travel Time	Avg. Speed MPH	Delay Time As percent of Total Travel Time	Avg. Speed MPH	Delay Time As Percent of Total Travel Time
All E-W Streets	14.5	38	12.9	38	15.2	37
60th Street	13.6	49	17.4	33	15.3	42
All N-S Avenues	17.4	29	16.8	26	16.0	25
J.F.K. Blvd. E. and W.	22.7	23	24.2	19	21.3	25

Delays were mostly caused by a combination of the closeness of traffic signal spacing and a number of side friction factors such as illegally parked cars and trucks, parking maneuvers in narrow travel lanes and pedestrian crossings in the busy commercial area, notably at the intersection of Bergenline Avenue with 60th Street. Delays during the peak hours, however, were due to the existing traffic signal network. The most pronounced delay was experienced by westbound traffic at the east approach to the 60th Street end point on J.F.K. Boulevard East. This location has strong indicators of capacity deficiency, adverse effect of grade and the large proportion of truck traffic.

Accidents

All reported accidents in West New York for the three-year span from 1969 to 1971, as recorded by the Police Departments of West New York and Hudson County, were examined and extracted so that significant accident facets could be coded for electronic data processing. Thirty-nine street intersections exhibited a high rate of accident occurrences with a minimum aggregate of 15 and a maximum aggregate of 58 incidents in the three-year record period. These locations became the subject of additional detailed analysis through the preparation of collision diagrams. The coded accident data were subsequently tabulated by type, intersection geometry, severity and distribution over time variables. This separation of raw data served to illustrate and gave insight into accident patterns.

Plate 5 identifies accident locations for the entire town and the degree of frequency of occurrence. The 1969 - 1971 record period had an average of 1,102 accidents per year with individual totals of 1,108 - 1,126 and 1,072 accidents for each of the three record years. Approximately 20 percent of all accidents involved injuries with an average of four persons hurt in every three injury accidents. Fortunately, not a single fatality was caused during the record period.

Chart 3 depicts the distribution of accident types and the corresponding magnitude of occurence. The most prevalent types were classified as angle and rear-end collisions which accounted for 32 and 22 percent of all accidents respectively. Head-on accidents claimed 13 percent, left-turn accidents 12 percent, while the remaining 21 percent involved out-of-control, right-turn, pedestrian and other causes.

The highest accident hour of the day was between 5:00 and 6:00 P.M. with nine percent, closely followed by 1:00 to 2:00 P.M. with seven percent of all daily accidents. Saturday registered more accidents than any other day of the week and was followed by Sunday and Friday in that order. Their percentages of the weekly accident picture were 17, 15 and 14 respectively. The highest accident months of the year were February and May, both with slightly over nine percent each of the annual total.

TABLE XI

ACCIDENTS BY OCCURRENCES AND ACCIDENT RATES BY 10 MILLION VEHICLES

Intersection		Yearly Average Accidents	Accident Rate	Intersection		Yearly Average Accidents	Accident Rate
Blvd. West	/51 St.	7	5	Berg'line	/67 St.	6	11
"	/57 St.	6	6	Palisade	/51 St.	6	39
"	/59 St.	7	6	"	/52 St.	5	19
"	/60 St.	6	5	"	/56 St.	9	48
"	/61 St.	8	7	"	/60 St.	13	31
"	/62 St.	6	5	Hudson	/53 St.	9	39
"	/64 St.	6	6	"	/54 St.	6	25
"	/67 St.	7	6	"	/58 St.	6	30
Jefferson	/59 St.	5	32	"	/60 St.	10	23
Berg'line	/50 St.	7	14	"	/61 St.	7	22
"	/51 St.	6	14	"	/65 St.	5	44
"	/52 St.	5	9	Broadway	/57 St.	6	19
"	/53 St.	6	14	"	/58 St.	5	20
"	/55 St.	9	15	"	/60 St.	17	27
"	/57 St.	7	9	"	/61 St.	5	14
"	/59 St.	9	13	"	/62 St.	6	27
"	/60 St.	19	23	"	/63 St.	5	27
"	/61 St.	11	14	Park	/60 St.	14	25
"	/62 St.	8	14	Blvd. East	/60 St.	13	14
"	/65 St.	5	12				

The absolute number of accidents at a given location is not necessarily the best indicator of how accident prone the location is. The number simply and only indicates how many accidents occurred. To be more meaningful, a "rate per unit" measure was employed. For this purpose, the measure of ten million vehicles entering the intersection was adopted for intersection accidents, and one million vehicle miles where a length of street was considered. Table XI gives a comparison of such accident rates with sheer accident numbers at the 39 locations of highest incident. Thus, for instance, the intersections of 62nd Street with Boulevard West and with Broadway had annual averages of 6 accidents each. Due to the greater traffic volumes on Boulevard West, however, that location's accident rate dropped to 5, while the rate on Broadway became as high as 27.

Traffic Signals

The existing traffic signals network in West New York, controlling a total of 94 intersections, is best described by four of its main characteristics:

1. The density of the network - there are signals at over two-thirds of all the through-street intersections.

2. The closeness of the spacing - the absolute maximum distance between signals is under 1,000 feet and the minimum distance is 250 feet (the latter between roughly one fourth of all the signals).

3. The isolated control system - this condition coupled with the close spacing allows for no effective progression.

4. According to the record, none of the traffic signals in West New York, regardless of jurisdiction, has been authorized by the New Jersey Department of Transportation as required by law.

Traffic signals should not be installed unless one or more of the signal warrants are met as specified in the "Manual on Uniform Traffic Control Devices", 1971 edition, in order to avoid an increase in delay and in such accidents as rear-end collisions. Under these criteria, only 40 of the existing traffic signal installations could be warranted. The following Chapter on Detailed Improvement Recommendations discusses the solution to this problem.

The existing traffic signals network, together with the jurisdictions under which the installations are operated, is depicted on Plate 6. All traffic signals are under isolated or simultaneous control without interconnection. Cycle lengths along major arteries are fairly clearly defined. There is no fixed offset plan and progression is only inadvertantly obtained either through extremely long cycle times or where the distances between signals so permit. The presently operative cycle lengths and splits along the major arteries are as follows:

J.F.K. Boulevard West	- 140 seconds with 96 seconds of green on the Boulevard. No offset plan; all signals display red or green indications simultaneously.
Bergenline Avenue	- 90 seconds with 55 seconds of green on the Avenue. There is a basic simultaneous system. Erratic offsets have been observed which are due to absence of master control.
Palisade & Hudson Avenues	- 45 seconds with 22 seconds of green on both Avenues. There is a basic alternate system depending on the proper functioning of the timing devices.
Broadway & Park Avenue	- 45 seconds with 22 seconds of green on both Avenues. There is a basic alternate system depending on the proper functioning of the timing devices.
60th Street	- no set cycle, but 60th Street is given approximately 50 percent of the green split on its crossings with the avenues.

For emergency preemption of intersection for fire runs, the traffic signals on Bergenline Avenue -- between 57th and 62nd Streets -- and on Palisade Avenue -- between 60th and 62nd Streets -- are physically connected to the Police Department to impose an all-red phase upon actuation.

In quite a number of cases, the existing signal equipment has already served for a considerable length of time and is characterized by various degrees of non-compliance with officially adopted standards. Signal visibility is the main failing. This, coupled with the lack of responsiveness to actual traffic conditions on the part of the installations, creates a general safety hazard. It is important to note that of all the intersection accidents, 48 percent were caused by angle collisions and an additional 22 percent by rear-end collisions. Both types of accidents were most likely due to poor signal visibility and unexpected conflicts during the green signal indication.

TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

TOWN OF WEST NEW YORK · NEW JERSEY

PLAN NORTH

0 250 500 750

SCALE IN FEET

TOWN OF GUTTENBERG

CITY OF UNION CITY

TOWNSHIP OF WEEHAWKEN

HUDSON RIVER

CORPORATE LINE

BERGEN JOHN F. KENNEDY BOULEVARD

NORTH WEST JOHN F. KENNEDY BOULEVARD

TOWNSHIP OF

KEY

S - SCHOOL - PUBLIC OR PRIVATE
P - PARK OR PLAYGROUND
M.B. - MUNICIPAL BUILDING
- CORPORATE LINE
- EXISTING DIRECTION OF TRAFFIC

LEGEND

- SPEED LESS THAN 15 M.P.H.
- SPEED BETWEEN 15 AND 20 M.P.H.
- SPEED MORE THAN 20 M.P.H.
- DELAY TIME : 1" = 100 SECONDS

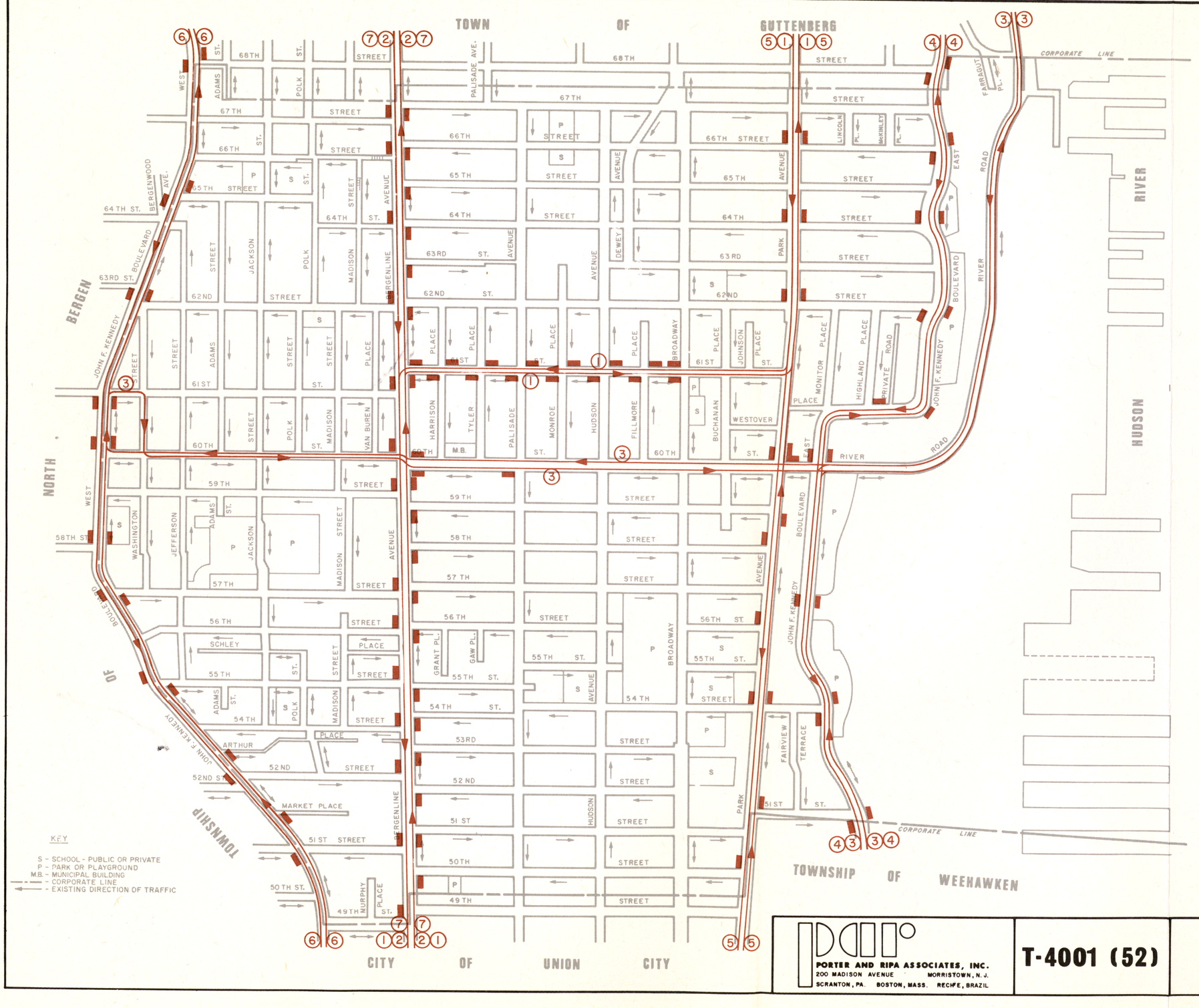
DELAY

PORTER AND RIPA ASSOCIATES, INC.
200 MADISON AVENUE MORRISTOWN, N. J.
SCRANTON, PA. BOSTON, MASS. RECIFE, BRAZIL

T-4001 (52)

AVERAGE TRAVEL SPEEDS AND DELAY TIME

PLATE NO. 7



PLAN NORTH

TOWN OF WEST NEW YORK · NEW JERSEY

0 250 500 750
SCALE IN FEET

TOPICS

WEST NEW YORK
HUDSON COUNTY, NEW JERSEY

LEGEND

1. Rt. No. 19-26 TRANSPORT OF N.J.
2. Rt. Nos. 21,22-26,44 & 61 TRANSPORT OF N.J.
3. Rt. No. 8-98 TRANSPORT OF N.J.
4. Rt. No. 165 & 166 TRANSPORT OF N.J.
5. Rt. No. 44 TRANSPORT OF N.J. (PARK AVE)
6. Rt. No. 184 NORTH BOULEVARD TRANSPORTATION CO.
7. Rt. No. 7,9 & 10 ORANGE & BLACK LINES INC.

▬ EXISTING BUS STOPS

PORTER AND RIPA ASSOCIATES, INC.
200 MADISON AVENUE MORRISTOWN, N.J.
SCRANTON, PA. BOSTON, MASS. RECIFE, BRAZIL

T-4001 (52)

EXISTING BUS ROUTES & BUS STOPS

PLATE NO. 8

TOWN OF GUTTENBERG

CORPORATE LINE

TOWNSHIP OF WEEHAWKEN

CITY OF UNION CITY

BERGEN NORTH HUDSON RIVER

TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

TOWN OF WEST NEW YORK · NEW JERSEY

PLAN NORTH

0 250 500 750

SCALE IN FEET

LEGEND

- NO PARKING ANY TIME
- LOADING ZONE
- METERED PARKING
- 80/50 RIGHT-OF-WAY WIDTH / PAVEMENT WIDTH

KEY

S - SCHOOL - PUBLIC OR PRIVATE
P - PARK OR PLAYGROUND
M.B. - MUNICIPAL BUILDING
— — — - CORPORATE LINE
←——— - EXISTING DIRECTION OF TRAFFIC

PORTER AND RIPA ASSOCIATES, INC.
200 MADISON AVENUE MORRISTOWN, N.J.
SCRANTON, PA. BOSTON, MASS. RECIFE, BRAZIL

T-4001 (52)

PAVEMENT WIDTHS
RIGHT-OF-WAY WIDTHS
AND
PARKING & LOADING ZONES

PLATE NO. 9

Bus Transit

Public transportation in West New York is entirely handled by bus service. Three public transit agencies operate in the area:

- o Transport of New Jersey
- o North Boulevard Transportation Company
- o Orange and Black Lines, Inc.

Transport of New Jersey is the major carrier with nine bus lines on the following arteries:

Bergenline Avenue	- headway 3 minutes
61st St. & Park Ave.	- headway 15 minutes
J.F.K. Blvd. East	- headway 12 minutes
River Road	- headway 20 minutes

North Boulevard Transportation Company provides two bus lines on J.F.K. Boulevard West with an approximate headway of 10 minutes between buses. Orange and Black Lines operates three bus lines on Bergenline Avenue with a headway of 10 minutes.

Bus stop zones are mostly near-side with a length of about 80 feet. Their length and locations are regulated by town ordinance which provides one stop at almost every block along the bus route except on 60th Street. Due to illegal parking and a resulting insufficient length for the bus to move into the curb-side space, buses frequently stop in the intersection, a practice which tends to create chaos with the intersection control. The bus line layout and stop zone locations are shown on Plate 8.

Street and Sign Inventory

Speaking generally for the study area, the north-south avenues in West New York are wider than the east-west streets. Both have a range of curb-to-curb pavement width of from 24 to 60 and from 24 to 50 feet respectively. Of the north-south avenues, J.F.K. Boulevard West, Bergenline Avenue and J.F.K. Boulevard East are the widest. The first has a 60-foot wide pavement including a 6-foot wide median island through most of its length; the second has a pavement width of 55 feet, while the last is 50 feet wide. Of the east-west streets, only 60th Street has a pavement width of 50 feet, while all the others vary between 24 and 40 feet.

The street rights-of-way range from 33 to 100 feet. In the majority of cases, sidewalks are no more than ten feet wide. For as many streets in which the sidewalk width exceeds ten feet, there are other streets in which these pedestrian refuges are less than 10 feet wide. Trees, signs and utility devices further detract from the available sidewalk space. The proximity of existing building lines and roadside developments to the rights-of-way makes it almost prohibitive to widen any major problem location from the standpoint of cost effectiveness. The improvement recommendations of this report have therefore refrained from any geometric changes beyond the curb lines except at the intersection of River Road with J.F.K. Boulevard East. The pavement and right-of-way widths in the study system are shown on Plate 9.

The town's street network is presently posted with many non-uniform signs. In addition, there are numerous cases of stop-lines, crosswalks and lane stripings either incorrectly marked or missing altogether. The result in only too many cases is the loss of all intersection definition.

A survey of 398 traffic signs along major arterials -- with regard to condition, size, shape, material and conformity -- brought out the fact that 23 percent of the total lacked official approval for various reasons and a further 7 percent failed to conform to regulated standards. The actual condition of these signs were classified as follows:

Excellent or new	133
No defects	14
Need repair	5
Message faded	12
Rust spots or holes	4
Missing letter	39
Badly defaced	1
Illegible, bent or torn	190
Total Inventoried	398

It was also observed that one-way signs at many intersections were deficient with regard to the prescribed placement of near right and far left corners of the intersection. Stop signs are missing on a number of minor streets at their intersections with through streets. This condition creates ambiguity as well as a safety hazard.

Parking

West New York, sharing the problems of dense population and a tight street grid with other older communities, is characterized by a high imbalance between the parking demand and available supply. The first far exceeds the second. This is especially so in the areas of commercial and industrial concentration, as along J.F.K. Boulevard West, Bergenline Avenue and 60th Street.

The existing public on-street and off-street parking facilities and restrictions are shown on Plate 7. On-street parking is allowed for varying durations which are designated either by signs or parking meters. Except for street cleaning purposes, when parking is prohibited for two or three hours on certain days, unrestricted parking is allowed on most street segments which are not metered.

Metered parking was classified according to location, available spaces and duration of parking. Assuming Bergenline Avenue to divide the town into two sections -- one to the west and the other to the east of the avenue -- the following tabulation will list the prevailing metered parking condition.

Street	No. of Spaces West	No. of Spaces East	Meter Hours
50th	0	4	1 Hr.
51st	3	4	"
52nd	3	8	"
53rd	0	7	"
54th	3	4	"
55th	6	0	"
56th	6	7	"
57th	4	8	"
58th	0	10	"
59th	8	7	"
61st	16	12	1 Hr.
62nd	0	4	"
63rd	0	4	"
64th	0	9	"
66th	0	4	2 Hr.
67th	4	4	"

Bergenline Avenue has 130 parking spaces metered for one hour each to the south of 60th Street. To the north of that street, there are 89 spaces metered for one hour and 35 spaces metered for two hours. All metered parking on 60th Street is for two hours in 95 spaces. Park Avenue, between 62nd and 66th Streets, provides 47 spaces metered for one hour each. There are an additional 30 metered parking spaces along the east side of J.F.K. Boulevard West, spanning the blocks from 54 to 57th and from 59th to 61st Streets.

The four public off-street parking lots have the following parking available:

57th Street Lot	- 88 spaces for 2 hours each
Two Lots East & West of Madison St.	- 190 spaces for 5 hours each
Van Buren Avenue Lot	- 160 spaces for 5 hours each

This gives a total of roughly 1,010 metered parking spaces all of which are under the administration of the West New York Parking Authority, except those on Boulevard West which come under the Hudson County administration.

Of the 95 metered spaces along 60th Street, 47 are angle-parking situated on the south side of the street between Bergenline and Hudson Avenues. Especially the backing-out maneuvers from these parking spaces present a constant and serious accident potential and a severe cause of delays. The mid-block friction factors which have been observed on 60th Street are almost entirely due to this condition. The angle-parking is discussed in detail in the Chapter on Improvement Recommendations. More background and a proposed solution are offered in that part of the report.

Parking Demand

A comprehensive parking study was conducted along Bergenline Avenue, 60th and 61st Streets, as well as for all public off-street parking facilities, in order to arrive at reasonable indicators with regard to utilization, variation and duration. The greatest parking demands are made along the streets directly serving the principal commercial concentrations of J.F.K. Boulevard West and Bergenline Avenue (see Plate 3). But in the overall picture, almost all streets in town reflect a high demand in company with increases in population, car ownership and a variety of activities competing for the use of scarce land.

The accumulation of parked vehicles measures the instantaneous over-all parking demand for each hour of the day. This accumulation reaches peaks between noon and 2:00 P.M. as well as between 6:00 and 8:00 in the evening. The evening peak demand in fact surpassed that of the afternoon period in terms of absolute space-hours. It is however interesting to note that actual legal space-hours during the evening period were less than those during the afternoon. This would indicate that the evening road user -- who engages in shopping and recreational activities -- is even more prone to flaunt the law so to speak than his opposite number during the working day. Table XII summarizes typical parking statistics along a segment of Bergenline Avenue over an 11-hour day.

TABLE XII

PARKING STATISTICS ON BERGENLINE AVENUE

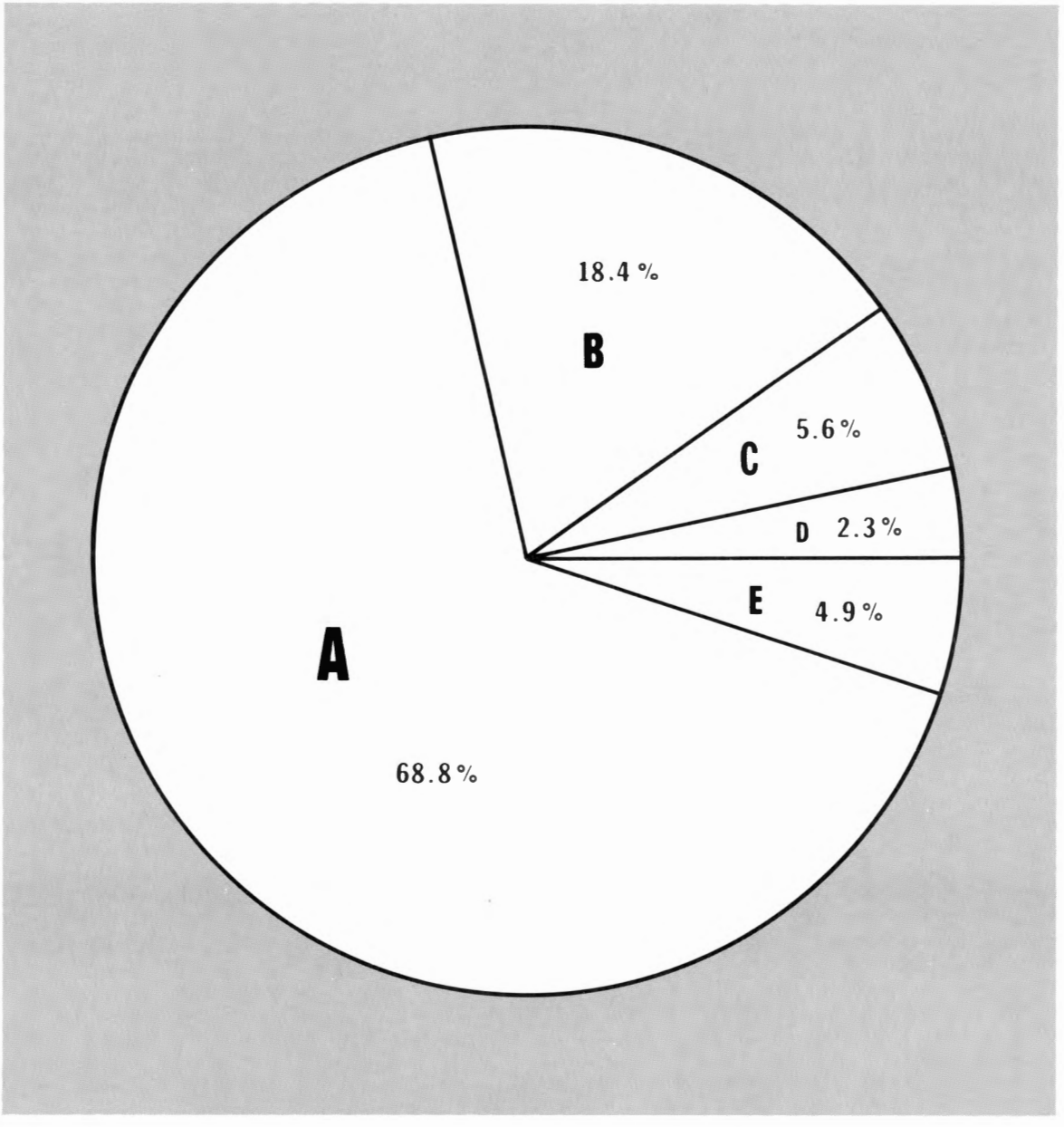
	All Vehicles	Trucks
Number of Spaces	260	
Available Space Hours	2860	
Duration - Hour/Vehicle	0.8	
Turnover Rate - Veh./ Space	1.1	
Legal Space Hours	1578	
Illegal Space Hours	176	70.5
Meter Feeding Spaces Hours	324	38
Overtime Space Hours	511.5	109
Total Number of Parkers	3070	231
Occupied Space Hours	2589	265
Occupancy (Percent)	90.5	

Chart 4 depicts the average duration of on-street parking along Bergenline Avenue during a typical 11-hour day. The utilization of metered parking spaces on this avenue was found to be 85 percent of the available space hours, with an additional 6 percent of occupation due to illegal parking. Metered spaces on 60th Street saw a 77 percent utilization and both metered and unmetered parking on the mainly residential 61st Street accounted for 97 percent of the available space hours. It must be borne in mind that, due to turn-over time, a utilization rate of 75 percent is high indeed.

An analysis of the three public parking lots demonstrates a regrettable underutilization of the off-street parking facilities. This condition is well correlated to the walking distances between the lots and the heart of the central business district. As expected, the degree of utilization is inversely related to the walking distances. Table XIII gives the details of these conditions.

PARKING DURATION

ON BERGENLINE AVENUE



A - 0 to .5 HOUR
B - .5 to 1 HOUR
C - 1 to 1.5 HOURS
D - 1.5 to 2 HOURS
E - 2 or more HOURS

CHART NO. 4

TABLE XIII

UTILIZATION OF PUBLIC OFF-STREET PARKING FACILITIES

Location	Space Hours Occupied	Walking Distance to CBD Center
57th Street Parking Lot	28%	950 Ft.
Two Parking Lots East and West of Madison Street	48%	900 Ft.
Van Buren Avenue Parking Lot	58%	300 Ft.

Except for a few of the older homes and the newly built apartment houses with off-street parking space, most cars in the residential areas are parked in the streets. An intense use of curb space is created which is further aggravated by spillover from nearby commercial areas. The highest percentage of occupied space hours on 61st Street is a good example of this trend.

Priority Rating System

The TOPICS program is directed to the improvement of the traffic handling capacity, the safety and the quality of travel. The analysis of the collected data must, in order to be meaningful, express itself in terms applicable to the solution of prevailing problems and deficiencies. After the corrective measures at various locations have been determined, the question still remains which intersection or which street segment is in the most urgent need of having its deficiencies remedied and what sequential order should be applied to the work on the remainder.

A priority rating system was therefore developed in order to select problem locations in relation to one another. This system is based on the parameters derived from accident history, the degree of congestion and the extent of delay. Numerical values were assigned to all these conditions which resulted in a priority number by which the urgency at each intersection could be ranked in descending order.

Accidents were categorized according to number and severity of occurrences by considering the incidence of property damages, personal injuries and fatalities at each location. Property damage was considered as the condition of smallest economic impact and was given the value of one equivalent accident. A personal injury was treated as three and a fatality as twelve equivalent accidents. However, the last condition was not applied to the priority ranking as the three record years from 1969 to 1971 listed no traffic fatalities in West New York. The equivalent accident numbers were expressed in groups of from one to ten and constitute the accident ranking. In arriving at a weighted point value for the determination of the priority number, the accident rank was given a weight of five.

Congestion was treated as an expression of capacity. The volume/capacity ratio of each intersection was computed based on an analysis of existing capacity. This analysis takes into account all contributing factors such as traffic volume, approach width, presence of

signal, presence of bus service, parking and the like. A volume/capacity ratio of unity or one indicates that the traffic demand is just about being met by the design capacity of the intersection. The volume/capacity ratio can be used quantitatively as an indication of the degree of congestion. Where the value is lower than one, the facility registers a generally acceptable Level of Service C or better -- where it is higher than one, it comes close to being overtaxed. These ratios were expressed in groups of from one to ten and constitute the capacity ranking. In arriving at a weighted point value for the determination of the priority number, the capacity rank was given a weight of three.

Delay at an intersection was measured by the time lost by all vehicles on all intersection approaches. The parameters had been established by the time and delay studies in conjunction with the traffic volume counts. The measure of vehicle-seconds was adopted which is expressed in units of one thousand. Thus, to put it in the simplest terms, the value of 15 (representing 15,000) can mean that 1,000 vehicles were delayed for 15 seconds each, or 5,000 vehicles were delayed for 3 seconds each. The various units of vehicle-seconds were expressed in groups of from one to ten and constitute the delay ranking. In arriving at a weighted point value for the determination of the priority number, the delay rank was given a weight of two.

The results of this rating procedure together with the respective point values and resulting priority numbers are shown in Table XIV for eleven intersections. These had been identified for application of specific traffic engineering measures to alleviate the problems presently impairing safer, smoother and faster traffic movements. The weight factor of 5, 3 and 2 for accident, capacity and delay respectively are given in the heading of the column arriving at the total weighted point values. A maximum of 100 points is possible at an intersection under this procedure. Altogether 57 intersections were thus analyzed. A total point value of 54 was chosen as the lower limit for the application of specific and individual measures. Below that limit, the costs involved did not appear to justify the benefits which could be derived. The magnitude of the point value finally determined the priority number for each intersection.

TABLE XIV

PRIORITY RATING

INTERSECTION	ACCIDENT		CAPACITY		DELAY		WEIGHTED POINTS				PRIORITY NO.
	EQUIV NO.	RANK	V/C	RANK	VEH. SEC.	RANK	ACC. (5)	CAP. (3)	DEL. (2)	TOTAL	
Berg'line /60th	123	10	0.96	8	35	9	50	24	18	92	1
Palisade /60th	131	10	0.69	5	15	7	50	15	14	79	2
Broadway /60th	101	8	0.92	8	8	6	40	24	12	76	3
Blvd. East /60th	60	5	1.46	10	115	10	25	30	20	75	4
Blvd. West /60th	69	6	1.17	10	12	6	30	30	12	72	5
Blvd. West /60th	55	5	1.16	10	17	7	25	30	14	69	6
Hudson /60th	68	6	0.94	8	4	5	30	24	10	64	7
Blvd. West /62nd	32	3	1.31	10	16	7	15	30	14	59	8
Park /60th	61	5	0.83	7	10	6	25	21	12	58	9
Blvd. West /51 st	47	4	1.56	10	2	3	20	30	6	56	10
Berg'line /61 st	44	4	0.79	6	25	8	20	18	16	54	11

VIII. DETAILED IMPROVEMENT RECOMMENDATIONS

A general discussion of the improvement recommendations is summarized in Chapter VI, while the preceding text gave the background for their introduction. Part I of this report dealt in general terms -- this Chapter deals with the specifics. As before, the recommendations are divided into the following three categories:

- Areawide
- Arterial
- Spot Improvements

It must be said here once again that many of the improvement recommendations for the Boulevard System, both East and West, as well as those along a portion of 60th Street affect roads under the jurisdiction of Hudson County. All improvements recommended for J.F.K. Boulevard West in particular have an impact on the traffic of the neighboring Township of North Bergen.

A number of the arterial improvements concern the City of Union City to the south. As a matter of fact, the recommendations recently made for the latter community in a parallel study cannot be entirely separated from those made in this report any more than the present study can ignore the previous one. It is therefore the first recommendation of this report that all improvements arising from this study be closely coordinated with the responsible agencies of the three above named administrations.

AREAWIDE RECOMMENDATIONS

The Areawide Recommendations deal with subjects under the following section headings:

1. The Educational Program
2. Replacement Parking
3. Statutory Law and Minimum Standards
4. Available Parking
5. Traffic Signs and Pavement Markings
6. Street Lighting
7. Traffic Signals -- Areawide Considerations
8. Recommended Federal Aid System
9. Traffic Ordinances and Organization
10. Enforcement and Maintenance Program
11. Accident Records and Monitoring Program

Items 1, 3, 9 and 11 listed above are not covered by the TOPICS funding program. However, aid for portions of these undertakings -- and especially for the Educational Program -- will be available under the auspices of the office of Highway Safety.

1. The Educational Program

The thoughtlessness of the single individual in the manner in which he uses the public street creates problems with which the majority has to contend. One inconsiderate practice endangers the safety of many. The problem is how to get better cooperation from the citizens of West New York in an all-out attempt to improve the quality of traffic flow in town. A greater understanding must be created among the general public of the need for traffic regulations. These rules of the road, so to speak, are the only means of lightening the burden that falls on all. No enforcement can be made to bear fruit unless the public is willing to concede the necessity for it. No improvement will be obtained for as long as the enforcement program is regarded merely as an irksome nuisance to be circumvented. The enforcement program should therefore be explained in positive terms, in terms of the benefit which all will derive.

The list of poor practices in the use of the road is numerous. Illegal parking in every one and all of its aspects takes away from the free use of the public thoroughfare and increases the accident potential. Two commonly encountered practices are indicative of

a deficiency in communal discipline. One is the overtaxed parking use on the busier portions of Bergenline Avenue and 60th and 61st Streets when taken in the context of the definite under-utilization of the nearby public off-street parking lots. The other is the poor use of the time of those who, for the sake of a two or three-block walk, prefer to watch the clock and resort to meter feeding rather than park their cars in the lesser used street segments or in the public parking lots, both with extended parking privileges.

Poor parking practices alone are not the only symptoms of what can easily degenerate into an anarchy of the public street. Blocking sight distances, ignoring emergency measures, disregarding regulatory devices, window-shopping from the car, failure to signal, running intersections, jaywalking and parents encouraging jaywalking by setting the wrong example -- all tend to deprive others of their equal rights and contribute to an ever present danger.

It is therefore recommended that an educational program be designed which will aim at gathering the citizens to the side of the enforcing agencies. Traffic and its problems are facets of urban living which affect everyone. Life in close quarters, and aggravated by dense traffic, can still be well ordered. The rights of others must be understood by all. The machinery for such an educational program exists. It starts in the schools and carries over from there to adult evening courses, citizenship classes, as well as neighborhood clubs and associations.

The help of the press will be invaluable in providing a forum to discuss the beneficial aspects of an improved traffic flow. House-to-house distribution of informative booklets will be effective. Finally, it is strongly recommended that all materials be prepared both in English and in Spanish in order to make the program meaningful and to give it a realistic basis.

2. Replacement Parking

West New York is confronted by a problem ridden situation which is not unique to the town itself. The problem is shared with any number of older inner cities which, fortunately, still maintain an active community life. The encouraging note lies in the fact that this community life is constantly expanding. Where there is urban blight and flight to the suburbs, parking problems soon diminish. The town has much to offer to its citizenry and its administration has shown itself conscious of the need for a solution.

Existing parking restrictions and prohibitions must be extended to conform with statutory requirements and, beyond that, to ease the flow of traffic as demanded by localized conditions. In a town as totally built up as West New York, a lost public on-street parking space cannot be replaced by another just around the corner. Public off-street parking must be provided instead.

A federal aid program is available which, on a one-for-one basis, will help create one public off-street parking space to replace each existing on-street parking space lost due to traffic improvements. In the light of this aid, such planning for public off-street parking becomes a reality. It is recommended that the Town at once initiate a program for the acquisition of building lots, as they become available through fire or abandonment, to have the space for public off-street parking facilities.

By necessity, planning for public off-street parking will not only strive to make good the loss of on-street parking which was given up in the interest of greater circulation safety and quality of flow. The increase in automobile ownership and the growth of commerce constantly impose additional parking demands. Faced with the sparsity of available space in West New York, it is strongly recommended that early thought be given to the construction of multi-level parking garages, both above and underground. Many cities in the nation with similar concentrated use patterns can supply the example. There must be forward thinking and it is hoped that the federal, state and county agencies will be responsive to the planning of the Town.

The existence of the railroad lands in the easterly portion of town and their possible eventual acquisition by West New York opens up new vistas with regard to off-street parking. The lands, however, are relatively remote from the areas of greatest demand and their use for parking facilities would become meaningful only in conjunction with an efficient mini-bus park-and-ride service along 60th Street and over to Bergenline Avenue. Yet, the eventual availability for such public use is indicative of what is still possible in even so fully developed a community as West New York.

3. Statutory Law and Minimum Standards

The New Jersey Statues Annotated, Title 39 of the Revised Statutes (Motor Vehicles and Traffic Regulations), set the standards and procedures to be followed throughout the state. Chapter IV of this law contains several provisions which are of special interest to West New York because they are not generally resolved, practiced and enforced. These provisions prohibit all parking, stopping or standing

a) within twenty-five feet of the nearest crosswalk or side line of an intersecting street,

b) within fifty feet of a stop sign,

c) within an intersection -- such as the straight-line curb portions of an offset or T-intersection, and

d) on a crosswalk.

The strict enforcement of these provisions will do much to clear street intersections of parked vehicles blocking the sight distance into the intersection. It will further ensure an unobstructed view of all control devices. This measure in itself will greatly reduce the high number of accidents prevalent throughout the town.

The discussion of the town's parking problems contained in Part I of this report already touched upon an additional measure which, though not necessarily provided by law, will further aid in the improvement of traffic safety and circulation. Table VII of this report, while providing only for one lane of traffic in each direction, can be expanded to cover situations where two lanes of travel in any one direction are desired:

TABLE XV

SUGGESTED MINIMUM STREET WIDTHS FOR AUTHORIZED PARKING

One Travel Lane Each

One-way	Parking one side	18 feet
One-way	Parking both sides	26 "
Two-way	Parking one side	30 "
Two-way	Parking both sides	38 "

Two Travel Lanes Each

One-way	Parking one side	30 feet
One-way	Parking both sides	38 "
Two-way	Parking one side	52 "
Two-way	Parking both sides	60 "

4. Available Parking

It will be helpful here to assess the effects of the recommendations with regard to parking on the total parking space availability within the study system of West New York. Several of the recommendations made in Section 3 of this Chapter will result in a loss of presently existing on-street parking space. On the other hand, and not only to offset this loss, but specifically to aid the flow of traffic, the following Division of this Chapter (Arterial Recommendations) proposes the elimination of certain bus stop zones. Additional parking space, however, will still be lost due to the spot improvement recommendations at specific locations.

Table XVI shows the results of such an assessment within the street network of the study system. The numbers given are based on estimates as well as actual counts, and should therefore be regarded as close approximations only.

TABLE XVI

PUBLIC PARKING SPACE ASSESSMENT WITHIN STUDY SYSTEM

Presently Available On-Street		3,260
Presently Available Off-Street		440
Sub-Total		3,700
Lost to Enforcement of State Law	-	330
Lost to Adoption of Minimum Lane Widths	-	25
Lost to New Stop Sign Control	-	40
Lost to Spot Improvements	-	75
Lost to Change of Angle to Parallel Parking	-	40
Gained by Bus Stop Elimination	+	40
Total		3,230
Net Loss		470

Table XVI serves to indicate the magnitude of needed replacement parking merely to offset the loss incurred by the adoption of legal and minimum standards. Conclusions with regard to the entire town can be drawn from the fact that the study system street network represents only about one half of all of West New York's streets. The recommendation to plan ahead therefore becomes all the more inescapable.

5. Traffic Signs and Pavement Markings

As already mentioned in Part I of this report, an inventory of existing regulatory and guide signs has been performed in West New York in conjunction with the Bureau of Traffic Engineering, Department of Transportation. From this survey it would appear that approximately one third of all the signs in town are either unapproved by state authority or non-conforming with regard to official standards. A considerable number of these signs contribute to the regulatory confusion and the resulting disregard for signs due to the conflicting messages relative to their placement. It is therefore recommended that:

a) all existing signs with conflicting messages be removed and reinstalled in locations where their placement becomes meaningful; and

b) all signs and pavement markings, both existing and new, be brought into conformity with the standards contained in the "Manual on Uniform Traffic Control Devices for Streets and Highways", U.S. Department of Transportation, Federal Highway Administration, 1971 Edition.

The lack of definition at street intersections is frequently compounded by inadequacies of pavement markings and often by their total absence. The manual cited above details the applicable standards without which no intersection will ever be completely safe. It is therefore stressed that the recommendation (b) above applies not only to signs but also to pavement markings, such as lane stripes, stop lines, crosswalks and the like.

6. Street Lighting

It is recommended that all new street lighting, as well as existing lighting under the updating program of the utility company, conform to the standards contained in the "American Standard Practice for Roadway Lighting" published by both the Illumination Engineering Society and the American Standards Association. Street lighting is not fundable under the TOPICS program unless it can be shown that accidents are due to insufficient lighting or that accidents occurring during hours of darkness exceed those happening during daylight hours.

7. Traffic Signals - Areawide Considerations

Chapters V and VI appearing in Part I of this report give the general background with regard to the traffic signals in West New York and a summation of the proposed solution to the problem. The Chapter on Existing Conditions in Part II deals with the traffic signal system as it presently operates. In order to avoid unnecessary repetition, the reader is referred to the foregoing text.

Only full compliance with the warrant requirements stated in the Manual on Uniform Traffic Control Devices for Streets and Highways will ensure federal participation in TOPICS improvements. Warrants are enumerations of certain minimum conditions prevailing, in conjunction with traffic projections for the planning period, at a location which will justify the installation of a control device. Out of a total of eight such warrants, five were selected as applying to the variety of conditions encountered in the town. The use of a combination of two or more concurrent conditions is permissible but the warrant is chosen on the basis of the predominant one.

Based on these considerations and on those expressed in Part I of this report -- and in particular those relating to the total lack of state approval for any of the existing installations -- a coordinated system of 40 traffic signal controlled intersections is recommended. The following Division of this Chapter (Arterial Recommendations) will explain the proposed cycle time assignment to this network and what interconnection may be necessary. Table XVII shows the recommended disposition of traffic signals by the selected warrants and by the jurisdictions under which the installations will fall. Plate 11 locates the actual intersections which will constitute the control system.

TABLE XVII

RECOMMENDED TRAFFIC SIGNAL SYSTEM
BY WARRANT AND INSTALLATION

Warrant No.	Installation		
	West New York	Hudson County	Total
1	9	3	12
2	4	2	6
3	-	1	1
5	18	1	19
6	1	1	2
Totals	32	8	40

Warrant 1 - Minimum Vehicular Volume
Warrant 2 - Interruption of Continuous Traffic
Warrant 3 - Minimum Pedestrian Volume
Warrant 5 - Progressive Movement
Warrant 6 - Accident Experience

The single application of Warrant 3 above was deemed justified in the singular case of one existing installation which no longer controls vehicular cross movements but still remains significant from a psychological point of view and one of community interest. This traffic signal installation is by Hudson County and is located on J.F.K. Boulevard East and the now closed-off 57th Street. It is recommended for retention as a pedestrian-actuated device. The existing signals control the major pedestrian crossing between the high-rise apartment buildings on the west side of the Boulevard and Donnelly Park on the east side of this important artery. The nearest intersections under traffic signal control are either 800 feet to the north or 1,800 feet to the south. The highest use hour during the day has 230 pedestrians crossing in the face of 1,730 vehicles for the peak hour on the Boulevard. The pedestrian push-button will register its call only upon actuation.

The present traffic signal installations which are not covered by the recommended system, and for which no warrants could be established, will fall under an inactivation program and be subject to eventual removal. The proposed schedule by which the total signals network improvement can best be effected treats the phasing-out activities in conjunction with the up-grading of the remainder. The division into three improvement phases is based on considerations of maximum benefit. Arterial segments are treated as a whole from the viewpoint of accidents, delays and traffic volumes. Of additional influence on the scheduling was to equalize as much as practical the numbers of inactivated and improved signals as well as the costs involved in the three stages.

Whether the three improvement stages are spread over a period of three consecutive years or any shorter time span is as much a question of budgeting requirements as it is one of public acceptance. Plate 10 illustrates by actual locations and Table XVIII tabulates by numbers the recommended improvement schedule staging.

TABLE XVIII

RECOMMENDED TRAFFIC SIGNAL IMPROVEMENT SCHEDULE

Stage	Installation				Total
	West New York		Hudson County		
	Inactivate	Improve	Inactivate	Improve	
1	6	10	9	6	31
2	18	13	0	1	32
3	15	9	6	1	31
Totals	39	32	15	8	94

A number of existing traffic signal heads and their mounts are of such recent vintage (five years or less of age) as to make it possible to include their use in the improved system. This also applies to a number of controllers, providing they are equipped with as many dials as are required for the proposed signal cycle splits. These conditions were reflected in the cost estimates for the improvement work. There remain, with respect to the recommended traffic signals improvement program, several general considerations:

Full compliance with the traffic signal warrant requirements will ensure Federal aid, including the costs of signal removals.

Where the age and adequacy of the existing signals equipment does not permit otherwise, all installations for the improved system will be comprised of new equipment (signal heads, mounts and controllers). Federal aid applies.

All new signal installations will provide for at least two signal indications in each direction of traffic. Federal aid applies.

All signal faces, phased to permit turning movements separate from the through movement, will be provided with the appropriate turn arrow indication on a 12-inch lens. Federal aid applies.

Supplemental or pedestrian signal indications will be added to all controlled intersections where the traffic signal face is not otherwise clearly visible to pedestrians using the crosswalk provided. Federal aid applies.

The inactivation of traffic signal installations will, at many intersections, establish warrants for the control of stop street conditions. Plate 11 shows the recommended locations of stop signs and their accompanying stop line pavement markings. Federal aid applies.

Because of the superimposition of jurisdictions, the improved traffic signal system for West New York will require the close coordination of the affected agencies of Hudson County.

Before passing on to other matters, re-emphasis must be placed on the community considerations involved in inactivating -- regardless how small or large -- a part of a long established traffic signal system. The argument is not being advanced that one unauthorized signal or another should be retained for whatever reason. It is simply being pointed out that the traffic signals in West New York have been in operation during the motoring span of three driver generations. The presence of the signals, such as they are, has molded the driving habits of the town's road users and has affected their subsconscious reactions.

The educational program recommended elsewhere in this report must here play its part. The gradual phasing-out of those signals which have no warrants must be accompanied and preceded by effective public notice with regard to:

- o the affected locations,
- o the benefits to be derived from the improvement,
- o the adjustments best made by both drivers and pedestrians to enjoy the maximum benefit.

The educational program will not only precede and accompany the implementation period of the TOPICS improvement, but will quite likely have to be carried forward on a continuous basis -- perhaps for longer than can now be anticipated. Only continued public education with regard to the dangers inherent in high density traffic can generate the kind of response that will make safety truly meaningful.

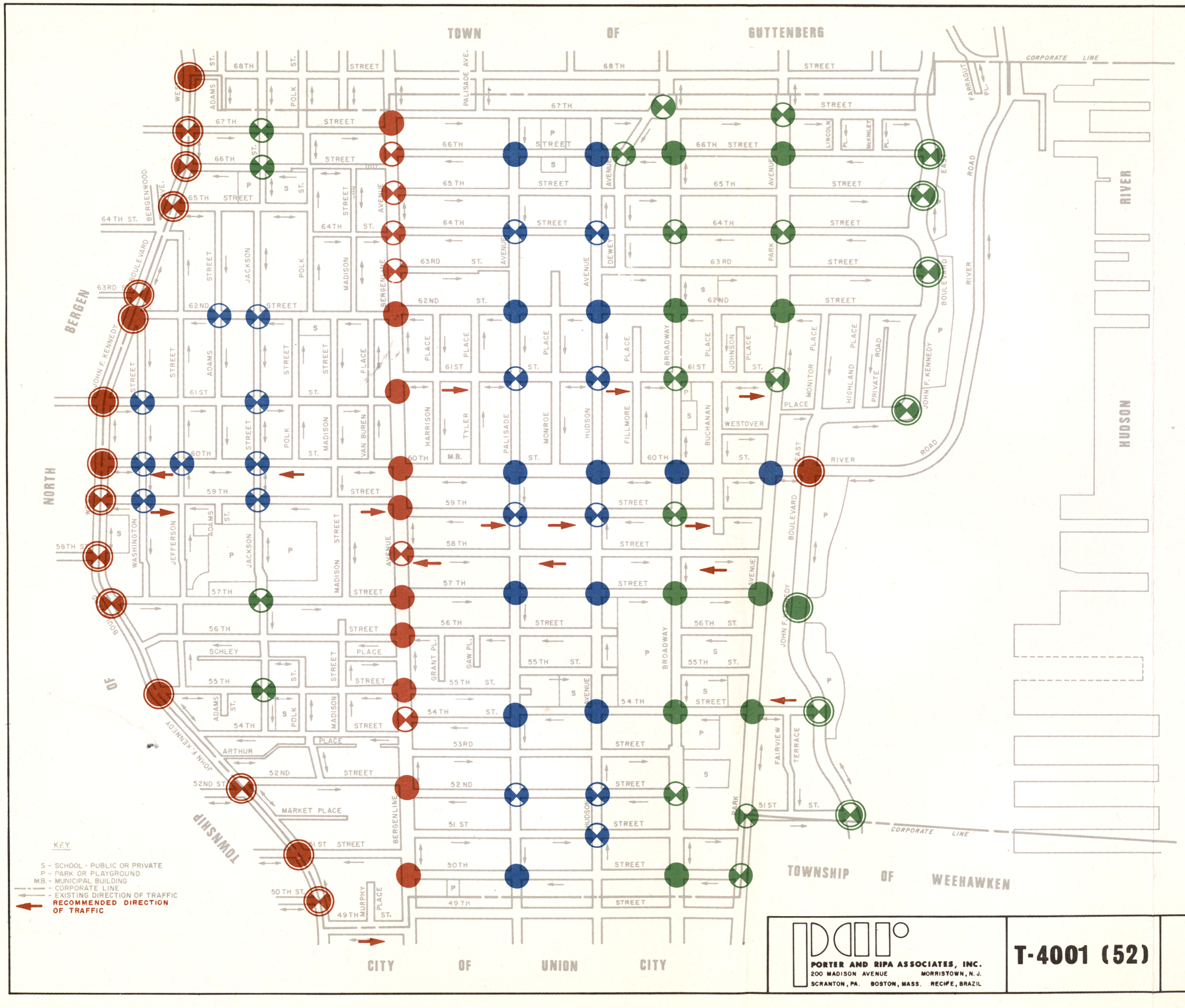
8. Recommended Federal Aid System

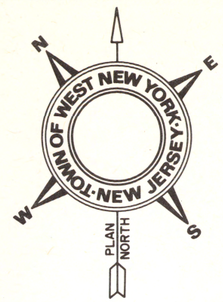
The street network encompassed by the study system is selected as a basis for investigation. The actual assessments of the study process may suggest the need for certain changes before a federal aid system is officially formulated. Traffic conditions outside the study area can have enough of a bearing on factors involved within the system to warrant alterations to the predetermined area. In order to treat the significant street segments and their traffic characteristics as a cohesive whole, neither the data collection nor their analyses could be strictly confined to the study limits. Certain recommendations consequently took account of a wider range than originally foreseen.

The network which will delineate a future implementation program must include such areas where improvement recommendations reach beyond the study system. At the same time, it should include deletions where no improvements are required or where an intersection is already covered in one of two or more directions. It is therefore recommended that the proposed Type II Study System be adjusted in the manner shown on Plate 12 in order to form the Recommended Federal Aid System.

9. Traffic Ordinances and Organization

Rules and regulations for the use of the roadway system within the State have been promulgated under authority granted to the Commissioner of Motor Vehicles and his successors in interest in the Commissioner of Transportation by the State Legislature in 1930. Today these rules and regulations are defined in Title 39, Motor Vehicles and Traffic Regulation, of the Revised Statutes of the State of New Jersey.





TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

0 250 500 750

SCALE IN FEET

LEGEND

	STAGE 1	STAGE 2	STAGE 3
SIGNAL INSTALLATION OR IMPROVEMENT WEST NEW YORK	●	●	●
SIGNAL REMOVAL WEST NEW YORK	⊗	⊗	⊗

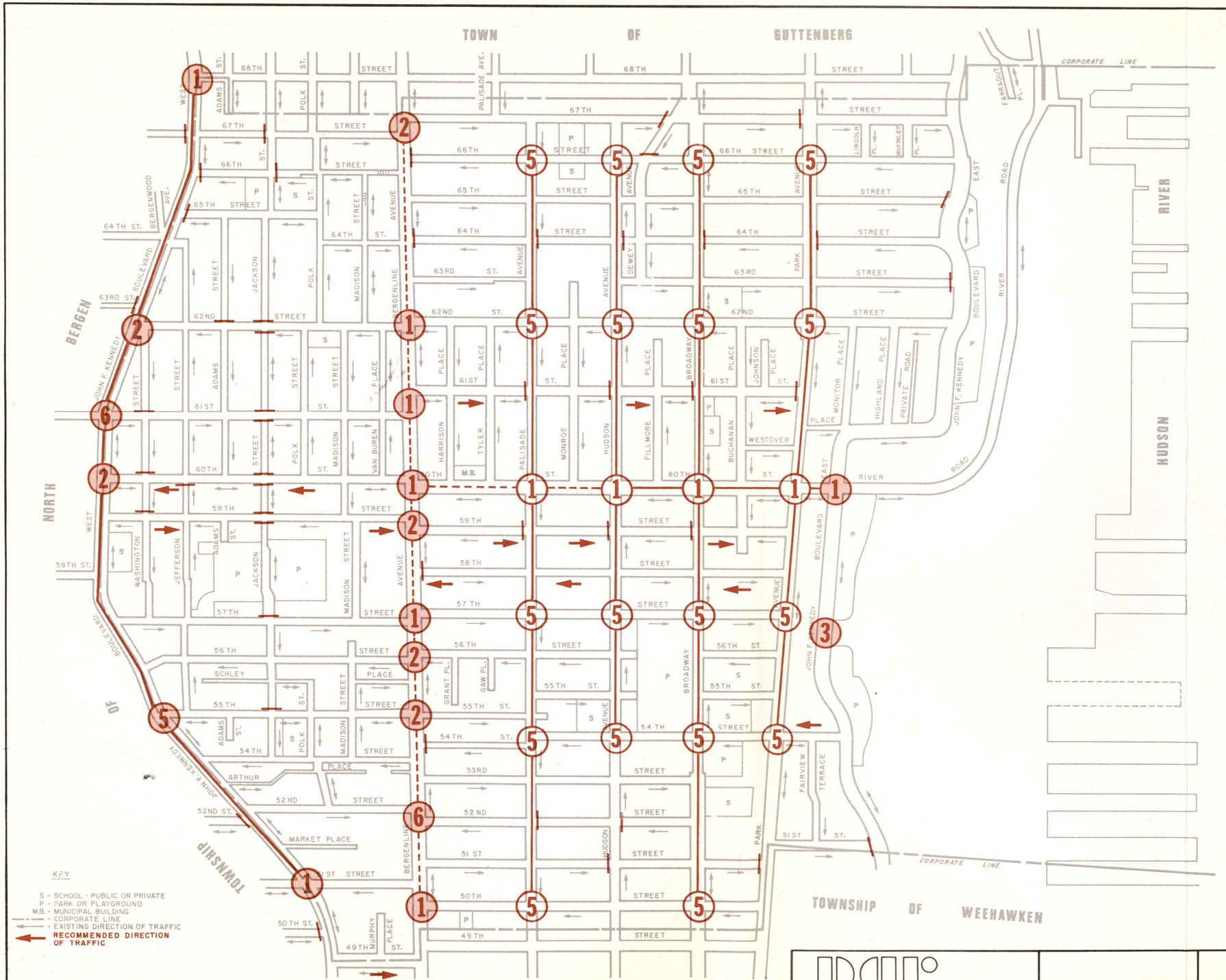
NOTE: OUTER CIRCLE DENOTES HUDSON COUNTY SIGNAL INSTALLATION, IMPROVEMENT OR REMOVAL.

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T-4001 (52)

RECOMMENDED TRAFFIC SIGNAL SYSTEM
IMPROVEMENT SCHEDULE

PLATE NO. 10



TOWN OF WEST NEW YORK · NEW JERSEY

PLAN NORTH

0 250 500 750

SCALE IN FEET

TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

LEGEND

- APPROACH UNDER STOP SIGN CONTROL - REPLACING EXISTING SIGNAL
- RECOMMENDED SIGNAL LOCATION WITH 90-SECOND CYCLE LENGTH
- RECOMMENDED SIGNAL LOCATION WITH 45-SECOND CYCLE LENGTH
- (1) TRAFFIC SIGNAL WARRANT NUMBER IN CONFORMANCE WITH "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"
- RECOMMENDED OVERHEAD SIGNAL INTERCONNECTION
- RECOMMENDED UNDERGROUND SIGNAL INTERCONNECTION

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RECOMMENDED TRAFFIC SIGNAL SYSTEM

PLATE NO. 11

TOWN OF GUTTENBERG

CORPORATE LINE

TOWNSHIP OF WEEHAWKEN

CITY OF UNION CITY

BERGEN NORTH TOWNSHIP OF

HUDSON RIVER

TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

TOWN OF WEST NEW YORK · NEW JERSEY

PLAN NORTH

0 250 500 750

SCALE IN FEET

LEGEND

FEDERAL AID URBAN	3.1 MILES
FEDERAL AID TYPE II	8.8 MILES
TOTAL SYSTEM	11.9 MILES

KEY

S - SCHOOL - PUBLIC OR PRIVATE
P - PARK OR PLAYGROUND
M.B. - MUNICIPAL BUILDING
- CORPORATE LINE
- EXISTING DIRECTION OF TRAFFIC
RECOMMENDED DIRECTION OF TRAFFIC

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RECOMMENDED FEDERAL AID SYSTEM

PLATE NO. 12

TOWN OF GUTTENBERG

TOWNSHIP OF WEEHAWKEN

CITY OF UNION CITY

CORPORATE LINE

HUDSON RIVER

NORTH BERGEN

TOPICS

WEST NEW YORK

HUDSON COUNTY, NEW JERSEY

TOWN OF WEST NEW YORK · NEW JERSEY

PLAN NORTH

0 250 500 750

SCALE IN FEET

KEY

S - SCHOOL - PUBLIC OR PRIVATE
P - PARK OR PLAYGROUND
M.B. - MUNICIPAL BUILDING
- CORPORATE LINE
- EXISTING DIRECTION OF TRAFFIC

LEGEND

2 INDICATES FIGURE NO. AND PRIORITY RATING.

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T-4001 (52)

SPOT IMPROVEMENTS LOCATION MAP

PLATE NO. 13

While all authority for establishing standards to be observed by roadway users rests with the State, certain portions of that authority have been delegated to political subdivisions within the State. Generally, the areas of the delegated authority include:

a. Placement of traffic control signals.

b. Determination of speed limits.

c. Establishment of parking regulations.

d. Designation of stop streets.

e. Restriction of curb loading zones for the use of trucks, buses and taxicabs.

f. Prohibition of certain vehicle usage on designated streets.

g. Determination of one-way streets.

The procedures to be followed by the subdivision accepting the authority must be strictly adhered to. First an ordinance, resolution or regulation must be passed, depending on the nature of the feature to be controlled and as specified in Title 39. A copy of such ordinance, resolution or regulation is then sent to the Commissioner of Transportation for approval. Upon approval by the Commissioner, the regulation becomes enforceable by the subdivision. In general, the subdivision most usually desirous of regulating some aspect of traffic is the municipality. However, subdivision also applies to the County or an autonomous Authority created to regulate traffic. In certain instances, municipalities may regulate traffic and traffic flow on County Roads. In such cases, an additional approval is required by the County as well as by the State.

Traffic and parking ordinances of the Town of West New York have been reviewed and in general their format follows the requirements set forth in the State Statutes. Most of the ordinances are dated and certified as having been approved. It also appears that the great majority of the Town's ordinances have been approved by the State.

The Town of West New York has recently contracted to have all its ordinances codified. When completed, this work will prove extremely valuable. At a glance, the most up-to-date ordinances will be readily discernible. In connection with the traffic ordinances, it would be to the advantage of the Town, and it is so recommended, that each ordinance show the date of introduction, date of first reading, date of second reading, date of approval by the Board of Commissioners of the Town, and the dates of approval by both the County and the State. When the Board of Commissioners considers future changes in traffic ordinances, it is recommended that the 1968 edition of the "Model Traffic Ordinance" and its amendments, as published by the National Committee on Uniform Traffic Laws and Ordinances be used as a guide. This publication will be very useful in drawing up traffic ordinances.

For a town with the population density of West New York, the creation of a position of Traffic Engineer is recommended. The person filling this position would deal with all problems relating to traffic. He would be a coordinator between the Administrative Offices and the Departments of Public Safety, Police, Engineering, Public Works, Fire, Sanitation as well as Civil Defense. He would be responsible for solving any problems affecting the flow of traffic and the safety of pedestrians and drivers alike. He will review plans covering the design, location or repair of streets and driveways, ingress and egress to business and shopping facilities, the design and location of loading zones, traffic signals and other control devices. Parking zones would also fall under his jurisdiction. He would be expected to keep accident and traffic flow records as well as other related data. He would also be responsible for the maintenance, repair and proper installation of traffic signals and other control devices.

10. Enforcement and Maintenance Program

From visual observations in the town and from interviews with West New York enforcement officials, it can be concluded that enforcement of existing laws and ordinances is generally satisfactory. The exception perhaps is the enforcement of no-parking or no-standing in prohibited zones.

Once the recommended educational program has been put into effect and planning for replacement parking underway, a concerted effort must be made to put a stop to the consistent and chronic parking violations prevalent throughout the town. A special task force is recommended to deal with this serious impairment of the traffic flow in West New York.

It is further recommended that a regular maintenance program be set up for the periodic repair or replacement of faulty parking meters and damaged traffic signs in order to gain respect for the enforcement. This maintenance program should come under the office of the Town Traffic Engineer.

11. Accident Record and Monitoring Program

The West New York Police Department has instituted the practice of maintaining an accident spot map on a yearly basis. This consists of a wall board of adequate size displaying the town's street network. By means of colored pins, accident occurrences, frequencies and types are recorded on this board. This affords an excellent means of currently appraising the situation. Unfortunately, however, with the end of each year the board is wiped clean by the removal of all code pins in preparation for the next year's recording process. With this, the overall visual record is lost.

The recommendation is obvious therefore, that the board showing the complete accident status of the concluded year be reproduced by color photography. These color photographs can be displayed alongside the larger board showing the current year's record, as it develops,

in order to provide a first glance overview of the town's accident patterns. In addition, it will be helpful to summarize the preceding year's accident record in greater detail on a suitable form for easy access and reference.

It is further recommended that the standard accident report procedures be made more comprehensive with regard to the details of the factors involved in any collision. The adoption of the "Motor Vehicle Accident Report" form, issued by the New Jersey Department of Transportation, for the reporting procedures of West New York is recommended. The form is single page -- both sides being used -- and has entries for all contributing factors. The official use of this form will result in a unified accident report procedure to the benefit of all state, county and local enforcement agencies, as well as insurance companies and other interested parties.

It is finally recommended that a monitoring program be initiated to keep a running check, not only on accidents and accident reporting procedures, but also on all other traffic related operations, such as maintenance of all traffic control devices, unusual variations in the traffic flow, areas of high and recurrent congestion, and persistent unauthorized parking practices, among others. The monitoring program to be undertaken by West New York will also include an evaluation of the effects of the TOPICS improvement program on the general traffic situation.

12. Laws Relating to Right-of-Way Acquisition

Acquisition for rights-of-way on all TOPICS projects must comply with the following statutes:

STATE - Chapter 361, Laws of New Jersey 1971. Assembly Bill No. 504, approved December 21, 1971. "Eminent Domain Act of 1971."

Chapter 47, Laws of New Jersey 1972. Senate Bill No. 987, approved June 1, 1972. "Uniform Transportation Replacement Housing and Relocation Act."

FEDERAL - Public Law 91-646, 91st Congress. Senate Bill No. 1, approved January 2, 1971. "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970."

ARTERIAL RECOMMENDATIONS

The Arterial Recommendations deal with subjects under the following section headings:

1. Changes to the Direction of Traffic
2. Rerouting of Bus Runs, New Bus Stop Zones and Partial Elimination of Existing Ones
3. Elimination of Angle Parking
4. Additional Truck Loading Zones
5. Traffic Signals - Arterial Considerations

1. Changes to the Direction of Traffic

One-way traffic patterns in West New York mostly follow the rule of a westbound direction on the even-numbered streets and an eastbound direction on the odd-numbered streets. In order to give this rule a more general application and to achieve a less confusing flow pattern -- where the unexpected is suddenly encountered -- the following changes in the direction of traffic are recommended:

49th Street -- between J.F.K. Boulevard West and Bergenline Avenue -- from two-way to one-way eastbound.

54th Street -- between J.F.K. Boulevard East and Park Avenue -- from two-way to one-way westbound.

58th Street -- between Park and Bergenline Avenues -- from one-way eastbound to one-way westbound.

59th Street -- between J.F.K. Boulevard West and Park Avenue -- from one-way westbound to one-way eastbound.

60th Street -- between Bergenline Avenue and J.F.K. Boulevard West -- from two-way to one-way westbound.

61st Street -- between Bergenline and Park Avenues -- from two-way to one-way eastbound.

The major exception to the one-way crosstown system will be 60th Street between Bergenline Avenue and J.F.K. Boulevard East. This is because 60th Street is the principal east-west artery of sufficient width for two-way operation, much like 42nd Street in New York City. The only other exceptions have been permitted to remain on four isolated street segments to answer purely localized dictates in the westernmost section of town.

The previously completed TOPICS study report for the neighboring City of Union City contains the recommendation that the prior two-way operation on Broadway and Park Avenue be changed to a one-way southbound direction on Broadway and a one-way northbound direction on Park Avenue, both between 45th and 48th Streets. West New York, in turn, would greatly profit by an extension of this one-way operation on these two arteries within the town's own limits. Because of an unstable subgrade condition under Broadway and resultant pavement failures to the south of 59th Street, no heavy trucks are presently allowed to use Broadway between 50th and 57th Streets. Park Avenue presently absorbs all heavy truck traffic in both directions.

This condition is in the process of being corrected by the reconstruction of the sewer systems under Broadway. The work is being performed in conjunction with an Urban Renewal project between Broadway and Park Avenue. The reconstruction is scheduled for completion some time in 1975. Until such time, the presently prevailing two-way operations on Broadway and Park Avenue must be maintained.

As soon as the unstable conditions under Broadway will have been corrected and that thoroughfare can safely be reopened to all truck traffic, the town administration should give serious consideration to the above mentioned recommendation with regard to one-way operation on both Broadway and Park Avenue. The cumbersome situation created by the heavy truck turning movements at Park Avenue and 60th Street would thus be greatly relieved. One half of these disrupting maneuvers could be transferred to the intersection of 60th Street with Broadway, and all turning movements at either intersection would be unidirectional.

West New York, unfortunately, is in the position of having to absorb within its streets the considerable truck traffic between the George Washington Bridge and the Lincoln Tunnel which enters the town limits along River Road. The southerly extremity of this facility allows only two alternative channels to complete the journey to the Lincoln Tunnel:

a) by turning southerly into J.F.K. Boulevard East -- the natural continuation -- which, however, is prohibited to trucks due to a Hudson County regulation, or

b) by crossing the Boulevard and continuing straight on 60th Street, and only then turning southerly into Park Avenue -- the only permissible all-truck route for the time being.

Much thought had been given in this study to the possibility of including 60th Street in the recommended one-way street pattern. Much could have been gained by such a measure in relieving the congestion at the junction of River Road, 60th Street and J.F.K. Boulevard East. However, the prohibition to trucks on the latter artery and the fact that the recent building construction between the Boulevard and Park Avenue had closed off all east-west streets from 60th to 54th Streets made such a solution impractical.

As a footnote to the unstable subgrade condition under Broadway and as a means of providing additional background, it may be of interest to quote from the "History of West New York - New Jersey" written in 1948 by Dr. Walter T. Eickmann in commemoration of its golden jubilee:

> *In 1895, the township experienced a most unusual event. On the railroad acreage in the vicinity of today's Broadway to the south of Fifty-ninth Street, a raging turf fire broke out in July and was still burning in October. No effort was made to extinguish it, for no one knew how. Even the summer rains seemed to have no effect upon it, and the authorities hoped that it would eventually burn itself out before the arrival of the winter's frost and snow. An area of about half an acre burned down to an estimated depth of eighteen feet, to the quicksand bed which still lies deep under West New York's playground behind Memorial High School.*
>
> *In the Twenties this region was commonly called the West New York "sinker" and "Dieckmann's Swamp". Stories of wandering cattle and goats disappearing here in the early days are legion. Tons upon tons of rock and building debris were deposited here to fill in the apparently bottomless cavern. When the roadbed for Broadway was laid, piles were driven to depths of over twenty-five feet to keep that street from disappearing.*
>
> *When the troops of "Light Horse Harry Lee" on their expedition against Paulus Hook floundered through this marshy region, it was the bed of the Awiehaken Creek which from the marshland of Guttenberg flowed through this Broadway section to Union Hill. From there it wound its way eastward and leaped and rippled down through the valley to Weehawken Cove below King's Bluff near the entrance to the Lincoln Tunnel. Here, before the Revolution, Nicholas Bayard had dammed up its waters to run his grist mill. Old-timers still recall a series of ponds along the course of this stream. No one can predict whether its bed can ever provide a solid base for permanent buildings.*

2. Bus Routes and Bus Stops

The introduction of one-way directional traffic operations on certain streets will necessitate the rerouting of portions of two bus lines operated by Transport of New Jersey. Because of the proposed one-way operations on 61st Street between Park and Bergenline Avenue as well as on 59th and 60th Streets between Bergenline Avenue and J.F.K. Boulevard West, the following changes are recommended.

Transport of N.J. Bus Line 19-26 Southbound:

Reroute from 61st Street via Park Avenue and 60th Street to Bergenline Avenue.

Transport of N.J. Bus Line 8-98 Eastbound:

Reroute from 60th Street via Washington Street, 59th Street and Bergenline Avenue back again to 60th Street.

This will need the addition of two new bus stops on the north side of 60th Street east of both Palisade Avenue and Broadway. Because of the proposed rerouting and because of too great a number of bus stops for a desirably smooth flow of general traffic, the following bus stops are recommended for elimination:

61st Street on	North Side		- all Stops
	South Side		- Stops at Tyler Place, Monroe Place and Fillmore Place.
Bergenline Avenue and		66th Street	- both sides
		65th Street	- east side
		63rd Street	- east side
		61st Street	- move east side stop from far side to near side
		58th Street	- east side
		56th Street	- both sides
		55th Street	- both sides
		53rd Street	- east side
		52nd Street	- west side
		51st Street	- east side

3. Elimination of Angle Parking

Angle-parking is presently in force on the south side of 60th Street between Bergenline and Hudson Avenues. Considering the restrictive width of 60th Street for two-way operation, this is a dangerous practice. Especially the backing-out maneuver is a demonstrable accident potential and serious delay factor. For these reasons federal aid for street improvements is withheld where this practice is not discontinued. It is therefore recommended to replace the angle parking with the usual rule of parking parallel to the curb-side.

An estimated 38 metered parking spaces will be lost due to this change from angle to parallel parking. The loss of revenue can possibly be offset by extending metered parking easterly on 60th Street to Park Avenue. The possibility of placing parking meters on Hudson and Palisade Avenues as well could also be explored.

4. Additional Truck Loading Zones

Only three isolated truck loading zones are presently regulated in the town's ordinances. These are located at:

63rd Street - south side east of Hudson Avenue
62nd Street - south side east of Hudson Avenue
Park Avenue - east side north of 60th Street

Other than these, there are no official truck loading zones in West New York. This is an inadequate condition. It results in double parking by trucks for loading and unloading purposes and, as in some cases, in the street pavement being used for the stockpiling

of goods and merchandise. Additional loading zones are therefore badly needed. These should be restricted to the off-peak traffic hours. As soon as the planning and the actual installation of replacement parking will have reached the point where the following measures will be feasible, it is recommended that new truck loading zones be regulated along the business segments of these streets:

Bergenline Avenue	- entire length
Park Avenue	- 60th Street to 66th Street
Washington and Jefferson Streets	- 57th Street to 62nd Street
51st, 52nd, 54th 55th and 56th Streets	- J.F.K. Boulevard West to Bergenline Avenue

In addition, and as mentioned earlier in this report, space should be set aside for trucks in the public off-street parking lots which afford direct rear entrance to business establishments -- and the use of this trucking space should be encouraged. The implementation of this recommendation will have a salutary effect on the quality of traffic flow generally speaking. It goes without saying that, once such additional truck loading zones will have been made available, strict enforcement must be put into practice -- not only with regard to trucks -- but also with regard to passenger vehicles illegally occupying the special use spaces.

5. Traffic Signals - Arterial Considerations

In conjunction with the inactivation of selected traffic signals, as detailed in the Recommended Traffic Signals System, certain improvements to the remaining network become possible. The discussion of the areawide considerations with regard to traffic signals already laid down the general guidelines for the upgrading of the signal installations. The following discussion deals with the specific improvements along individual arteries to make the control truly responsive to the existing traffic demands.

All existing traffic signal control operates from intersection to intersection on an individual basis without interconnection to one another or to a master controller. The short distances between the signals in the present network, the differences in their cycle lengths and offsets, have so far prohibited the use of a more flexible and more responsive progression system along the major arterials. However, the investigation of a plan comprising interconnection by multi-conductor cables, signal split and offset, as well as change in cycle length, shows that the existing isolated intersection network does in fact constitute a potential full range system configuration.

The established patterns in West New York exhibit a quite consistent distribution of traffic throughout the week with little directional variation from morning to evening peak periods. This indicates that a relatively simple control logic will suffice to respond to actual traffic conditions. The following recommendations are made with regard to the timing, phasing and interconnection of the town's traffic signals on an arterial basis.

J. F. K. Boulevard West -- Interconnection by overhead multi-conductor cable. Change cycle length from 140 to 90 seconds. Sixty percent of the green time to be reserved for the Boulevard. Installation of semi-actuation of left-turn control at north and south approaches to 51st, 61st and 62nd Streets by presence detector and protected turn phase. Pedestrian indications at 51st, 60th, 61st and 62nd Streets. Remove existing "Stop Here On Red" signs. A former county regulation required that, whenever the signals on the Boulevard show a red indication, motorists also stop at the intersections without signal control. While this regulation was rescinded with the 1951 revisions to Title 39, the practice is still followed at times by some of the motorists. Vestiges of this practice introduce the possibility of rear-end collisions.

Bergenline Avenue -- Interconnection by underground multi-conductor cable using available telephone ducts. Cycle length of 90 seconds with 60 percent of green along the avenue. Progression speed of at least 25 miles per hour over a band of 25 seconds or 28 percent of cycle. Pedestrian indications at 60th and 61st Streets.

Palisade Avenue -- Interconnection by overhead multi-conductor cable. Cycle length of 45 seconds with 60 percent of green along the avenue. Progression speed of 25 miles per hour over a band of 21 seconds or 47 percent of cycle.

Hudson Avenue -- Interconnection by overhead multi-conductor cable. Cycle length of 45 seconds with 60 percent of green along the avenue. Progression speed of 25 miles per hour over a band of 16 seconds or 35 percent of cycle.

Broadway -- Interconnection by overhead multi-conductor cable. Cycle length of 45 seconds with 60 percent of green along the arterial. Progression speed of at least 25 miles per hour over a band of 18 seconds or 40 percent of cycle.

Park Avenue -- Interconnection by overhead multi-conductor cable. Cycle length of 45 seconds with 60 percent of green time along the avenue. Progression speed of better than 25 miles per hour over a band of 18 seconds or 40 percent of cycle.

60th Street -- Interconnection by overhead multi-conductor cable, except for the segment between Bergenline and Hudson Avenues where existing underground telephone ducts may be available. Cycle lengths will be both 45 and 90 seconds according to the avenues to be crossed. Synchronization by coordinating unit to meet 45 and 90 second cycles of intersecting north-south arterials. Coordination of the

60th Street
(Cont'd)

controls at Park Avenue and Broadway at their crossings with 60th Street to handle heavy left-turn truck movements with proper preemption of mid-block between Park Avenue and J.F.K. Boulevard East. Because of the truck movements, the progression speeds and band widths on 60th Street between Bergenline Avenue and Boulevard East will be 17 miles per hour over 17 seconds in the eastbound direction and 20 miles per hour over 24 seconds in the westbound direction. This means that the band width assigned to the local movements an 60th Street is in all cases better than 35 percent of the total cycle lengths encountered. Pedestrian indications to be provided at Palisade Avenue, Hudson Avenue and Boulevard East.

SPOT IMPROVEMENT RECOMMENDATIONS

On the basis of the priority rating system explained in the preceding Chapter on Existing Conditions, and as shown in tabular form in Table XV, eleven intersections in West New York were selected for detailed investigation and improvement design. These intersections, their conditions and problems as well as the recommended solutions, are fully discussed in the following pages and illustrated by detailed accompanying diagrams.

The priority ratings helped to establish that the selected eleven intersections are those most susceptible of improvement, not only with regard to the degree of need, but also from the viewpoint of actual benefit to be derived as compared to the costs involved in the improvement. The ratings were further used to determine an order of importance or priority sequence. This is expressed in the priority number assigned to each improvement location (see Table XV). The spot improvements were finally integrated in the recommended improvement schedule shown on Plate 10. All spot improvements are identified by Figure Numbers which refer to the individual diagrams and accompanying texts. Figure Numbers and Priority Number are identical for better ease of reference. Intersection locations, priority ratings, figure numbers and construction cost estimates are tabulated in the following list. The individual spot improvement diagrams are to be found immediately following this text.

Construction cost estimates were prepared for each recommended spot improvement. The estimates are based on prices prevailing in the first half of the construction year 1973. For each budget year beyond that date, an escalation factor -- to allow for the continual increase in labor, material and equipment costs -- of at least seven percent, compounded annually, should be used. It will be possible to reduce the construction budget to the extent that the town administration will be in a position to perform at least part of the work with its own forces.

Cost estimates for spot improvements were added to those prepared to cover the arterial and areawide improvements (see Pages 77 and 78). The latter represent the improvements recommended for the major north-south arteries, where these do not specifically fall under the localized -- or spot -- improvements. The remarks with regard to the price base made above in connection with the spot improvements, also apply to the cost estimates for the arterial and areawide improvements.

SCHEDULE AND CONSTRUCTION COST ESTIMATE FOR SPOT IMPROVEMENTS

Intersections	Priority Number	Construction Stage	Figure Number	Construction Cost Estimate
Bergenline Avenue and 60th Street	1	1	1	$ 15,000
J.F.K. Boulevard West and 61st Street	5	1	5	20,000
J.F.K. Boulevard West and 60th Street	6	1	6	17,000
J.F.K. Boulevard West and 62nd Street	8	1	8	23,000
J.F.K. Boulevard West and 51st Street	10	1	10	19,000
Bergenline Avenue and 61st Street	11	1	11	15,000
Palisade Avenue and 60th Street	2	2	2	14,000
Broadway and 60th Street	3	2	3	14,000
J.F.K. Boulevard East and 60th Street	4	2	4	32,000
Hudson Avenue and 60th Street	7	2	7	16,000
Park Avenue and 60th Street	9	2	9	13,000
CONSTRUCTION COST ESTIMATE SPOT IMPROVEMENTS*				$ 198,000

*Reflects prevalent construction cost for the first half of 1973

COST ESTIMATE FOR AREAWIDE IMPROVEMENTS

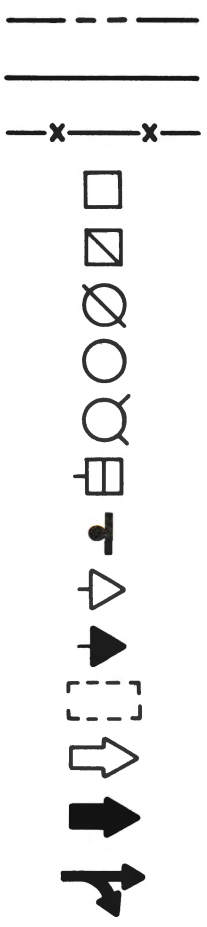
The work involved in the arterial and areawide improvements has been divided into five separate groups, designated from A to E. The constituent work items listed in the tabulation below are:

A - Traffic Circulation:	Regulatory and Guide Signs Street Name Signs Pavement Markings (Arrow & Only)
B - Pedestrian & Traffic Control:	Stop Signs Pavement Markings (Stop Bar, Center Line & Crosswalk) Signal Improvement Signal Removal
C - Parking Regulation:	Signs (No Parking & Loading Zone) Curb Markings (Yellow No Parking)
D - Bus Operation:	Signs (Bus Stop & No Parking) Pavement Markings
E - System Coordination:	Master Controllers Aerial & Underground Interconnection

SUMMARY OF TOTAL CONSTRUCTION COST ESTIMATES

Stage 1 - AREAWIDE IMPROVEMENTS		
Group A	$ 11,000	
Group B	126,000	
Group E	33,000	
SPOT IMPROVEMENTS	109,000	
		$279,000
Stage 2 - AREAWIDE IMPROVEMENTS		
Group B	$ 117,000	
Group E	37,000	
SPOT IMPROVEMENTS	89,000	
		$243,000
Stage 3 - AREAWIDE IMPROVEMENTS		
Group A	$ 8,000	
Group B	143,000	
Group C	14,000	
Group D	8,000	
Group E	39,000	
SPOT IMPROVEMENTS	0	
		$212,000
TOTAL CONSTRUCTION COST ESTIMATE*		$734,000

* Reflects prevalent construction cost for the first half of 1973



STREET RIGHT-OF-WAY LINE

CURB LINE, EXISTING OR RECOMMENDED

BARRIER OR FENCE

CONTROLLER

FIRE BOX

UTILITY POLE

LIGHT POLE

HYDRANT

PEDESTRIAN SIGNAL "WALK DON'T-WALK"

POST MOUNTED SIGN

EXISTING SIGNAL HEAD

PROPOSED SIGNAL HEAD

LOOP DETECTOR

EXISTING DIRECTION OF TRAFFIC

RECOMMENDED DIRECTION OF TRAFFIC

PAVEMENT DIRECTIONAL ARROW

ABBREVIATIONS OF EXISTING SIGN MESSAGES

NPBS	NO PARKING BUS STOP
BS	BUS STOP
SCBS	SENIOR CITIZENS BUS STOP
MOGO	MOVE ON GREEN ONLY
NP	NO PARKING
RTOR	RIGHT-TURN PERMITTED ON RED LIGHT AFTER FULL STOP
SHOR	STOP HERE ON RED

NOTE: NEW SIGNS ARE SHOWN BY FACE REPLICAS

LEGEND

FOR USE OF SPOT IMPROVEMENT DIAGRAMS

FIGURE NO. 1. INTERSECTION OF BERGENLINE AVENUE WITH 60TH STREET

Combined Priority Ranking: 1
Combined Priority Points: 92

EXISTING CONDITION

Bergenline Avenue and 60th Streets are both major thoroughfares operating under two-way traffic width four-lane and two-lane flow respectively. The first serves north-south and the second east-west travel. They intersect in an area of intense retail, commercial and institutional activity. Metered parking is allowed on all sides of the two streets, except on the north side of the east leg of 60th Street. The east leg is offset from its opposite branch on the west side by 50 feet. Angle parking exists on the south side of the east leg.

PROBLEMS

The highest accident location in the study area.

Of the total of 58 accidents recorded from 1969 to 1971, 16 were rear-end collisions, 12 angle and 7 side swipes.

Inadequate signal visibility.

Lack of intersection definition.

Significant pedestrian movements without protective measures.

Off-set of the intersection creating undefined area for turning movements and resulting confusion.

Jay-walking.

Bus stops interfering with free traffic flow.

Angle parking.

RECOMMENDATIONS

Provision of one-way street on west leg outbound from the intersection.

Prohibition of left-turns from south approach.

Improvement of signal control in terms of size, number and location.

Provision of 12" signal lenses to reduce rear-end collisions.

Proper definition of the intersection by means of pavement marking and signs.

Provision of pedestrian indications with proper clearance intervals.

Provision of all-red phase to reduce congestion due to intersection geometry.

Provision of pedestrian barrier.

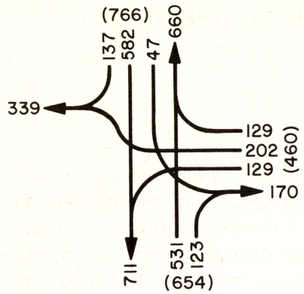
Relocated bus stop.

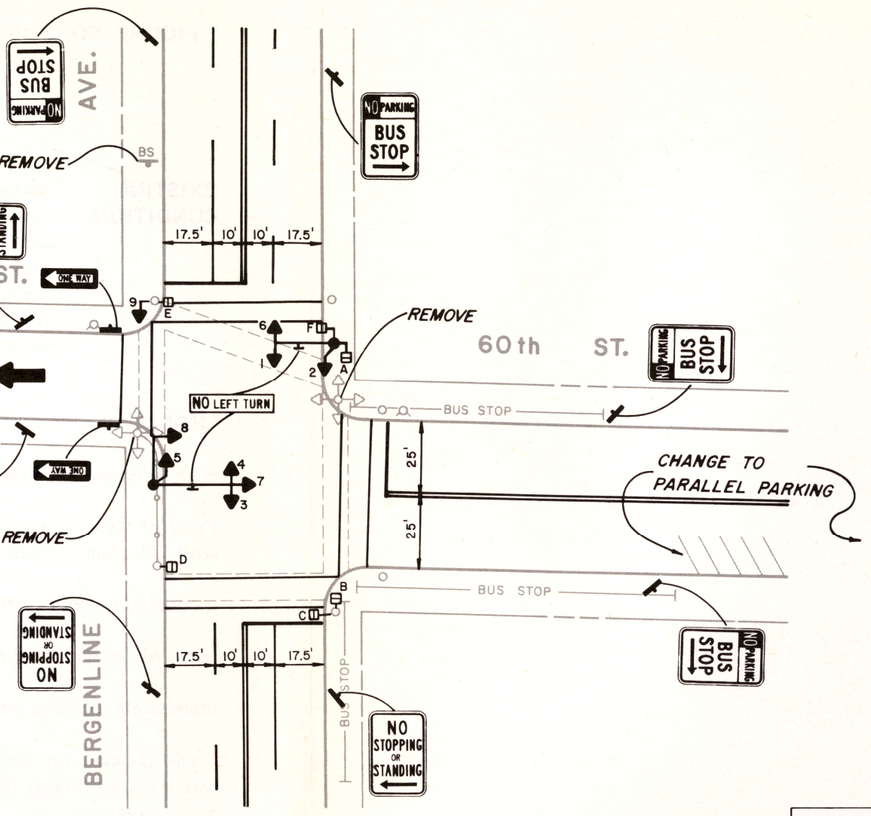
Replacement of angle parking with parallel parking.

CONSTRUCTION STAGE 1

CONSTRUCTION COST ESTIMATE $15,000

1980 VOLUMES - PM PEAK



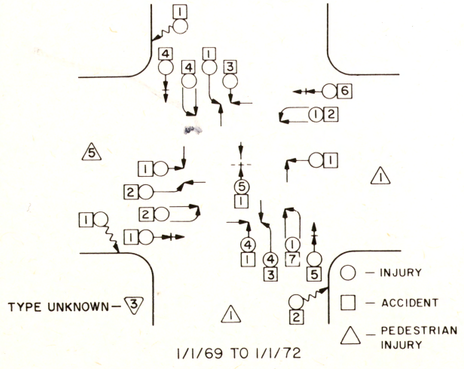


SCALE 1"=50'

BERGENLINE AVENUE
and 60th STREET

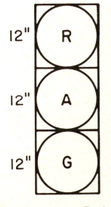
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ACCIDENT SUMMARY

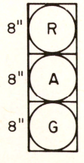


1/1/69 TO 1/1/72

PROPOSED SIGNAL INDICATIONS



1, 3, 4, 6, 7, 8



2, 5, 9



A THRU F

TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 1 PHASES	INTERVAL	SPLIT CUM %	SPLIT SEC	COLOR INDICATIONS BY SIGNAL FACE: NORTH–SOUTH N.B. 1,2,3	NORTH–SOUTH S.B. 4,5,6	EAST–WEST E.B.	EAST–WEST W.B. 7,8	CROSSWALK NW / SW EF,CD	CROSSWALK EW AB
	1	41	36.9	G	G		R	DW	FW
	2	48	6.3	G	G		R	DW	FDW
	3	52	3.6	A	A		R	DW	FDW
	4	85	29.7	R	R		G	FW	DW
	5	93	7.2	R	R		G	FDW	DW
	6	97	3.6	R	R		A	FDW	DW
	7	100	2.7	R	R		R	FDW	DW
CYCLE LENGTH			90						

G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK
FDW = FLASHING DONT WALK, W = WALK

PORTER AND RIPA ASSOCIATES, INC.
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TOPICS

WEST NEW YORK · HUDSON COUNTY · NEW JERSEY

T-4001 (52)

SPOT IMPROVEMENT PLAN

FIGURE NO. 1

FIGURE NO. 2. INTERSECTION OF PALISADE AVENUE WITH 60TH STREET

Combined Priority Ranking: 2
Combined Priority Points : 79

EXISTING CONDITION

Sixtieth Street is a two-lane, two-way, east-west thoroughfare, while Palisade Avenue is a two-lane, one-way, southbound arterial. The adjacent land use of the intersection area is primarily residential and institutional, such as a church, professional offices and the municipal building. The center line of Palisade Avenue is offset by 5 feet because of a differential in pavement widths between the north leg (30 feet) and the south leg (40 feet). The east curbs of both legs are flush and the west curb of the south leg is offset by 10 feet. Angle parking exists on the south side of both legs of 60th Street.

PROBLEMS

High accident location.

Total of 40 accidents during three-year period with 33 angle accidents.

Inadequate signal visibility.

Lack of intersection definition.

Inadequate parking prohibitions.

Angle parking on south side of 60th Street which causes a large number of accidents and much delay.

RECOMMENDATIONS

Improvement of signal control in terms of traffic signal size, number and location.

Use of 12" lenses.

Proper definition of the intersection by means of pavement marking and signs.

Prohibition of standing or stopping close to the intersection.

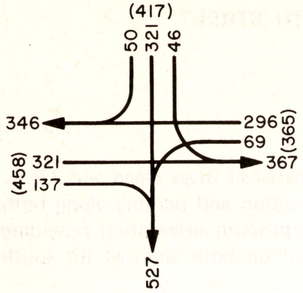
Replacement of angle parking with parallel parking.

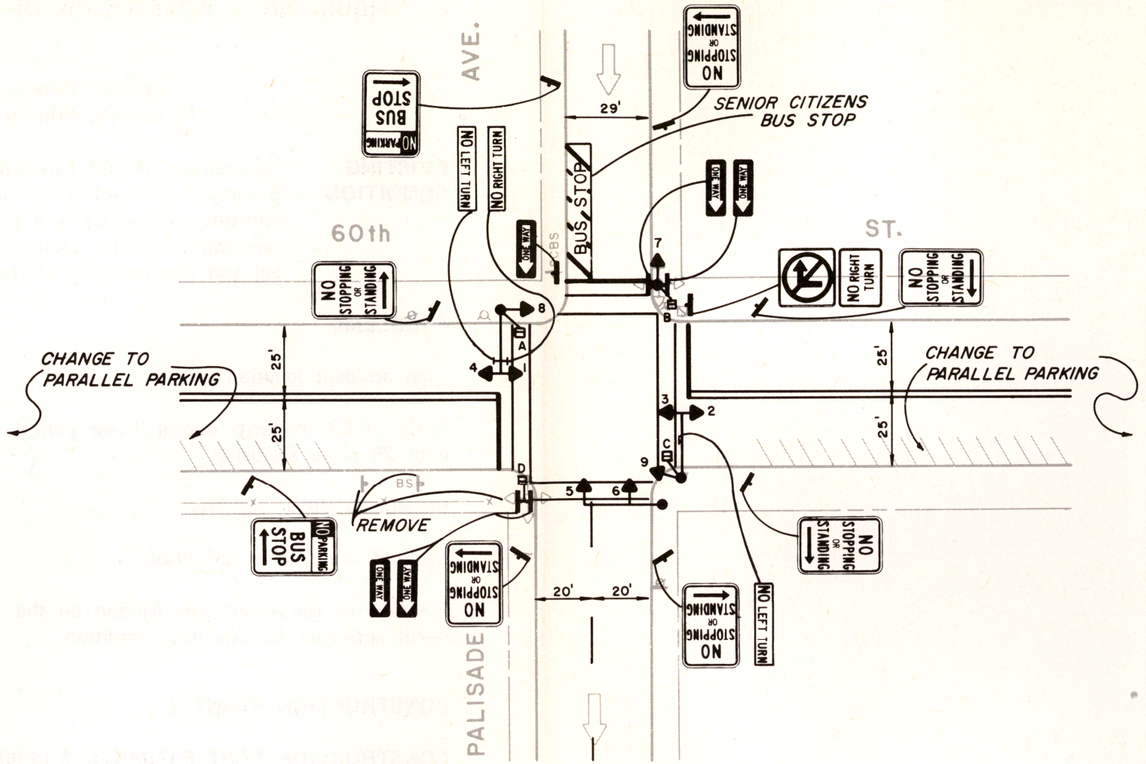
Provision of pedestrian indications for north-south movements.

CONSTRUCTION STAGE 2

CONSTRUCTION COST ESTIMATE $14,000

1980 VOLUMES - PM PEAK



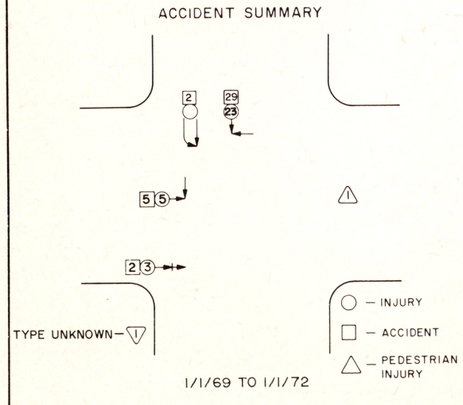


PALISADE AVENUE and 60th STREET

N

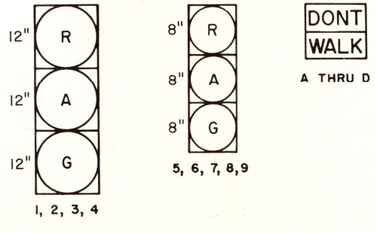
SCALE: 1" = 50'

ACCIDENT SUMMARY



1/1/69 TO 1/1/72

PROPOSED SIGNAL INDICATIONS



TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 2	INTERVAL	SPLIT		COLOR INDICATIONS BY SIGNAL FACE							
				NORTH–SOUTH		EAST–WEST				CROSSWALK	
PHASES		CUM %	SEC	N.B.	S.B.	E.B.	W.B.			WW/EW	
					5,6,7	3,4,9		1,2,8		AD, BC	
	1	55	24.8		R	G		G		DW	
	2	62	3.2		R	A		A		DW	
	3	78	7.2		G	R		R		FW	
	4	93	6.7		G	R		R		FDW	
	5	100	3.1		A	R		R		FDW	
CYCLE LENGTH			45	G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK FDW = FLASHING DONT WALK, W = WALK							

PORTER AND RIPA ASSOCIATES, INC.
200 MADISON AVENUE MORRISTOWN, N.J.
SCRANTON, PA. BOSTON, MASS. RECIFE, BRAZIL

TOPICS

WEST NEW YORK · HUDSON COUNTY · NEW JERSEY

T-4001 (52)

SPOT IMPROVEMENT PLAN

FIGURE NO. 2

FIGURE NO. 3. INTERSECTION OF BROADWAY WITH 60TH STREET

Combined Priority Ranking: 3
Combined Priority Points : 76

EXISTING CONDITION

This section of 60th Street provides east-west access between River Road and J.F.K. Boulevard West, offering one travel lane in each direction and parking along both curbsides. Broadway is a two-way roadway with north-south orientation providing one travel lane for each direction. Parking is allowed on both sides of the south leg and the east side of the north leg.

PROBLEMS

High accident location.

Total of 52 accidents during 3-year period with 25 angle accidents.

Inadequate signal visibility.

Lack of intersection definition.

Presence of significant side friction on the north approach for two-way condition.

RECOMMENDATIONS

Improvement of signal control in terms of traffic signal size, number and location.

Proper definition of intersection by means of pavement marking and signs.

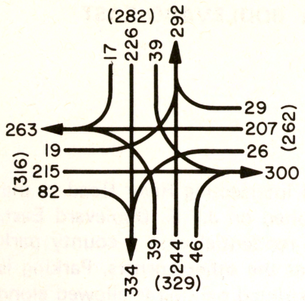
Off-set centerline on the north approach to line up northbound traffic.

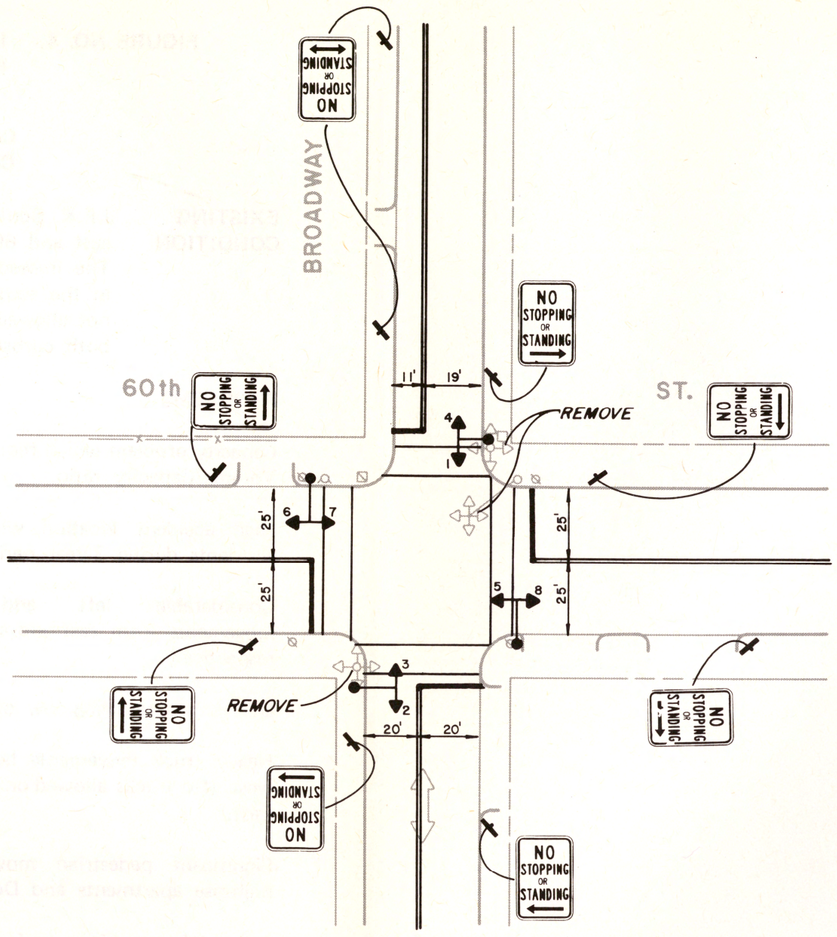
Prohibition of stopping or standing on the west side of the north approach.

CONSTRUCTION STAGE 2

CONSTRUCTION COST ESTIMATE $ 14,000

1980 VOLUMES - PM PEAK



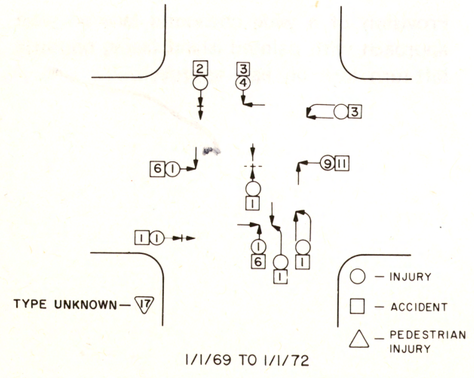


SCALE: 1" = 50'

BROADWAY and 60th STREET

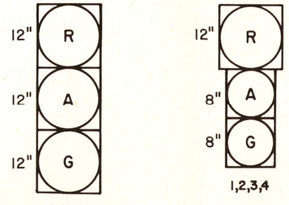
N

ACCIDENT SUMMARY



1/1/69 TO 1/1/72

PROPOSED SIGNAL INDICATIONS



TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 3	INTERVAL	SPLIT		COLOR INDICATIONS BY SIGNAL FACE									
				NORTH–SOUTH				EAST–WEST				CROSSWALK	
PHASES		CUM %	SEC	N.B.		S.B.		E.B.		W.B.			
				1,2		3,4		7,8		5,6			
	1	50	22.5	R		R		G		G			
	2	58	3.6	R		R		A		A			
	3	92	15.3	G		G		R		R			
	4	100	3.6	A		A		R		R			
CYCLE LENGTH			45	G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK FDW = FLASHING DONT WALK, W = WALK									

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T-4001 (52)

SPOT IMPROVEMENT PLAN

FIGURE NO. 3

FIGURE NO. 4. INTERSECTION OF JOHN F. KENNEDY BOULEVARD EAST WITH 60TH STREET

Combined Priority Ranking: 4
Combined Priority Points : 75

EXISTING CONDITION

J.F.K. Boulevard East is a major north-south arterial intersecting River Road to the east and 60th Street to the west. Trucks are prohibited on J.F.K. Boulevard East. The immediate area is classified as recreational and residential with a county park in the southeast quadrant and high-rise apartments at the other corners. Parking is not allowed on either 60th Street or River Road. Restricted parking is allowed along both curbsides of the Boulevard.

PROBLEMS

Capacity problem which requires a total 1.46 Volume/Capacity ratio.

High accident location with total of 39 accidents during 3-year period.

Considerable left and right-turning movements from east and south approaches respectively.

Delays and resulting low operating speeds.

Heavy truck movements between east and west. (No trucks allowed on J.F.K. Boulevard East.)

Significant pedestrian movements due to high-rise apartments and Donnelly Park.

Heavy left-turn of trucks from 60th Street to Park Avenue. (See Figure No. 9)

RECOMMENDATIONS

Provision and widening of an exclusive right-turn lane on the south approach.

Installation of 2-phase signal control with advance phases to provide protected left-turning movements from east and south approaches.

Improvement of signal control in terms of traffic signal size, number and location.

Proper definition of the intersection by means of pavement marking and signs.

Installation of pedestrian indications.

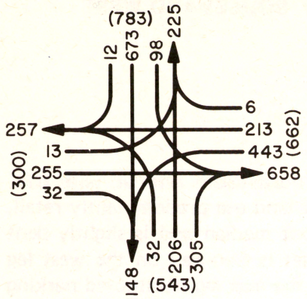
Widening of east approach and provision of exclusive left-turn lane with proper overhead lane control signs.

Provision of a wide outbound lane on west approach with painted island facing opposite left-turn lane on east approach.

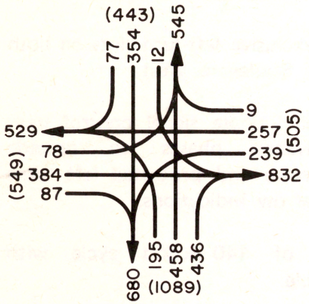
CONSTRUCTION STAGE 2

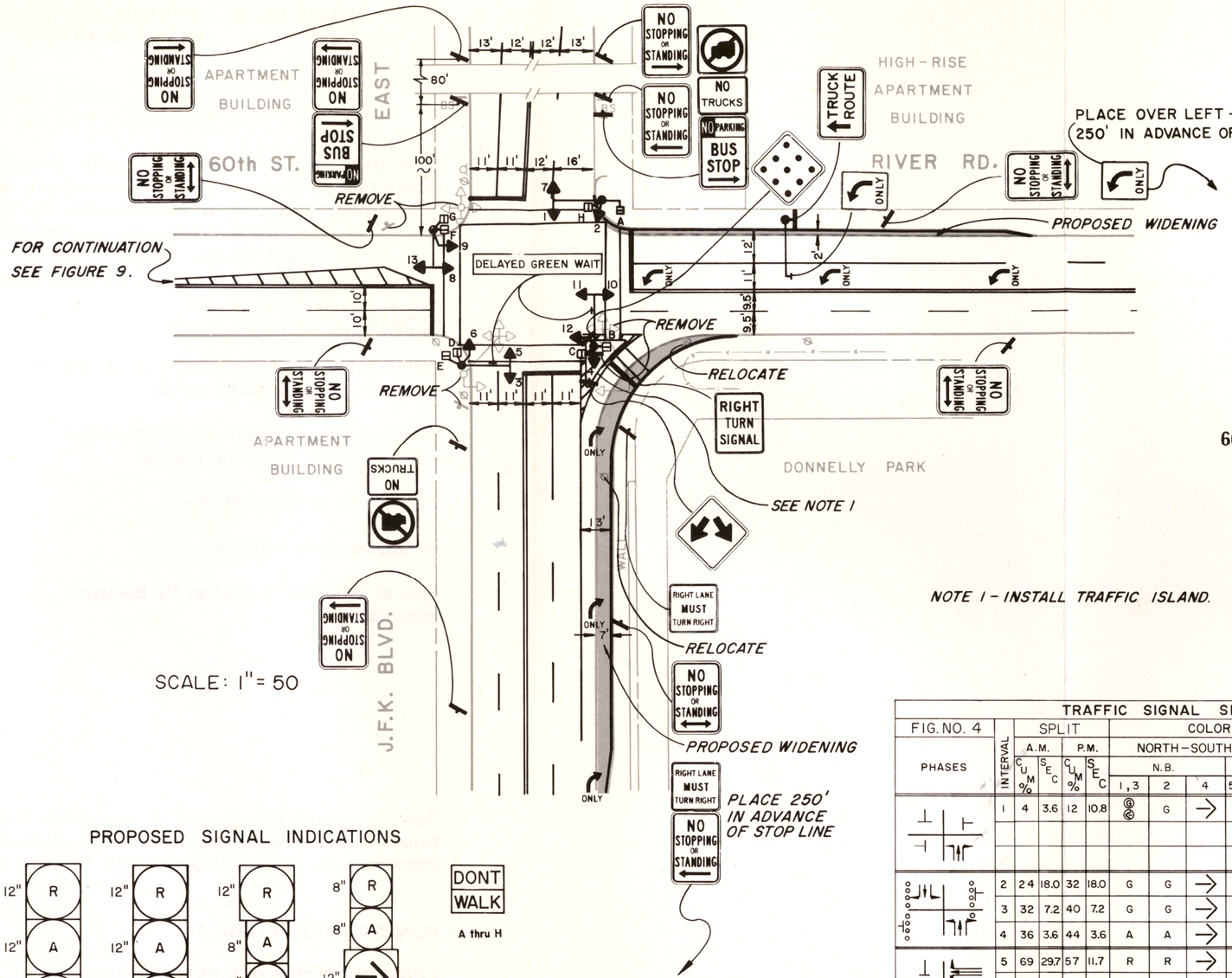
CONSTRUCTION COST ESTIMATE $32,000

1980 VOLUMES - AM PEAK



1980 VOLUMES - PM PEAK

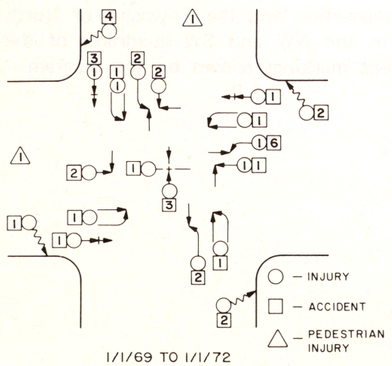




J.F.K.BLVD. EAST with 60th STREET and RIVER ROAD

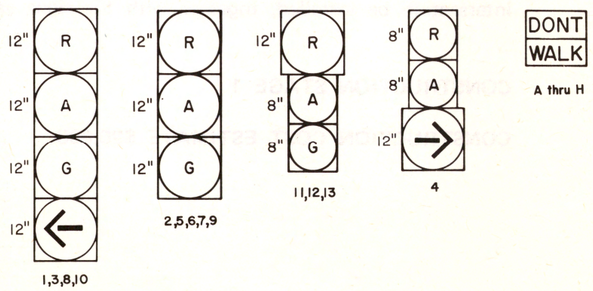
NOTE 1 - INSTALL TRAFFIC ISLAND.

ACCIDENT SUMMARY



1/1/69 TO 1/1/72

PROPOSED SIGNAL INDICATIONS



TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 4		SPLIT				COLOR INDICATIONS BY SIGNAL FACE									
		A.M.		P.M.		NORTH-SOUTH				EAST-WEST				CROSSWALK	
PHASES	INTERVAL	CUM %	SEC	CUM %	SEC	N.B.			S.B.	E.B.		W.B.		EW / WW	SW / NW
						1,3	2	4	5,6,7	11,12,13		8,10	9	AB, EF	CD, GH
	1	4	3.6	12	10.8	(6)	G	→	R	R		R	R	DW	DW
	2	24	18.0	32	18.0	G	G	→	G	R		R	R	FW	DW
	3	32	7.2	40	7.2	G	G	→	G	R		R	R	FDW	DW
	4	36	3.6	44	3.6	A	A	→	A	R		R	R	FDW	DW
	5	69	29.7	57	11.7	R	R	→	R	R		(6)	G	DW	DW
	6	74	4.5	62	4.5	R	R	A	R	R		G	G	DW	DW
	7	87	11.7	87	22.5	R	R	R	R	G		G	G	DW	FW
	8	95	7.2	95	7.2	R	R	R	R	G		G	G	DW	FDW
	9	100	4.5	100	4.5	R	R	R	R	A		A	A	DW	FDW
CYCLE LENGTH			90		90	G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK FDW = FLASHING DONT WALK, W = WALK									

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TOPICS

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T-4001 (52)

SPOT IMPROVEMENT PLAN

FIGURE NO. 4

FIGURE NO. 5. INTERSECTION OF JOHN F. KENNEDY BOULEVARD WEST WITH 61ST STREET

Combined Priority Ranking: 5
Combined Priority Points : 72

EXISTING CONDITION The intersection of J.F.K. Boulevard West, a major north-south arterial, with 61st Street, a local eastbound Street, occurs in an area of land use predominantly retail, commercial and residential. The Boulevard has a 6-foot median and is slightly bent towards the East by an angle point. Sixty-first Street is two-way on the west leg and one-way outbound from the the intersection on the east leg. Restricted parking is allowed along all curbsides except the south side of the west leg of 61st Street.

PROBLEMS

Left-turns from both approaches of Boulevard West with heavy opposing traffic.

Delays to side street traffic due to 140-second cycle which is longer than needed.

Lack of intersection definition.

Inadequate signal visibility.

Lack of pedestrian protection for Boulevard crossings.

RECOMMENDATIONS

Provision of exclusive left-turn slots on both approaches of Boulevard West.

Installation of 2-phase signal control with actuated advance phases to provide demand-responsive and protected left turns with proper arrow indications.

Replacement of 140-second cycle with 90-second cycle.

Improvement of signal control in terms of traffic signal size, number and location.

Proper definition of the intersection by means of pavement marking and signs.

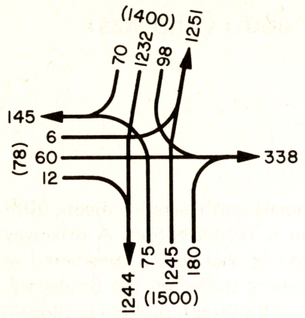
Provision of pedestrian indications for Boulevard crossings.

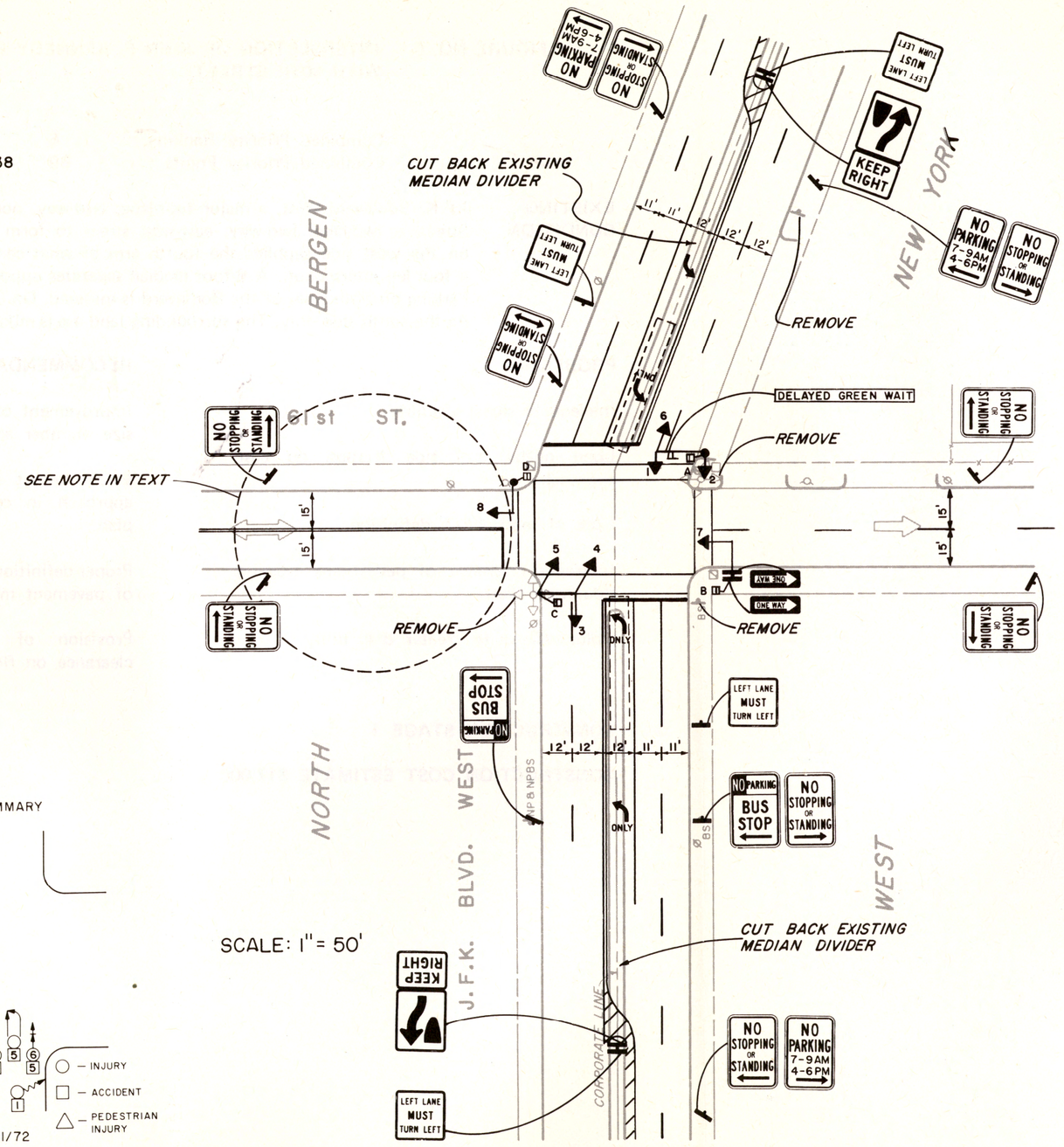
Note: It should be suggested to the Hudson County Administration and the Township of North Bergen that the recommended traffic signal improvements in the NW and SW quadrants of the intersection be installed, together with the signs and pavement markings shown on the diagram.

CONSTRUCTION STAGE 1

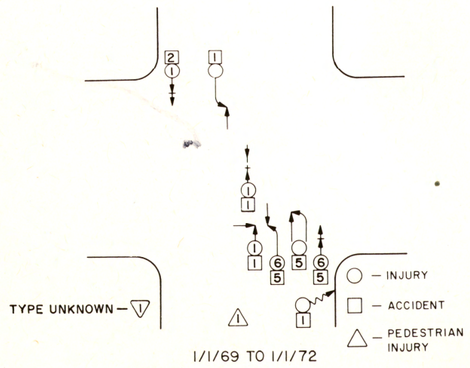
CONSTRUCTION COST ESTIMATE $20,000

1980 VOLUMES - PM PEAK





ACCIDENT SUMMARY

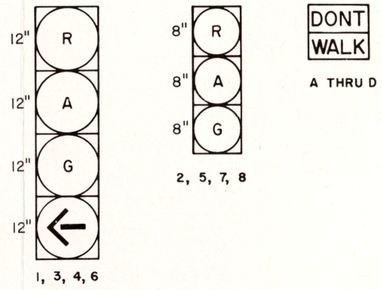


1/1/69 TO 1/1/72

J.F.K. BLVD. WEST and 61st STREET

N

PROPOSED SIGNAL INDICATIONS



TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 5		SPLIT		COLOR INDICATIONS BY SIGNAL FACE									
				NORTH–SOUTH				EAST–WEST				CROSSWALK	
PHASES	INTERVAL	CUM %	SEC	N.B.		S.B.		E.B.		W.B.		NW/SW	
				1,3	2	4,6	5	7,8				AD,BC	
T	1	6	5.4	R	R	(G) (A)	G	R				DW	
	2	10	3.6	R	R	G	G	R				DW	
	3	63	47.7	G	G	G	G	R				DW	
	4	67	3.6	G	G	A	A	R				DW	
	5	73	5.4	(G) (A)	G	R	R	R				DW	
	6	77	3.6	A	A	R	R	R				DW	
	7	85	7.2	R	R	R	R	G				FW	
	8	96	9.9	R	R	R	R	G				FDW	
	9	100	3.6	R	R	R	R	A				FDW	
CYCLE LENGTH			90	G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK FDW = FLASHING DONT WALK, W = WALK									

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TOPICS

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T-4001(52)

SPOT IMPROVEMENT PLAN

FIGURE NO. 5

FIGURE NO. 6. INTERSECTION OF JOHN F. KENNEDY BOULEVARD WEST WITH 60TH STREET

Combined Priority Ranking: 6
Combined Priority Points : 69

EXISTING CONDITION J.F.K. Boulevard West, a major four-lane, two-way, north-south arterial meets 60th Street, a two-lane, two-way, east-west street to form a T-intersection. A driveway on the west side supplies the fourth arm of what can be essentially considered as a four-leg intersection. A 6-foot median separates opposing traffic on the Boulevard. Parking on both sides of the Boulevard is metered. On 60th Street, parking is allowed on the south side only. The surrounding land use is mixed commercial and residential.

PROBLEMS

Inadequate signal visibility.

Long queue and side friction on east approach.

Lack of intersection definition.

Improper clearance of pedestrians crossing Boulevard West.

Volume/Capacity greater than unity.

RECOMMENDATIONS

Improvement of signal visibility in terms of size, number and location.

Establishment of one-way street on east approach in coordination with circulation plan.

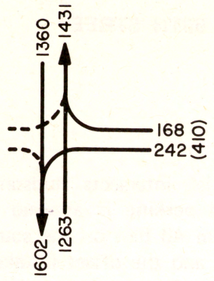
Proper definition of the intersection by means of pavement marking and signs.

Provision of cross-walk and pedestrian clearance on Boulevard crossing.

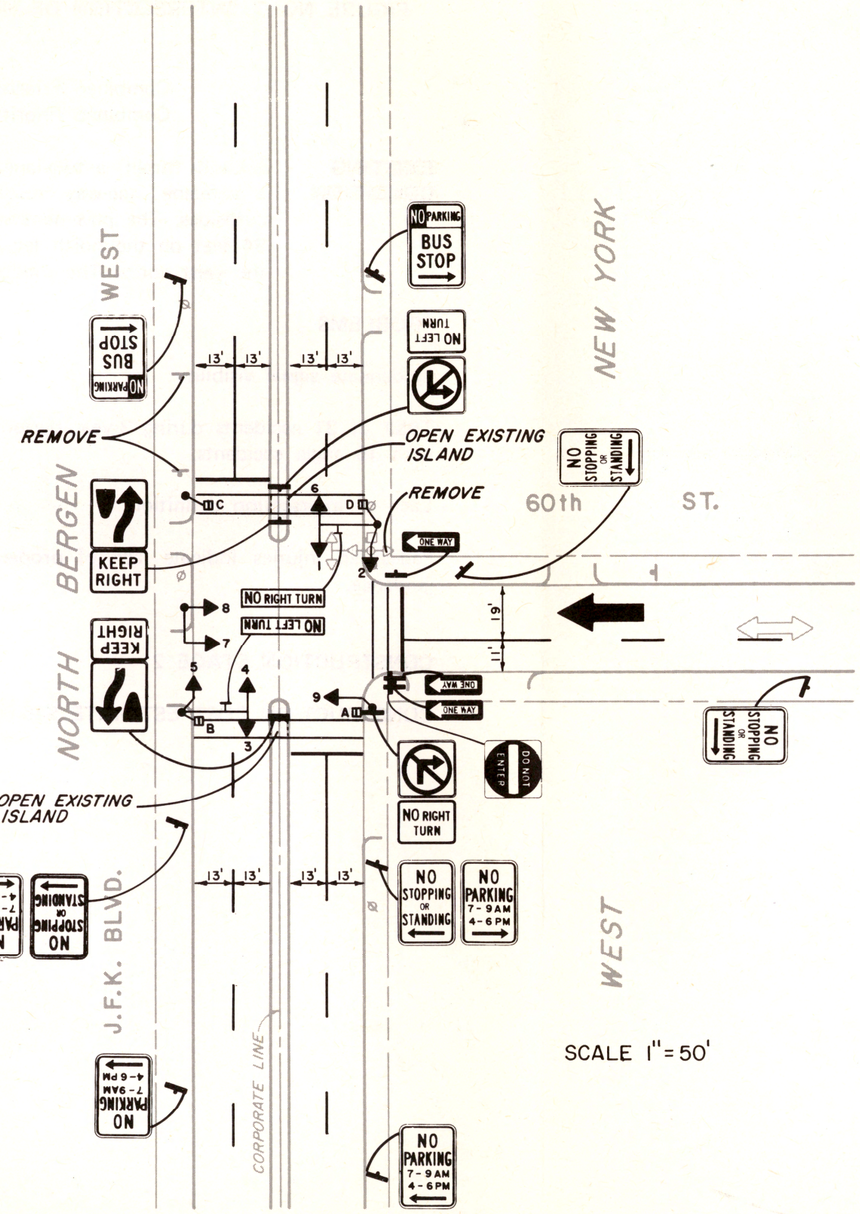
CONSTRUCTION STAGE 1

CONSTRUCTION COST ESTIMATE $17,000

1980 VOLUMES - PM PEAK

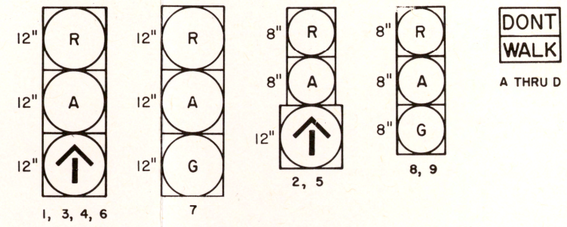


J.F.K. BLVD. WEST and 60th STREET

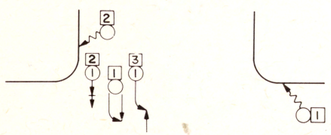


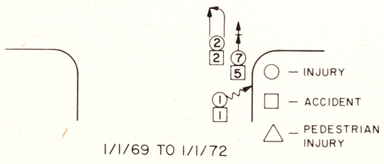
SCALE 1" = 50'

PROPOSED SIGNAL INDICATIONS



ACCIDENT SUMMARY





1/1/69 TO 1/1/72

TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 6	INTERVAL	SPLIT		COLOR INDICATIONS BY SIGNAL FACE									
				NORTH–SOUTH				EAST–WEST				CROSSWALK	
PHASES		CUM %	SEC	N.B.		S.B.		E.B.		W.B.		NW / SW	
				1,2,3		4,5,6		9		7,8		CD , AB	
	1	62	55.8	↑		↑		R		R		DW	
	2	66	3.6	A		A		R		R		DW	
	3	84	16.2	R		R		G		G		F W	
	4	96	10.8	R		R		G		G		FDW	
	5	100	3.6	R		R		A		A		FDW	
CYCLE LENGTH			90	G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK FDW = FLASHING DONT WALK, W = WALK									

PORTER AND RIPA ASSOCIATES, INC. 200 MADISON AVENUE MORRISTOWN, N.J. SCRANTON, PA. BOSTON, MASS. RECIFE, BRAZIL	TOPICS WEST NEW YORK · HUDSON COUNTY · NEW JERSEY	T-4001 (52)	SPOT IMPROVEMENT PLAN	FIGURE NO. 6

FIGURE NO. 7. INTERSECTION OF HUDSON AVENUE WITH 60TH STREET

Combined Priority Ranking: 7
Combined Priority Points : 64

EXISTING CONDITION Sixtieth Street, a two-lane, two-way, east-west arterial, intersects Hudson Avenue a two-lane, one-way, northbound artery. Restricted parking is allowed along all curbsides. The pavement width abruptly reduces from 40 feet on the south leg to 34 feet on the north leg. The east curbs are flush and the offset is taken up by the west curbs. The predominant land use is commercial and residential.

PROBLEMS

Inadequate signal visibility.

Total of 31 accidents during 3-year period with 15 angle accidents.

Lack of intersection definition.

Pedestrian injuries indicate lack of proper guidance.

RECOMMENDATIONS

Improvement of signal visibility in terms of size, number and location.

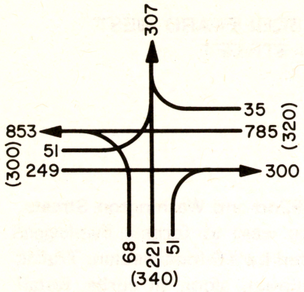
Proper definition of the intersection by means of pavement markings and signs.

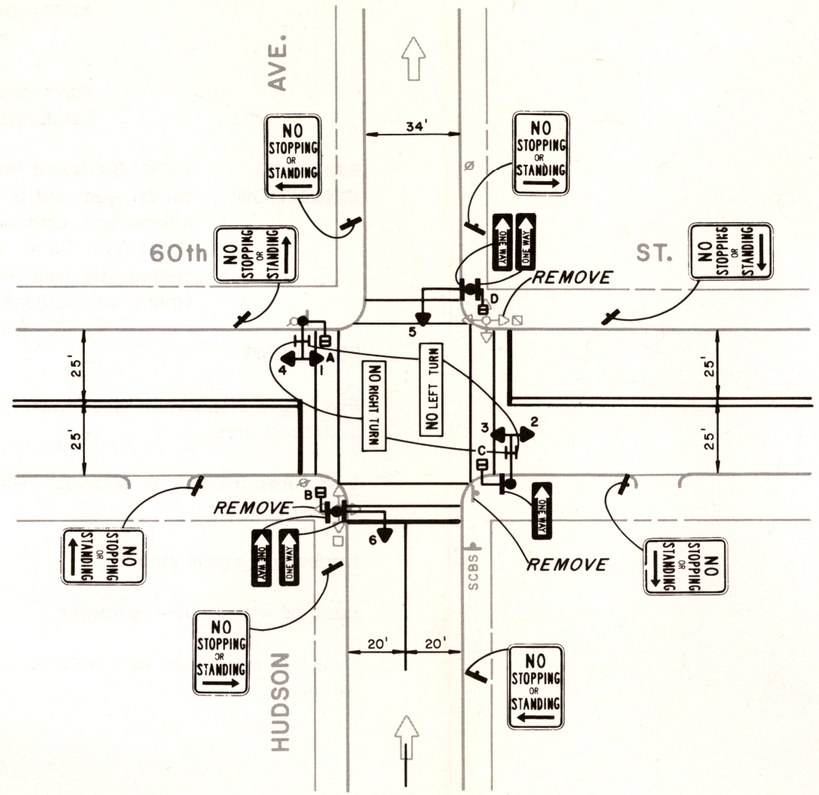
Provision of pedestrian indications for 60th Street crossings.

CONSTRUCTION STAGE 2

CONSTRUCTION COST ESTIMATE $16,000

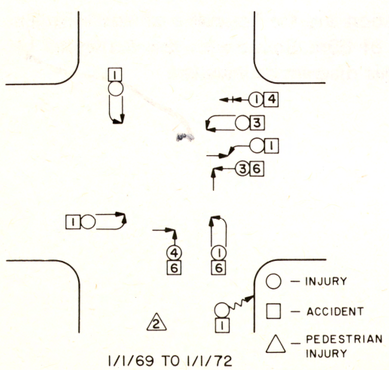
1980 VOLUMES - PM PEAK





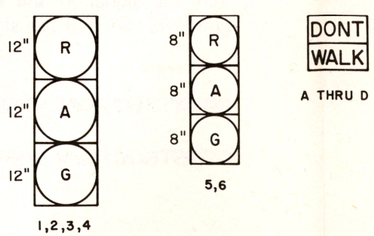
SCALE: 1" = 50'

ACCIDENT SUMMARY



1/1/69 TO 1/1/72

PROPOSED SIGNAL INDICATIONS



HUDSON AVENUE and 60th STREET

N

TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 7	INTERVAL	SPLIT		COLOR INDICATIONS BY SIGNAL FACE									
				NORTH–SOUTH				EAST–WEST				CROSSWALK	
PHASES		CUM %	SEC	N.B.		S.B.		E.B.		W.B.		WW / EW	
				5,6				3,4		1,2		AB, CD	
T	1	47	21.1	R				G		G		DW	
	2	55	3.6	R				A		A		DW	
	3	67	5.4	G				R		R		FW	
	4	92	11.3	G				R		R		FDW	
	5	100	3.6	A				R		R		FDW	
CYCLE LENGTH			45	G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK FDW = FLASHING DONT WALK, W = WALK									

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SPOT IMPROVEMENT PLAN

FIGURE NO. 7

FIGURE NO. 8. INTERSECTION OF JOHN F. KENNEDY BOULEVARD WEST WITH 62ND STREET AND WASHINGTON STREET

Combined Priority Ranking: 8
Combined Priority Points : 59

EXISTING CONDITION J.F.K. Boulevard West intersects two one-way streets, 62nd and Washington Streets, to the east and a two-way street, 63rd Street, to the west to form a five-legged intersection. Opposing traffic on the Boulevard is separated by a 6-foot median. Traffic from 63rd Street is under signal control. Parking is allowed along all curbs. Retail commercial facilities dominate the land use near the intersection, while the minor streets are residential.

PROBLEMS

Five-legged intersection creating conflicts and undefined area.

Left turns from north approach with heavy opposing traffic.

Inadequate signal visibility.

Lack of intersection definition.

Delays to side street traffic due to long cycle length.

RECOMMENDATIONS

Improvement of signal control by means of new phasing and prohibition of hard right turn from south approach of Boulevard into Washington Street.

Provision of left-turn slot with presence detector on north approach.

Improvement of signal visibility in terms of size, number and location.

Proper definition of intersection.

Increase curb return radius at northeast corner.

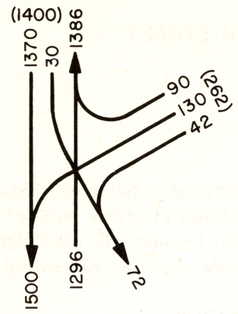
Replacement of 140-second cycle with 90-second cycle.

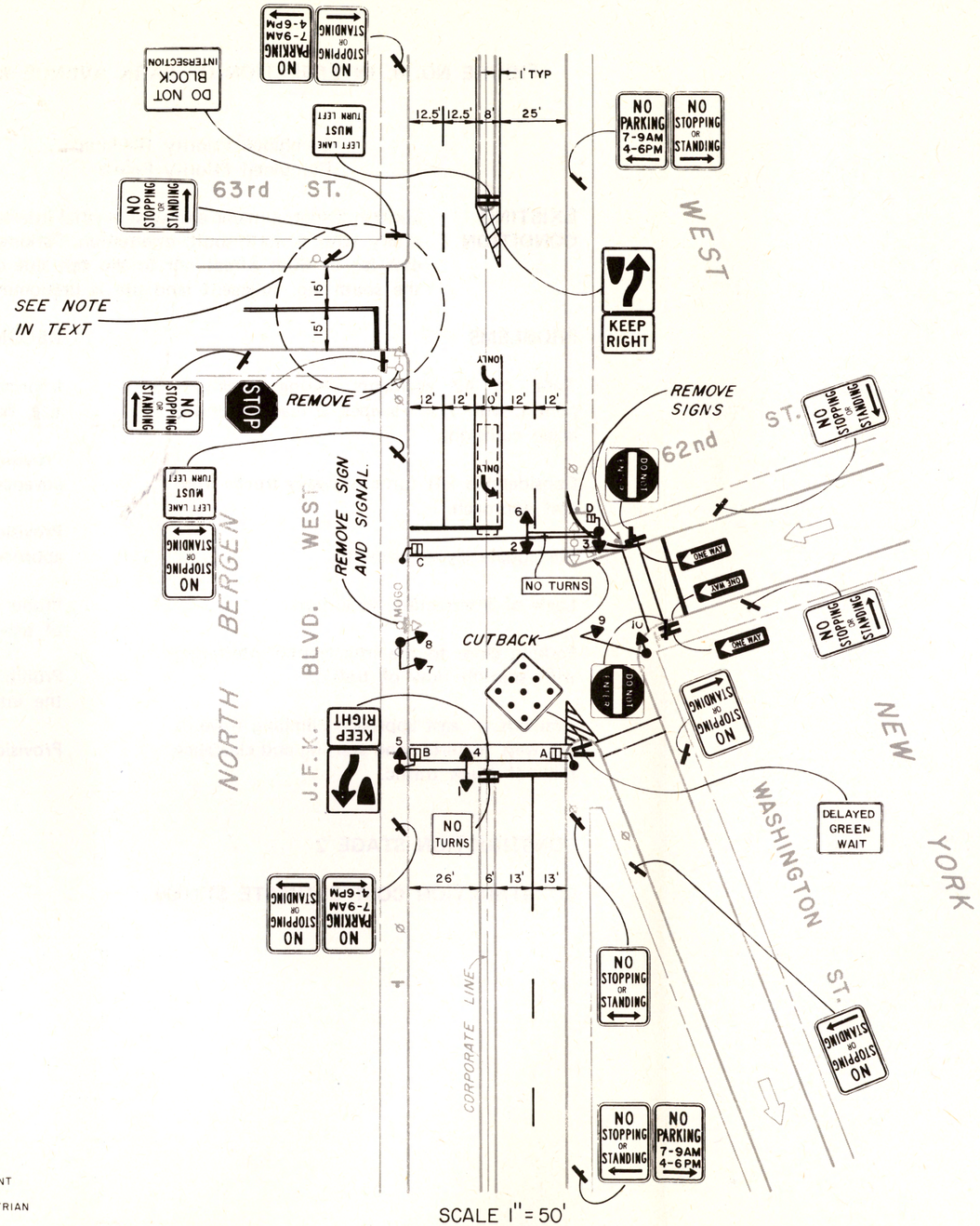
Note: It should be suggested to the Hudson County Administration and the Township of North Bergen that the signal in the southwest quadrant of the intersection of 63rd Street with the Boulevard be removed and that the signs and pavement markings shown on this diagram be installed.

CONSTRUCTION STAGE 1

CONSTRUCTION COST ESTIMATE $23,000

1980 VOLUMES - PM PEAK

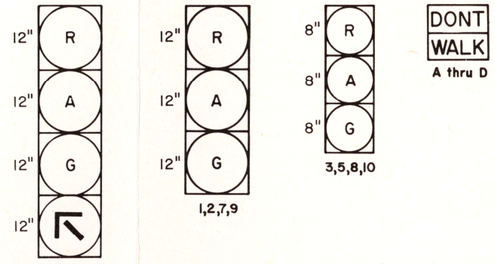




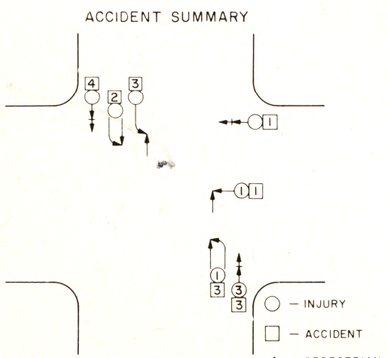
J.F.K. BLVD. WEST with 62nd, 63rd and WASHINGTON STREETS

N

PROPOSED SIGNAL INDICATIONS



ACCIDENT SUMMARY



1/1/69 TO 1/1/72

TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 8		SPLIT		COLOR INDICATIONS BY SIGNAL FACE									
PHASES	INTERVAL			NORTH–SOUTH				EAST–WEST				CROSSWALK	
		CUM	SEC	N.B.		S.B.		E.B.		W.B.		SW / NW	
		%		1,2,3		4, 6	5,10			7,8,9		AB, CD	
	1	6	5.4	R		⑤ ⑥	G			R		DW	
	2	10	3.6	R		G	G			R		DW	
	3	71	54.9	G		G	G			R		DW	
	4	75	3.6	A		A	A			R		DW	
	5	84	8.1	R		R	R			G		FW	
	6	96	10.8	R		R	R			G		FDW	
	7	100	3.6	R		R	R			A		FDW	
CYCLE LENGTH			90	G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK FDW = FLASHING DONT WALK, W = WALK									

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T-4001(52)

SPOT IMPROVEMENT PLAN

FIGURE NO. 8

FIGURE NO. 9. INTERSECTION OF PARK AVENUE WITH 60TH STREET

Combined Priority Ranking: 9
Combined Priority Points : 58

EXISTING CONDITION Sixtieth Street, a major east-west arterial intersects Park Avenue, a two-lane, two-way artery with a north-south orientation. Parking is not allowed at either curb of the east leg of 60th Street nor at the east side of the north leg and the west side of the south leg. Adjacent land use is predominantly commercial and residential.

PROBLEMS

Total of 42 accidents during three-year period, with 7 side-swipes, 6 rear-end and 6 angle collisions.

Considerable left turns of heavy trucks from east approach.

Inadequate signal visibility.

Lack of intersection definition.

Parking close to the intersection interfering with smooth flow of traffic.

Gradient of east approach climbing towards the west requires long starting and clearance time of truck traffic.

RECOMMENDATIONS

Improvement of signal visibility in terms of size, number and location.

Provision of 2-phase signal control with advance green phase for westbound traffic.

Provision of a single, wide lane on east approach.

Proper definition of the intersection by means of pavement marking and signs.

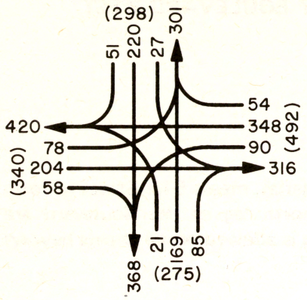
Prohibition of standing or stopping close to the intersection.

Provision of adequate clearance interval.

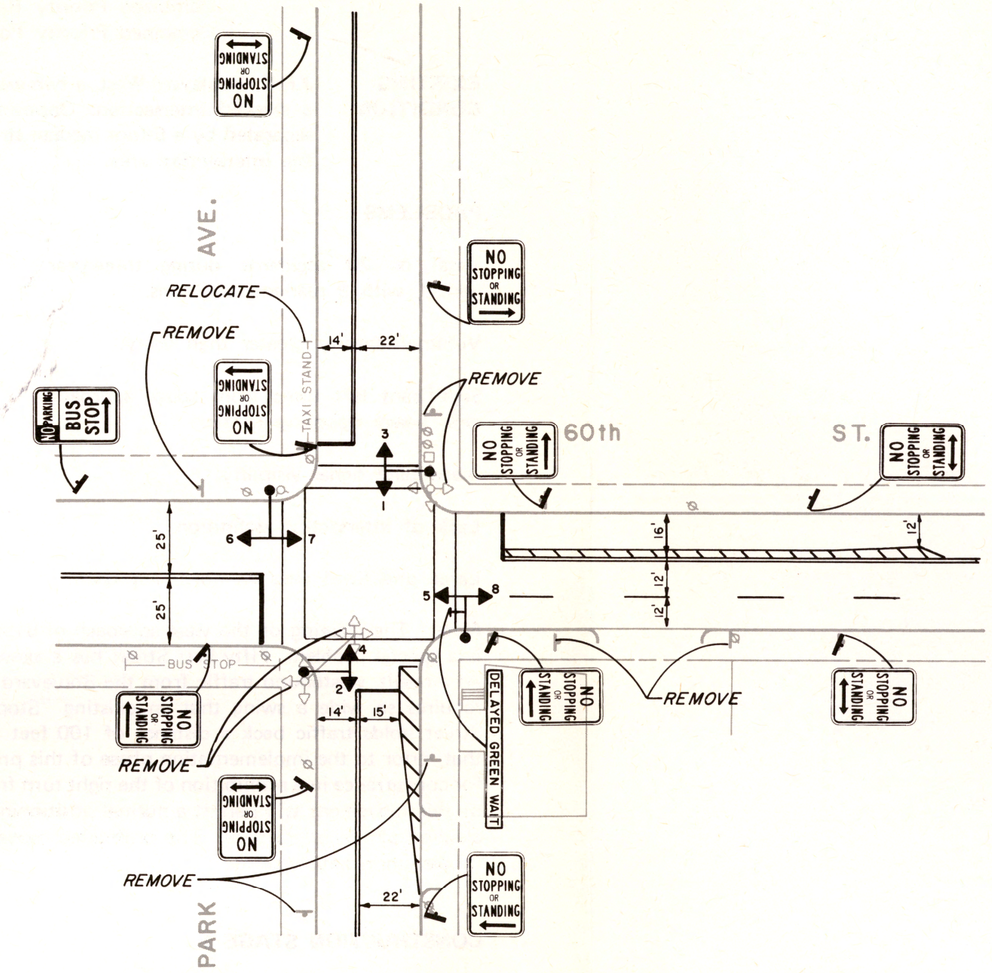
CONSTRUCTION STAGE 2

CONSTRUCTION COST ESTIMATE $13,000

1980 VOLUMES - PM PEAK

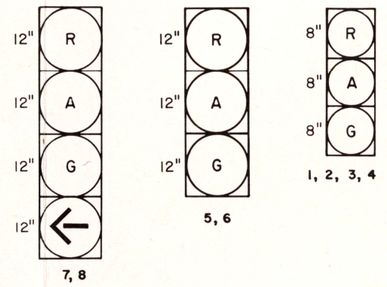


PARK AVENUE and 60th STREET

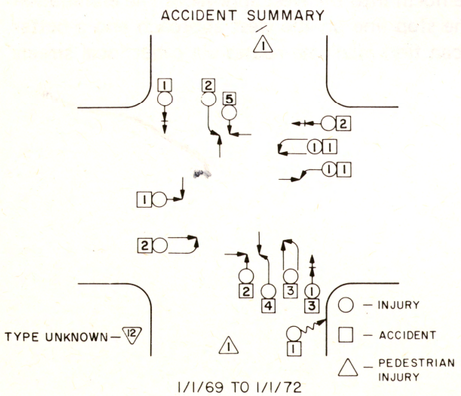


SCALE: 1" = 50'

PROPOSED SIGNAL INDICATIONS



ACCIDENT SUMMARY



1/1/69 TO 1/1/72

TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 9 PHASES	INTERVAL	SPLIT CUM %	SPLIT SEC	COLOR INDICATIONS BY SIGNAL FACE: NORTH–SOUTH N.B. 1,2	NORTH–SOUTH S.B. 3,4	EAST–WEST E.B. 5,6	EAST–WEST W.B. 7,8	CROSSWALK
	1	33	14.9	G	G	R	R	
	2	40	3.2	A	A	R	R	
	3	52	5.4	R	R	R	⑧	
	4	57	2.2	R	R	R	G	
	5	92	15.7	R	R	G	G	
	6	100	3.6	R	R	A	A	
CYCLE LENGTH			45					

G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK
FDW = FLASHING DONT WALK, W = WALK

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TOPICS

WEST NEW YORK · HUDSON COUNTY · NEW JERSEY

T-4001(52)

SPOT IMPROVEMENT PLAN

FIGURE NO. 9

FIGURE NO. 10. INTERSECTION OF JOHN F. KENNEDY BOULEVARD WEST WITH 51ST STREET

Combined Priority Ranking: 10
Combined Priority Points : 56

EXISTING CONDITION J.F.K. Boulevard West, a two-way, four-lane major arterial, meets 51st Street to form a skewed intersection. Opposing vehicles on the north leg of the Boulevard are separated by a 6-foot median strip. Restricted parking is allowed on all streets beyond the intersection area.

PROBLEMS

Total of 20 accidents during three-year period, with 9 rear-end collisions.

Volume/Capacity greater than unity.

Significant left turns from south approach with heavy opposing traffic.

Inadequate signal visibility.

Lack of intersection definition.

Large undefined area on north approach.

RECOMMENDATIONS

Prohibition of parking during peak hours and provision of exclusive left-turn lane on south approach.

Improvement of signal visibility in terms of size, number and location.

Proper intersection definition by means of pavement marking and signs.

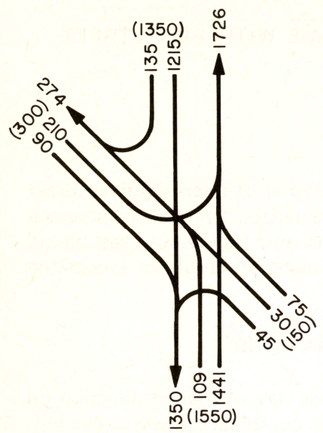
Extension of median island on north approach, together with proper pavement markings.

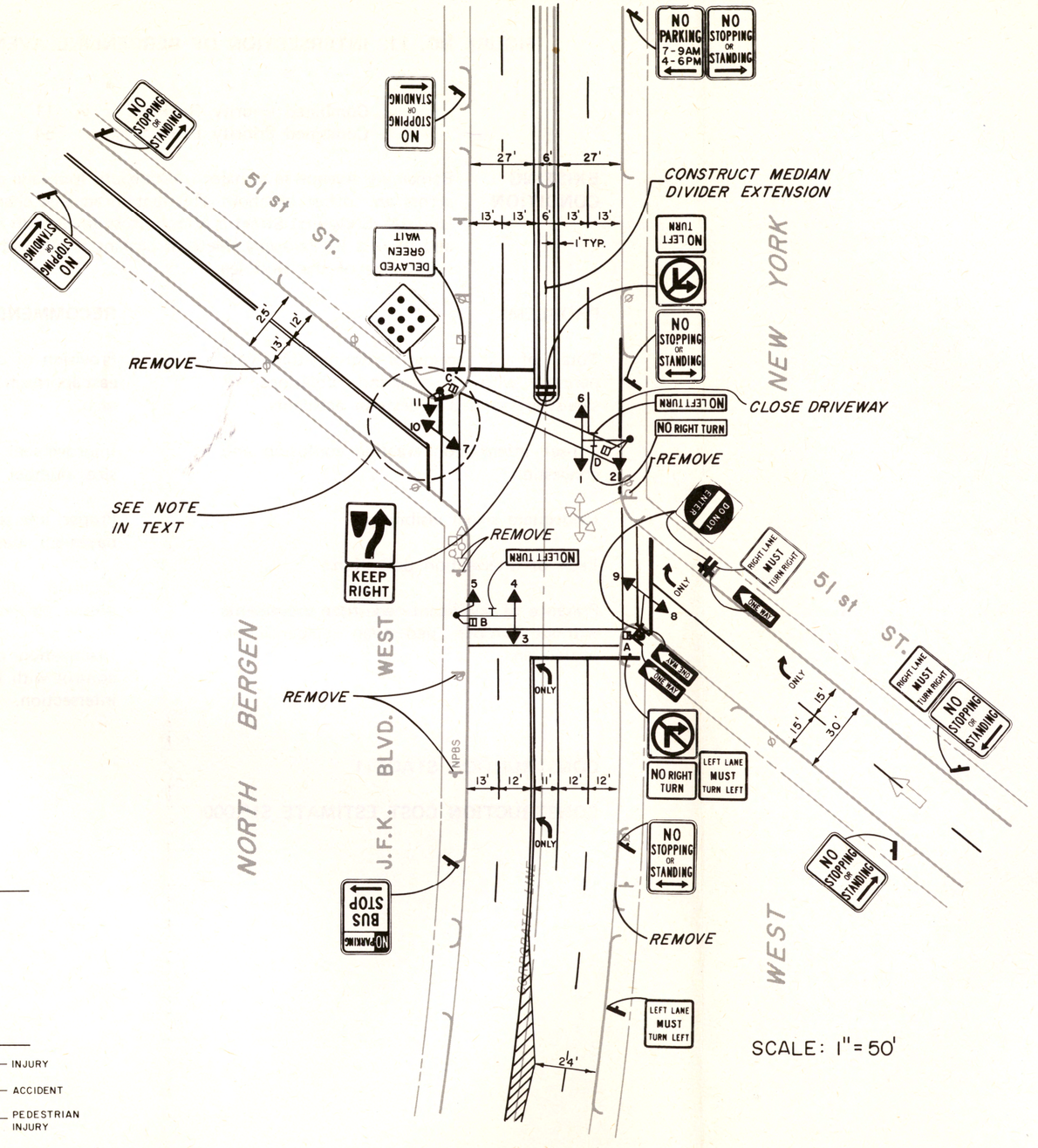
Note: The clearing of the west approach of 51st Street on the North Bergen side of this intersection is a special problem. Fifty-first Street has a skew angle of 40° to a normal crossing of the Boulevard. As a result, westbound traffic from the Boulevard southbound has to turn through 130°. This maneuver requires so wide a swing that an existing "Stop here on Red" sign at the west approach of 51st Street holds traffic back a distance of 100 feet from the intersection. It is therefore suggested here that, prior to the implementation phase of this program, the Township of North Bergen be approached for concurrence in a prohibition of the right turn from the north into the west approach. The elimination of this movement will permit a normal positioning of the stop line on the west approach and a better clearing of the intersection. The prohibited movement can find alternate routes via other local streets in the immediate vicinity.

CONSTRUCTION STAGE 1

CONSTRUCTION COST ESTIMATE $19,000

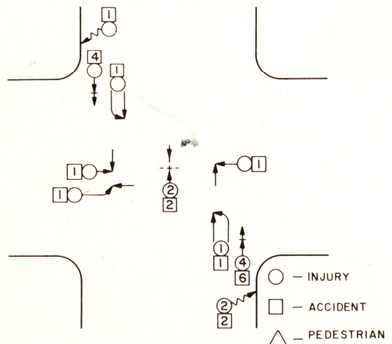
1980 VOLUMES - PM PEAK





SCALE: 1" = 50'

ACCIDENT SUMMARY

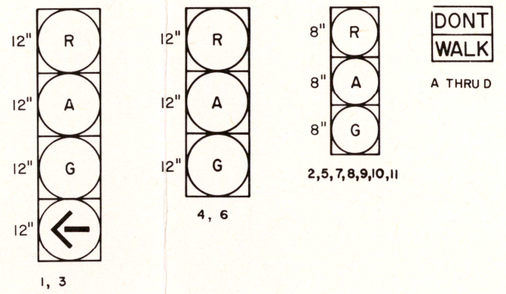


1/1/69 TO 1/1/72

J.F.K. BLVD. WEST and 51st STREET

N

PROPOSED SIGNAL INDICATIONS



TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 10 PHASES	INTERVAL	SPLIT CUM %	SPLIT SEC	COLOR INDICATIONS BY SIGNAL FACE: NORTH–SOUTH N.B. 1,3	N.B. 2,11	S.B. 4,5,6	EAST–WEST E.B. 9,10	E.B.	W.B. 7,8	W.B.	CROSSWALK NW/SW CD, AB	CROSSWALK
	1	8	7.2	⑥ ②	G	R	R		R		DW	
	2	12	3.6	G	G	R	R		R		DW	
	3	68	50.4	G	G	G	R		R		DW	
	4	72	3.6	A	A	A	R		R		DW	
	5	82	9	R	R	R	G		G		FW	
	6	96	12.6	R	R	R	G		G		FDW	
	7	100	3.6	R	R	R	A		A		FDW	
CYCLE LENGTH			90	G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK, FDW = FLASHING DONT WALK, W = WALK								

PORTER AND RIPA ASSOCIATES, INC. 200 MADISON AVENUE MORRISTOWN, N.J. SCRANTON, PA. BOSTON, MASS. RECIFE, BRAZIL	TOPICS WEST NEW YORK · HUDSON COUNTY · NEW JERSEY	T-4001 (52)	SPOT IMPROVEMENT PLAN	FIGURE NO. 10

FIGURE NO. 11. INTERSECTION OF BERGENLINE AVENUE WITH 61ST STREET

Combined Priority Ranking: 11
Combined Priority Points : 54

EXISTING CONDITION

Bergenline Avenue is a major, north-south four-lane arterial. It intersects 61st Street across an offset of about 150 feet in an area characterized by retail commercial land use. Sixty-first Street is a local cross street with its west leg one-way east bound and its east leg two-way. Metered parking is allowed along all curbsides except the south side of the west leg.

PROBLEMS

Total of 33 accidents during three-year period, with 7 rear-end collisions, 8 side-swipes and 3 pedestrian accidents.

Off-set intersection creating confusion and congestion.

Inadequate signal visibility.

Lack of intersection definition.

Presence of significant pedestrian movements without proper pedestrian guidance or protection.

RECOMMENDATIONS

Provision of one-way eastbound direction on east approach in coordination with circulation plan.

Improvement of signal visibility by means of size, number and location.

Proper intersection definition by means of pavement markings and signs.

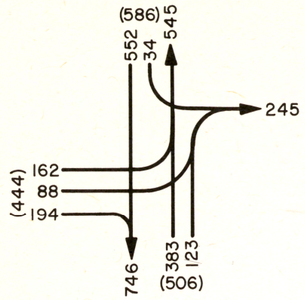
Provision of pedestrian indications with proper clearance intervals.

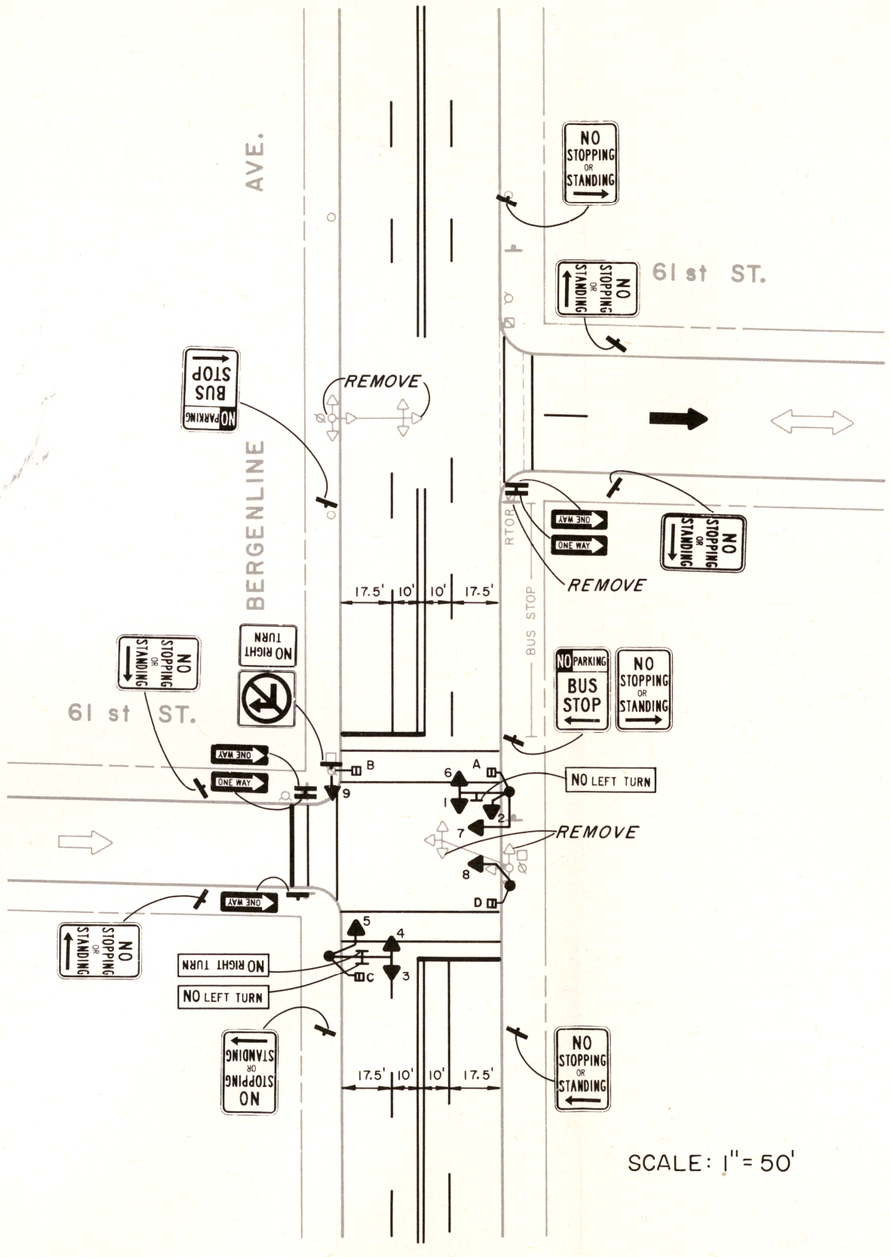
Inactivation of signal at north intersection control with 61st Street outbound from the intersection.

CONSTRUCTION STAGE 1

CONSTRUCTION COST ESTIMATE $15,000

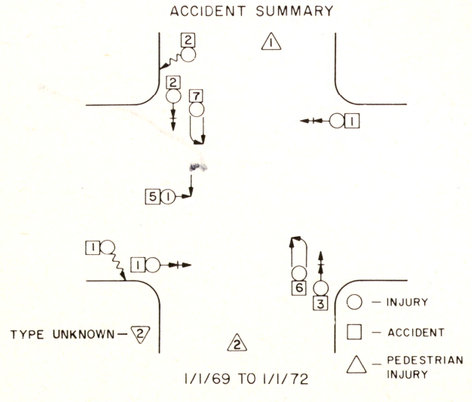
1980 VOLUMES - PM PEAK





SCALE: 1" = 50'

ACCIDENT SUMMARY

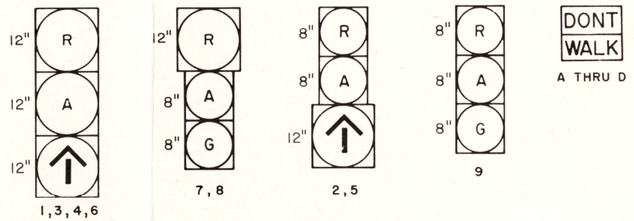


1/1/69 TO 1/1/72

BERGENLINE AVENUE and 61st STREET

N

PROPOSED SIGNAL INDICATIONS



TRAFFIC SIGNAL SEQUENCE SCHEDULE

FIG. NO. 11 PHASES	INTERVAL	SPLIT CUM %	SPLIT SEC	COLOR INDICATIONS BY SIGNAL FACE: NORTH–SOUTH N.B. 1,2,3	NORTH–SOUTH N.B. 9	NORTH–SOUTH S.B. 4,5,6	EAST–WEST E.B. 7,8	EAST–WEST W.B.	CROSSWALK NW / SW AB, CD
	1	57	51.3	↑	G	↑	R		DW
	2	61	3.6	A	A	A	R		DW
	3	82	18.9	R	R	R	G		FW
	4	96	12.6	R	R	R	G		FDW
	5	100	3.6	R	R	R	A		FDW
CYCLE LENGTH			90						

G = GREEN, R = RED, A = AMBER, DW = DON'T WALK, FW = FLASHING WALK
FDW = FLASHING DONT WALK, W = WALK

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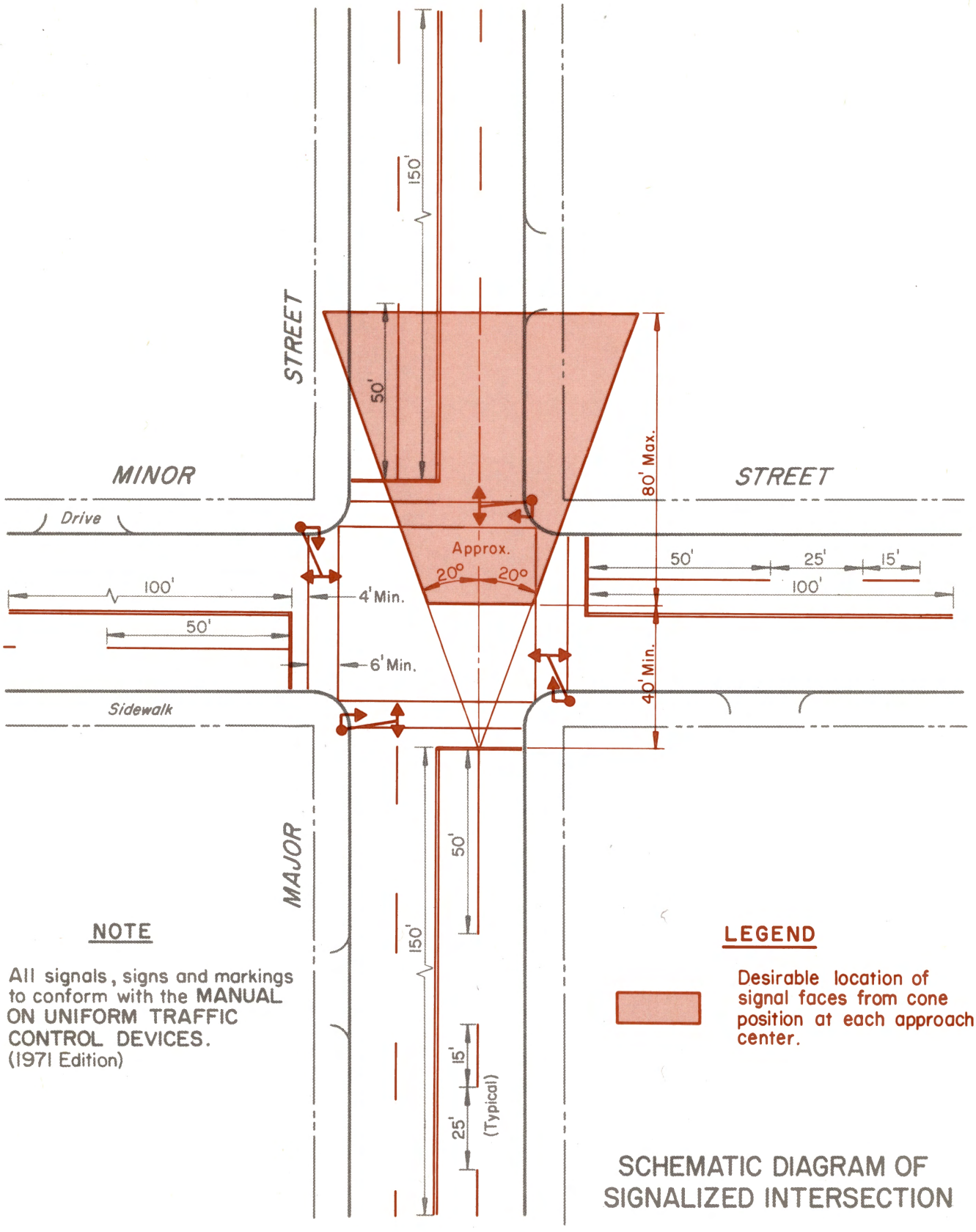
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SPOT IMPROVEMENT PLAN

FIGURE NO. 11



NOTE

All signals, signs and markings to conform with the MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (1971 Edition)

LEGEND

Desirable location of signal faces from cone position at each approach center.

SCHEMATIC DIAGRAM OF SIGNALIZED INTERSECTION

PDTI	TOPICS WEST NEW YORK NEW JERSEY	T-4001 (52)	SAMPLE LAYOUT	PLATE NO. 14

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