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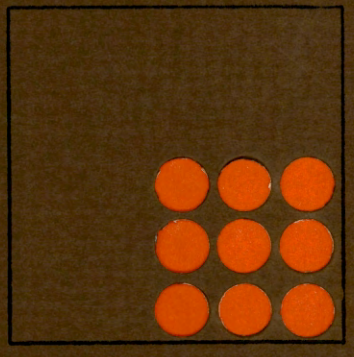

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REGION 4

REGION IV - MONMOUTH COUNTY TOPICS

Regional Setting

Region IV is made up of the Boroughs of Rumson, Little Silver, Red Bank, Fair Haven, New Shrewsbury and the Township of Shrewsbury. It is bounded on the north by Region II, on the east and south by Region III, and on the west by the Earle Naval Ammunition Depot.

The region is served by New Jersey Route 35, several key county roads and the Garden State Parkway which tranverses the western portion of the region.

The peninsula area of the region formed by the Navesink and Shrewsbury Rivers consists primarily of residential development. This section is characterized by large sized lots and homes in the upper price range.

Red Bank, in the center of the region, has a higher population density including a small central business district.

The western portion of the region is primarily low density land which has not yet experienced the rigorous development pace of the more coastal areas. There are however, several housing developments in this part of the region.

Federal-Aid System

PLATE 4 - 1 shows the Region IV study system and the recommended Federal Aid System. Selection procedures were in accordance with the Federal Highway Administration PPM 21-18, May, 1972. The system is intended to provide the basis for present and future local traffic demands. TABLE 4 - 1 shows the system mileage by type. The Garden State Parkway and New Jersey Route 35 provide the principal north-south capacity supply in the region. The Parkway, a toll road, was not part of the study. Its effect on the surrounding area, however was considered carefully. The interchanges in this region connect to roadways serving other regions and are considered in detail in those reports.

New Jersey Route 35 traverses the region at grade in most places intersecting with most local streets. In the Red Bank central business district New Jersey Route 35 separates into a one-way pair for a short distance using existing city streets. The resulting turning movements at signalized and non-signalized intersections along with side friction reduce the capacity of this roadway considerably.

East and west movements along the peninsula are carried primarily along Rumson Road and River Road with additional volumes on Ridge Road.

EXISTING AND PROPOSED FEDERAL-AID SYSTEMS MILEAGE TABLE 4 - 1

EXISTING	MILES
Federal Aid Urban	5.87
Federal Aid Primary Type I	1.70
Federal Aid Secondary	14.10
PROPOSED ADDITIONS	
Federal Aid Primary Type II	13.07

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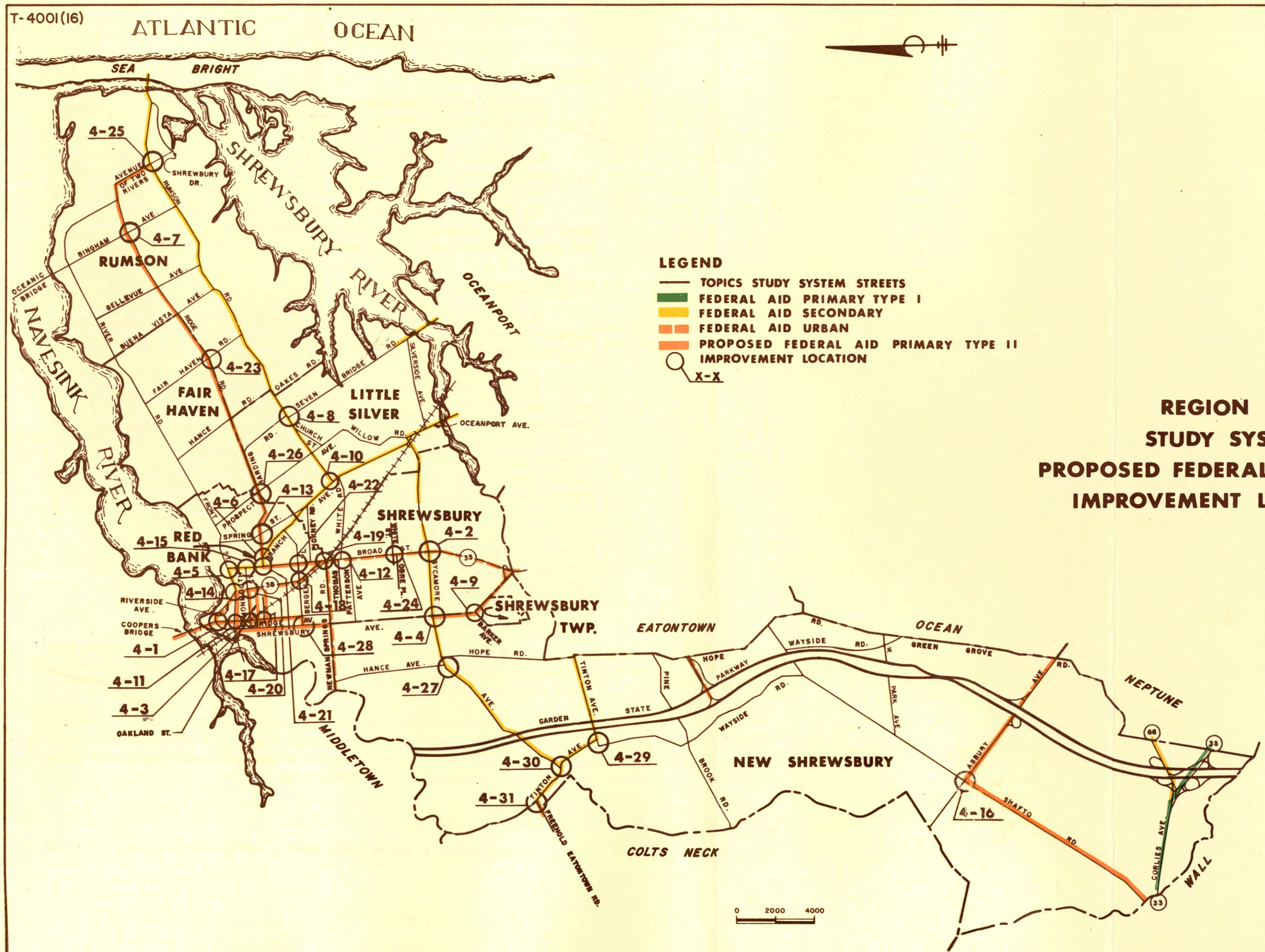

LEGEND

- TOPICS STUDY SYSTEM STREETS
- FEDERAL AID PRIMARY TYPE I
- FEDERAL AID SECONDARY
- FEDERAL AID URBAN
- PROPOSED FEDERAL AID PRIMARY TYPE II
- IMPROVEMENT LOCATION
- X-X

REGION IV
STUDY SYSTEM
PROPOSED FEDERAL AID SYSTEM
IMPROVEMENT LOCATIONS

PLATE 4-1

Bus and Rail Transportation

Region IV is served by several bus companies and the New York and Long Branch Railroad as shown on PLATE 4 - 2.

Most of the bus service connects the region with employment centers in the New York Metropolitan area with little local service available.

The rail passenger service is primarily a commuter service to New York which carries standing room only loads on equipment badly in need of improvement. Rail passenger stations are located in Red Bank and Little Silver.

Accident Experience

The police department in each of the municipalities of the region made accident records available for analysis. High accident locations along with computed accident rates are shown on PLATE 4 - 3 and summarized on TABLE 4 - 2.

The location with one of the highest number of accidents occurring in this region was Riverside Avenue (New Jersey Route 35) at Bridge Avenue. This is the first intersection after crossing the Navesink River in a southbound direction and it requires New Jersey Route 35 traffic to turn to the east. This location is also hampered by two other roadways which intersect at this point. The resulting number of vehicle conflicts and required turning movements has generated this high accident experience. New Jersey Route 35 in this area traverses a somewhat discontinuous path passing through Red Bank on city streets. Some through traffic uses Bridge Avenue to avoid the Red Bank central business district rejoining New Jersey Route 35 by way of Shrewsbury Avenue or Newman Springs Road to the south. High accident locations can be noted along both of these routes. Improvement recommendations for these locations are discussed in detail later in this report.

Speed and Delay

Speed and delay data was obtained in Region IV through the use of a data compiler installed in a moving car. Data for on and off peak periods was analyzed and is presented on PLATE 4 - 4.

A concentration of recorded lower travel speeds can be seen in the Red Bank area. This area is also shown in the insert on PLATE 4 - 4 with calculated capacity indicated. These conditions are indicative of high traffic volumes on New Jersey Route 35 being forced to use the existing street system.

Traffic Volumes

Turning movement counts and automatic traffic recorder counts were made at

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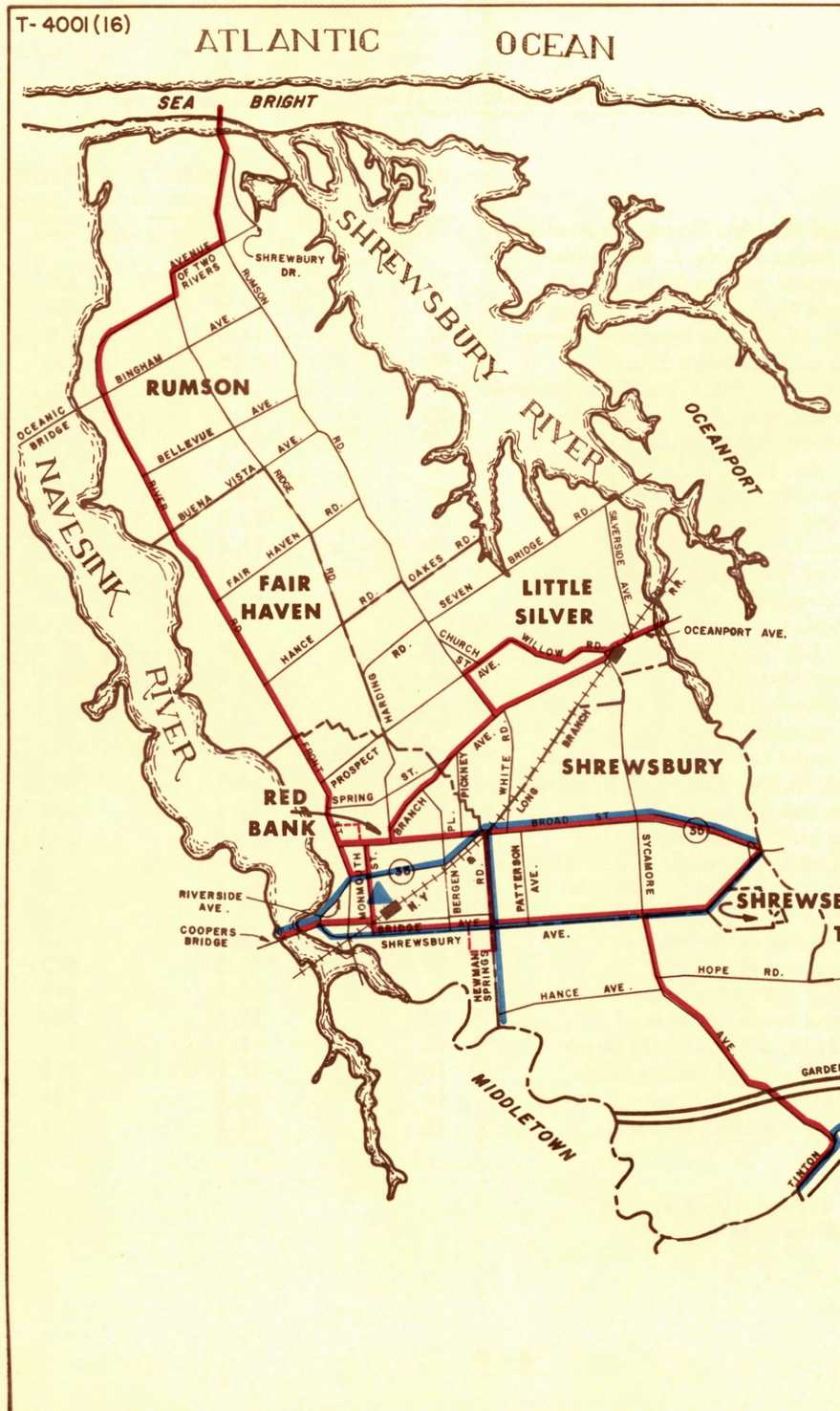

LEGEND

- LOCAL BUS SERVICE
- LOCAL BUS SERVICE ON NON-SYSTEM STREETS
- LONG DISTANCE BUS SERVICE
- BUS STATION
- TRAIN STATION

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REGION IV PUBLIC TRANSPORTATION

PLATE 4-2

ACCIDENT INFORMATION SUMMARY TABLE 4 - 2

	ACCIDENT NUMBER*	ACCIDENT RATE**	PRIORITY INDEX
Newman Springs Road and Shrewsbury Avenue	79	24.0	505
Bridge Ave., Rector Pl., N.J. Rt. 35 and Riverside Avenue (N.J. Rt. 35)	56	15.5	439
N.J. Rt. 66 and N.J. Rt. 33 (Interchange)	64	27.9	425
Broad St.(N.J. Rt. 35) and Sycamore Avenue	47	14.0	372
Bridge Avenue and Monmouth Street	48	30.5	366
Broad St., Maple Ave.(N.J.Rt.35) and Newman Springs Road	35	11.0	362
Branch Avenue and Sycamore Avenue	47	21.7	340
Shrewsbury Avenue and Sycamore Avenue	37	12.0	331
Branch Avenue and Rumson Road	42	28.2	315
Bergen Place and Broad Street	21	10.3	305
Broad Street and Front Street	30	11.8	297
Bridge Street and Front Street	36	18.1	285
Harding Road and Spring Street	34	28.4	275
Front St., Maple Ave.(N.J.Rt.35-NB), Pearl St. (N.J.Rt.35-SB) and Riverside Ave.	33	9.8	270
Broad Street and Monmouth Street	31	18.3	265
Branch Ave., Harding Ave. and Hudson Ave.	31	33.4	260
Monmouth St. and Maple Ave.(N.J. Rt.35)	23	10.6	259
Harding Rd., Broad St. and Reckless Place	30	11.8	255
Broad St.(N.J. Rt.35), Thomas Ave. and White Rd.	30	10.9	255
Asbury Avenue and Shafto Road	26	31.4	235
Bridge Avenue and Chestnut Street	26	23.7	235
Bergen Place and Maple Avenue (N.J. Rt.35)	25	10.9	230
Hance Avenue and Newman Springs Road	23	11.1	220
Bergen Place and Shrewsbury Avenue	22	12.0	215
Bingham Avenue and Ridge Road	21	18.8	210
Fair Haven Road and Ridge Road	21	21.5	210
Monmouth Street and Pearly Street	21	21.6	210
Rumson Road and Seven Bridge Road	20	10.6	205
Broad St.(N.J. Rt. 35) and White Street	18	7.1	195
Avenue of Two Rivers and Rumson Road	18	11.1	195
Harding Road and Prospect Avenue	16	16.3	185
Hance Avenue and Sycamore Avenue	15	12.0	180

* Per Three Years (1968-1970)
** Per Ten Million Vehicles

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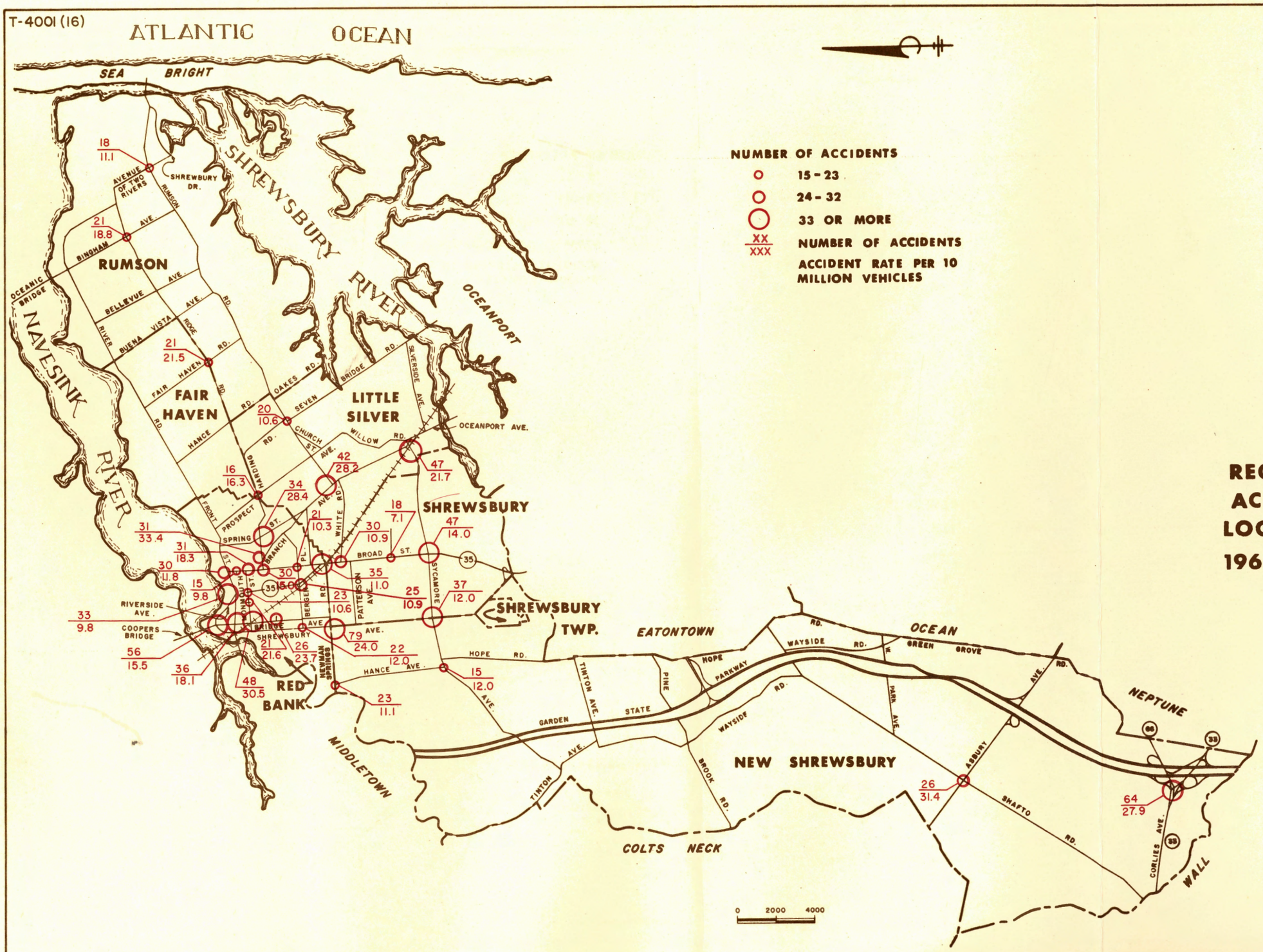

NUMBER OF ACCIDENTS

- 15 - 23
- 24 - 32
- 33 OR MORE
- XX / XXX — NUMBER OF ACCIDENTS / ACCIDENT RATE PER 10 MILLION VEHICLES

REGION IV ACCIDENT LOCATIONS 1968 - 1970

PLATE 4-3

T-4001 (16)

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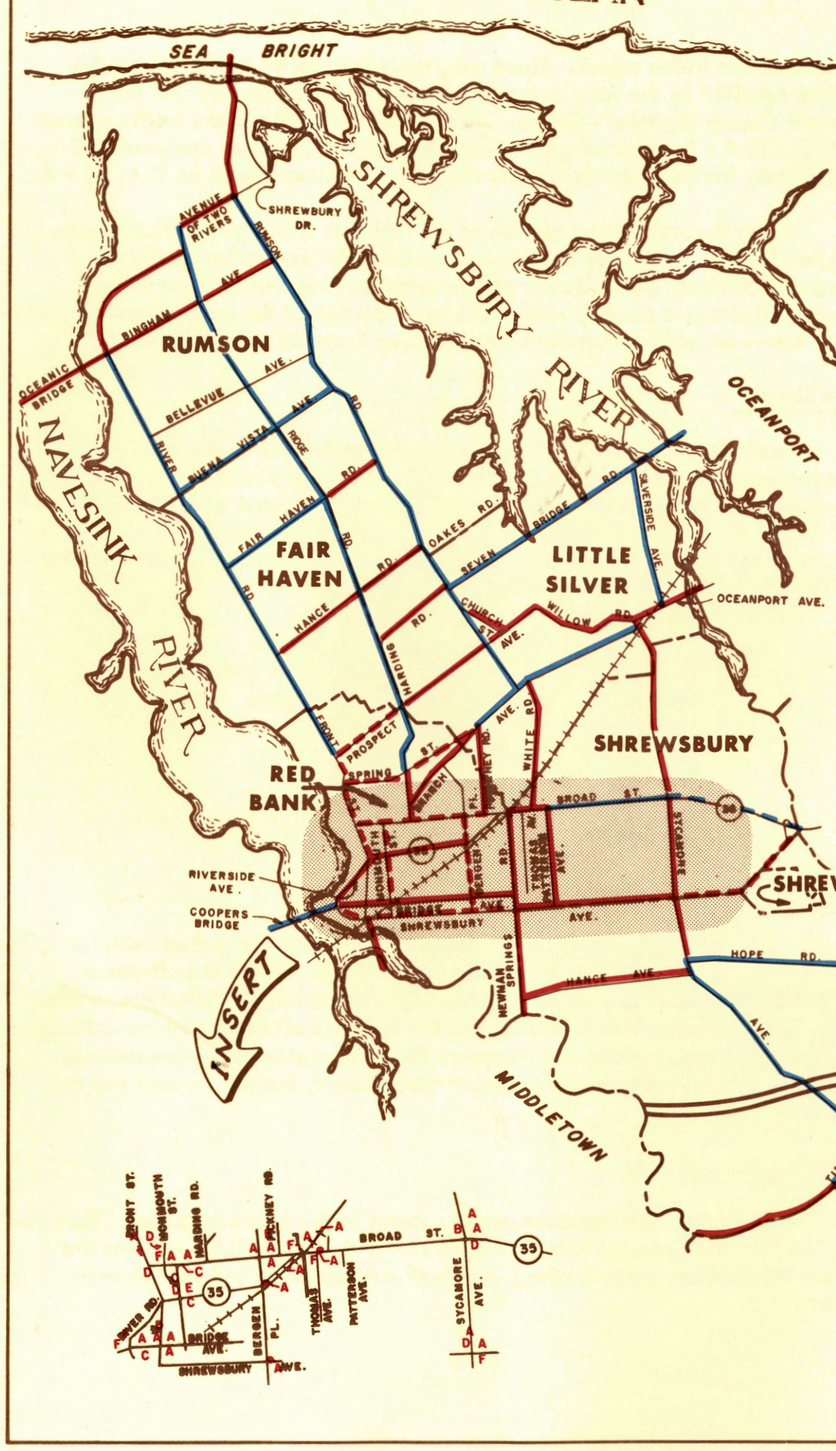

LEGEND

- 5-19 M.P.H.
- 20-29 M.P.H.
- 30-39 M.P.H.
- 40-50 M.P.H.

A — REPRESENTS THE LEVELS OF SERVICE

REGION IV

AVERAGE TRAVEL SPEEDS AND LEVEL OF SERVICE

PLATE 4-4

various locations in the region. These were supplemented by traffic volume information supplied by the New Jersey Department of Transportation and the Monmouth County Engineer's Office. These were analyzed and the traffic volume map on PLATE 4 - 5 was developed. The information was further analyzed and projected into the future producing the design year volumes shown on PLATE 4 - 6.

Since the major upper portion of the region is almost surrounded by water, the higher traffic volumes are experienced on the links connecting to the water crossings. Additional high volumes can be noted on New Jersey Route 35 and Shrewsbury Avenue, a parallel road. The lower portion of the region accommodates through east-west traffic primarily on New Jersey Route 33 and Tinton Avenue.

Traffic Signals

Analysis of all data and projected traffic growth led to the traffic signal system recommendations shown on PLATE 4 - 7. A number of additional signals are proposed along with interconnection to form a signal system in the Red Bank area. TABLE 4 - 3 lists all signals on the recommended Federal-Aid System along with recommendations and warrants. These warrants are contained in the "Manual on Uniform Traffic Control Devices" as listed below:

Warrant 1 :	Minimum Vehicluar Volume
Warrant 2:	Interruption of Continuous Traffic
Warrant 3:	Minimum Pedestrian Volume
Warrant 4:	School Crossing
Warrant 5:	Progressive Movement
Warrant 6:	Accident Experience
Warrant 7:	Systems Warrant
Warrant 8:	Combination of Warrants

Curb and Off Street Parking Facilities

Considerable use of the roadway system is made by parked vehicles in the Red Bank and Little Silver central business district areas. There are off-street parking lots in the central business districts having a variety of limitations in terms of time. The regular police force enforces the curb and off street parking ordinances. Removal of some curb parking was necessary to effect engineering improvements and to achieve conformance with statutory requirements, but the removal was not extensive.

Intersection Improvements

Recommended improvements are shown in the following pages. Their relative location in the region is indicated on PLATE 4 - 1. TABLE 4 - 4 lists the proposed improvement projects along with their cost estimates and year of construction.

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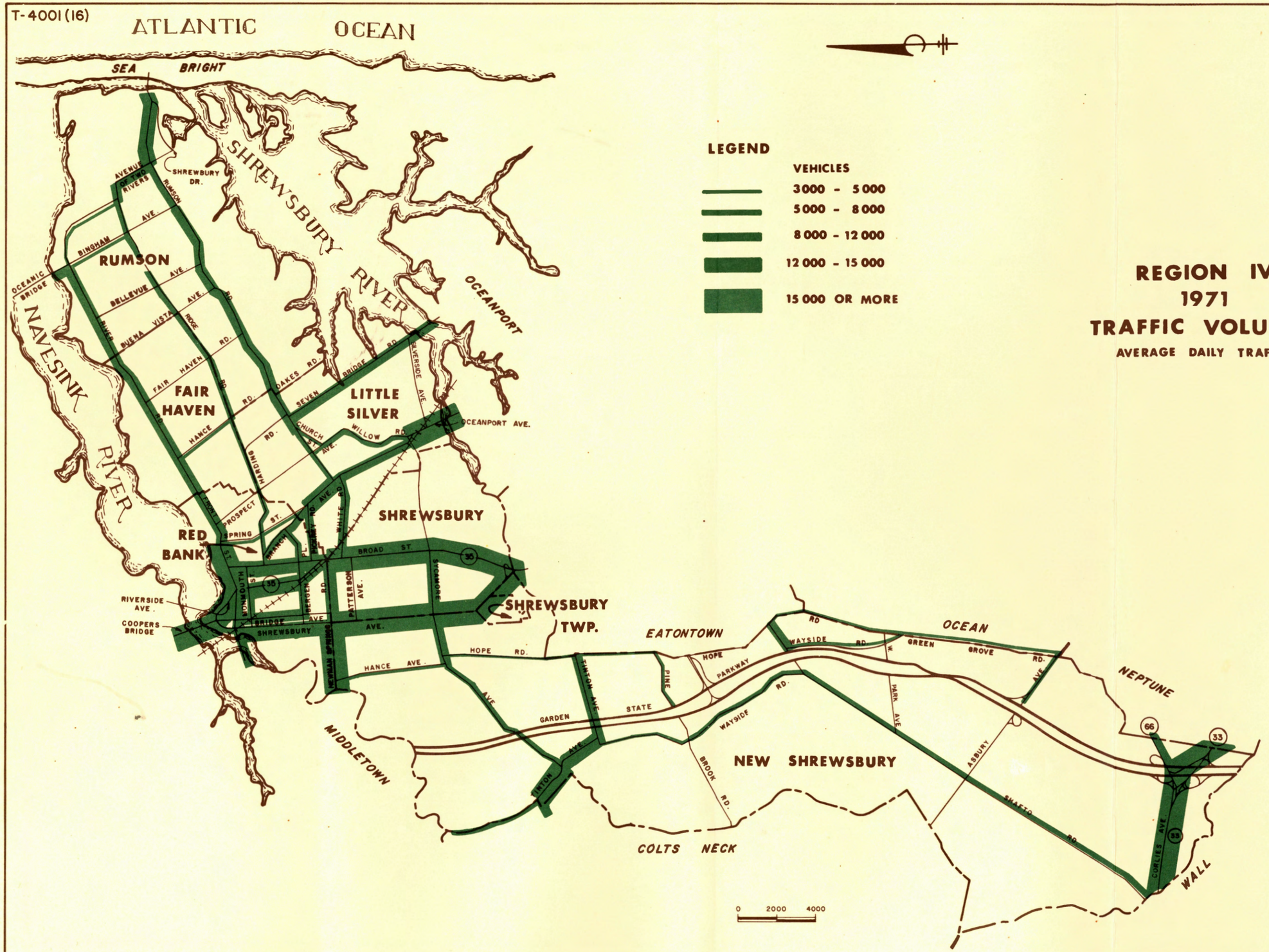

LEGEND

VEHICLES

- 3000 - 5000
- 5000 - 8000
- 8000 - 12000
- 12000 - 15000
- 15000 OR MORE

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REGION IV
1971
TRAFFIC VOLUMES
AVERAGE DAILY TRAFFIC

PLATE 4-5

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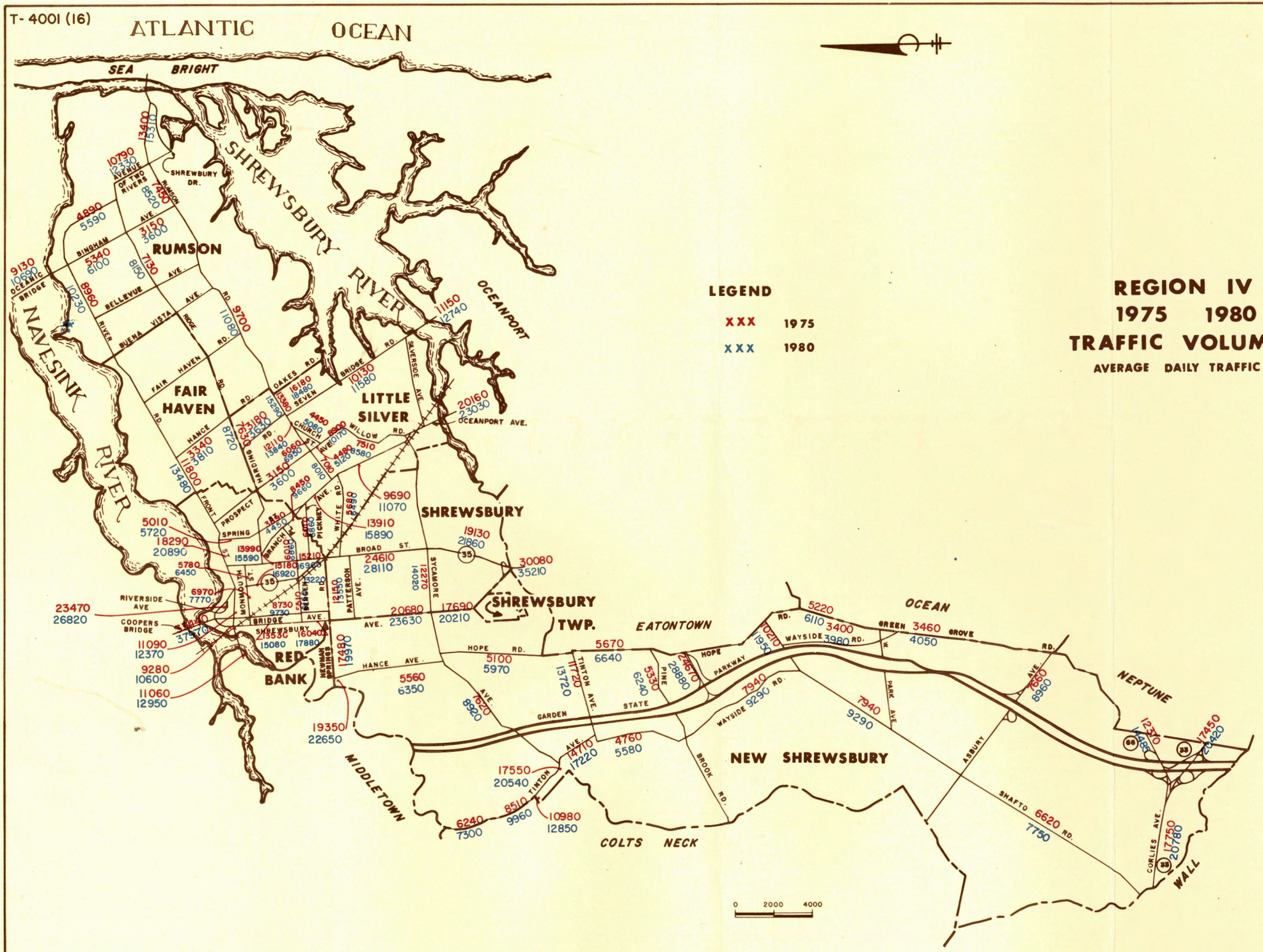

PLATE 4-6

EXISTING AND PROPOSED TRAFFIC SIGNALS

TABLE 4 - 3

LOCATION	MUNICIPALITY	OPERATION	RECOMMENDATION	N.J.D.O.T. APPROVED	WARRANT *
Bingham Ave. and Ridge Road	Rumson	Flashing	Install	Yes	
Fairhaven Road and Ridge Road	Rumson-Fair Haven	Flashing/Fully Act.	Modify	Yes	6
Seven Bridge Rd. and Rumson Rd.	Little Silver	Semi-Actuated	Install	No	1
Prospect Ave. and Rumson Rd.	Little Silver	Semi-Actuated	Retain	Yes	1
Propsect Ave. and Harding Rd.	Little Silver	Flashing	Retain	No	
Branch Ave. and Sycamore Ave.	Little Silver	Fixed Time	Retain	Yes	1
Branch Ave. and Rumson Rd.	Little Silver	Flashing/Semi-Act.	Modify	No	1
Harding Rd. and Spring St.	Red Bank	Flashing/Semi-Act.	Modify	No	1
Branch Ave., Harding Rd. and Hudson Avenue	Red Bank	Semi-Actuated	Install	No	6,7
Broad St. and Harding Rd.	Red Bank	Semi-Actuated	Retain	Yes	6
Broad St. and Monmouth St.	Red Bank	Semi-Actuated	Retain	Yes	2
Broad St. and Front Street	Red Bank	Semi-Actuated	Retain	Yes	1
N.J. Route 35 and Sycamore Ave.	Shrewsbury	Semi-Actuated	Retain	Yes	1
N.J. Route 35 and Shrewsbury Ave.	Shrewsbury	Semi-Actuated	Retain	Yes	1
Barker Ave. and Shrewsbury Ave.	Shrewsbury Twp.	Flashing/Semi-Act.	Modify	No	2
Sycamore Ave. and Shrewsbury Ave.	New Shrewsbury	Fixed-Time/ Fully-Actuated	Modify	No	1
Shrewsbury Ave. and Newman Springs Road	New Shrewsbury	Semi-Actuated/ Fully-Actuated	Modify	Yes	1
Bergen Place and Shrewsbury Ave.	Red Bank	Fixed-Time/	Modify	No	1
Tinton Ave. and Sycamore Ave.	New Shrewsbury	Flashing/Semi-Act.	Modify	No	1
Asbury Ave. and Shafto Rd.	New Shrewsbury	Flashing/Fully-Act.	Modify	No	6
N.J. Route 33 and N.J. Route 66	New Shrewsbury	Semi-Actuated	Retain	Yes	2
White St-Obre Pl. and N.J. Rt.35	Shrewsbury	Semi-Actuated	Retain	Yes	2
White Rd., Thomas Avenue and N.J. Route 35	Shrewsbury	Semi-Actuated	Retain	Yes	2
Newman Springs Rd. and N.J. Route 35	Shrewsbury	Semi-Actuated	Retain	Yes	1

EXISTING AND PROPOSED TRAFFIC SIGNALS TABLE 4 - 3
(Continued)

LOCATION	MUNICIPALITY	OPERATION	RECOMMEN-DATION	N.J.D.O.T. APPROVED	WARRANT*
Broad St., Newman Springs Rd. and Route 35	Red Bank	Semi-Actuated	Retain	Yes	1
Bergen Pl. and Broad Street	Red Bank	Semi-Actuated	Retain	Yes	1
Monmouth St. and N.J. Route 35	Red Bank	Semi-Actuated	Retain	Yes	1
Front St., Pearl St., Maple St. and Route 35	Red Bank	Semi-Actuated	Retain	Yes	1
Bridge St., Rector Pl. and Riverside Drive	Red Bank	Semi-Actuated	Retain	Yes	1
Bridge St. and West Front St.	Red Bank	Fixed Time/ Semi-Actuated	Modify	No	6
Bridge St. and Chestnut St.	Red Bank	Flashing	Install	No	1
Tinton Ave. and Wayside Ave.	New Shrewsbury	Semi-Actuated	Install	Yes	1
Tinton Ave. and Swimming River Rd.	New Shrewsbury	Semi-Actuated	Install	No	1
Bridge Ave. and Monmouth St.	Red Bank	Semi-Actuated	Install	No	6
Bergen Place and N.J. Route 35	Red Bank	Fixed Time/ Semi-Actuated	Modify	Yes	1

* Numbers shown refer to warrant numbers 1 through 8 as contained in the Manual on Uniform Traffic Control Devices.

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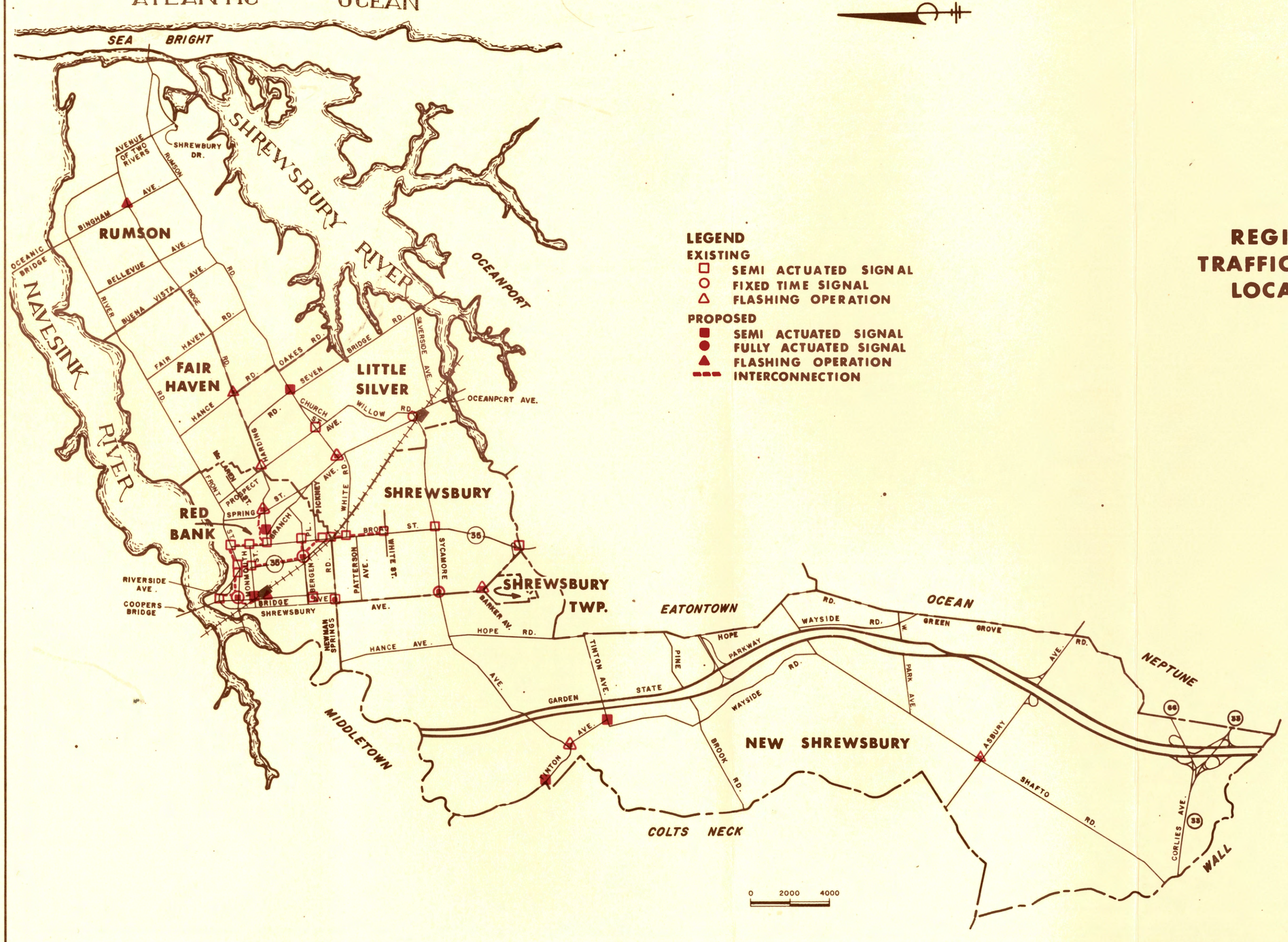


LEGEND

EXISTING
- □ SEMI ACTUATED SIGNAL
- ○ FIXED TIME SIGNAL
- △ FLASHING OPERATION

PROPOSED
- ■ SEMI ACTUATED SIGNAL
- ● FULLY ACTUATED SIGNAL
- ▲ FLASHING OPERATION
- ▬▬ INTERCONNECTION

RICHARD P. BROWNE ASSOCIATES

REGION IV TRAFFIC SIGNAL LOCATIONS

PLATE 4-7

IMPROVEMENT PROJECT SEQUENCE AND FINANCIAL PROGRAM

TABLE 4 - 4

YEAR	LOCATION	MUNICIPALITY	IMPROVEMENT NUMBER	COST
1973	Bridge Ave., Rector Pl. and Riverside Ave.	Red Bank	4-1	$60,000.00
	Broad St. and Sycamore Ave.	Shrewsbury	4-2	25,000.00
	Bridge Ave. and Monmouth St.	Red Bank	4-3	30,000.00
	Shrewsbury Ave. and Sycamore Ave.	New Shrewsbury	4-4	53,000.00
	Broad St. and Front St.	Red Bank	4-5	20,000.00
	Branch Ave., Harding Rd. and Hudson Ave.	Red Bank	4-6	32,500.00
	Bingham Ave. and Ridge Ave.	Rumson	4-7	12,000.00
	Rumson Rd. and Seven Bridge Rd.	Little Silver	4-8	114,000.00
	Barker Ave. and Shrewsbury Ave.	Shrewsbury Twp.	4-9	39,200.00
	Tinton Ave. and Wayside Ave.	New Shrewsbury	4-29	350,000.00
	Tinton Ave. and Sycamore Ave.	New Shrewsbury	4-30	416,000.00
	Tinton Ave. and Swimming River Rd.	New Shrewsbury	4-31	103,700.00
	Chestnut Street and N.Y. & L.B. Railroad Crossing	Red Bank	4-32	85,000.00*
	Oakland Street and N.Y. & L.B. Railroad Crossing	Red Bank	4-33	85,000.00*
	Shrewsbury Avenue and N.Y. & L.B. Railroad Crossing	Red Bank	4-34	85,000.00*
	Bridge Avenue and N.Y. & L. B. Railroad Crossing	Red Bank	4-35	85,000.00*
1974	Branch Ave. and Rumson Rd.	Little Silver	4-10	42,000.00
	Bridge Ave. and Front St.	Red Bank	4-11	20,000.00
	Broad St. and White Rd.	Shrewsbury	4-12	20,000.00
1975	Harding Rd. and Spring St.	Red Bank	4-13	20,000.00
	Pearl St., Riverside, Route 35 and W. Front St.	Red Bank	4-14	96,700.00
1976	Broad St. and Monmouth St.	Red Bank	4-15	20,500.00
	Asbury Ave. and Shafto Rd.	New Shrewsbury	4-16	50,000.00
	Bridge Ave. and Chestnut Pl.	Red Bank	4-17	15,000.00
	Bergen Pl. and Route 35	Red Bank	4-18	32,000.00
	Broad St. and Route 35	Red Bank	4-19	98,000.00

* Early Implementation Projects

IMPROVEMENT PROJECT SEQUENCE AND FINANCIAL PROGRAM (CONTINUED)

TABLE 4 - 4

YEAR	LOCATION	MUNICIPALITY	IMPROVEMENT NUMBER	COST
1977	Monmouth St. and Route 35	Red Bank	4-20	$20,000.00
	Broad St., Harding Rd., and Reckless Pl.	Red Bank	4-21	30,500.00
	Bergen Pl. and Broad St.	Red Bank	4-22	31,000.00
	Fairhaven Rd. and Ridge Rd.	Fair Haven	4-23	20,000.00
	Route 35, Obre Pl. and White St.	Shrewsbury	4-24	43,000.00
	Avenue of Two Rivers and Rumson Rd.	Rumson	4-25	30,000.00
	Harding Rd. and Prospect Ave.	Fair Haven	4-26	10,000.00
	Hance Ave. and Sycamore Ave.	New Shrewsbury	4-27	10,000.00
	Bergen Place and Shrewsbury Avenue	Red Bank	4-28	20,000.00

System Improvements

New Jersey Route 35 passes through the Red Bank central business district. The area surrounding this district is fairly concentrated with a high number of traffic signals. In order to insure coordinated traffic movements in the area, it has been proposed that this signal system be interconnected.

Maintenance

The maintenance of traffic control devices, in good operating condition and appearance, is most important if they are to command the respect that is necessary to insure good driving habits. Signal maintenance becomes a difficult problem when a particular local government is too small to support a separate maintenance unit. Since most of the traffic signals in the region are on roadways under state jurisdiction, the state maintains them. It is suggested that the remianing signals in operation in the region, be maintained by the county or on a contract or agreement basis with an outside contractor. Signs and pavement markings should also be maintained in a similar manner.

At all improvement locations, recommendations include upgrading as necessary of traffic signs and pavement markings in accordance with the requirements as defined in the current "Manual on Uniform Traffic Control Devices".

Evaluation

In order to identify locations where traffic operational improvements are required, use was made of accident expereince, average travel speeds on routes, congestion and delay at intersections, and the level of service provided. To measure the success of this program requires an in depth analysis of traffic conditions before and after implementation. This study provides the necessary data to evaluate a location as it now exists before the operational improvements have been implemented. Some additional speed and delay runs can be conducted to increase the reliability of our sample but other than this the necessary information has been inventoried.

After a reasonable period of time has elapsed, similar studies regarding accident experience, speed and delay runs and locations of congestion and delay can be conducted along selected routes where early implementation projects have been completed. Comparison of traffic conditions before and after improvement should be made to insure that the desired benefits are being achieved.

REGION 4 INTERSECTION IMPROVEMENTS

Improvement Number	Location	Municipality	Page No.
4-1	New Jersey Route 35 (Riverside Avenue) at Bridge Avenue and Rector Place	Red Bank	4 - 20
4-2	Sycamore Avenue and N.J. Route 35 (Broad Street)	Shrewsbury	4 - 22
4-3	Monmouth Street and Bridge Avenue	Red Bank	4 - 24
4-4	Sycamore Avenue and Shrewsbury Avenue	New Shrewsbury	4 - 26
4-5	West Front Street and Broad Street	Red Bank	4 - 28
4-6	Harding Road, Hudson Street and Branch Avenue	Red Bank	4 - 30
4-7	Ridge Avenue and Bingham Avenue	Rumson	4 - 32
4-8	Rumson Road at Harding Avenue and Seven Bridge Road	Little Silver	4 - 34
4-9	Barker Avenue and Shrewsbury Avenue	Shrewsbury	4 - 36
4-10	Branch Avenue and Rumson Road	Little Silver	4 - 38
4-11	Bridge Avenue and West Front Street	Red Bank	4 - 40
4-12	N.J. Route 35 (Broad Street) at Thomas Avenue and White Road	Shrewsbury	4 - 42
4-13	Harding Avenue and Spring Street	Red Bank	4 - 44
4-14	N.J. Route 35 (Riverside Avenue), Front Street, Pearl Street, Maple Street	Red Bank	4 - 46
4-15	Broad Street and Monmouth Street	Red Bank	4 - 48
4-16	Asbury Avenue and Shafto Road	New Shrewsbury	4 - 50
4-17	Chestnut Street and Bridge Avenue	Red Bank	4 - 52
4-18	N.J. Route 35 (Maple Avenue) and Bergen Place	Red Bank	4 - 54
4-19	N.J. Route 35 at Broad Street and Newman Springs Road	Red Bank	4 - 56
4-20	Monmouth Street and N.J. Route 35	Red Bank	4 - 58
4-21	Broad Street at Reckless Place and Harding Road	Red Bank	4 - 60
4-22	Bergen Place and Broad Street	Red Bank	4 - 62
4-23	Ridge Road and Fair Haven Road	Fair Haven	4 - 64
4-24	N.J. Route 35 and White Street-Obre Place	Shrewsbury	4 - 66

Improvement Number	Location	Municipality	Page No.
4-25	Rumson Road and Avenue of Two Rivers	Rumson	4 - 68
4-26	Prospect Avenue and Harding Road	Fair Haven	4 - 70
4-27	Sycamore Avenue and Hance Avenue	New Shrewsbury	4 - 72
4-28	Shrewsbury Avenue and Bergen Place	Red Bank	4 - 74
4-29	Tinton Avenue and Wayside Avenue	New Shrewsbury	4 - 76
4-30	Tinton Avenue and Sycamore Avenue	New Shrewsbury	4 - 78
4-31	Tinton Avenue and Swimming River Road	New Shrewsbury	4 - 80

LEGEND FOR IMPROVEMENTS



EXISTING SIGNAL HEAD



PROPOSED SIGNAL HEAD



EXISTING STANCHION,
PROPOSED SIGNAL HEAD

THUS: ONLY OPEN SIGNAL HEADS OR STANCHIONS INDICATE AN EXISTING CONDITION. SOLID SIGNAL HEADS OR STANCHIONS INDICATE A PROPOSED CONDITION.



ROADWAY WIDENING

RIGHT OF WAY



BUILDING LINE

SIGN POST

GUARD RAIL



SIGNAL DETECTOR



PEDESTRIAN HEAD

NOTE: DARK LINES INDICATE PROPOSED CONDITIONS. SCREENED OR LIGHT LINES INDICATE EXISTING CONDITIONS.

4 - 1 NEW JERSEY ROUTE 35 (RIVERSIDE AVENUE) AT BRIDGE AVENUE AND RECTOR PLACE RED BANK

This location is the first intersection on New Jersey Route 35 south of the Navesink River Bridge. At this point, New Jersey Route 35 makes a ninety degree turn. Bridge Avenue is a major road for the Red Bank central business district. A semi-actuated traffic signal is presently installed at this location.

Problems

High traffic volumes are experienced at this location. The major traffic movements, at this point, must make a ninety degree turn. A large number of conflicting movements exist as a result of the intersection having four separate approaches. The location experiences significant amount of right angle and turning movement accidents.

Recommendations

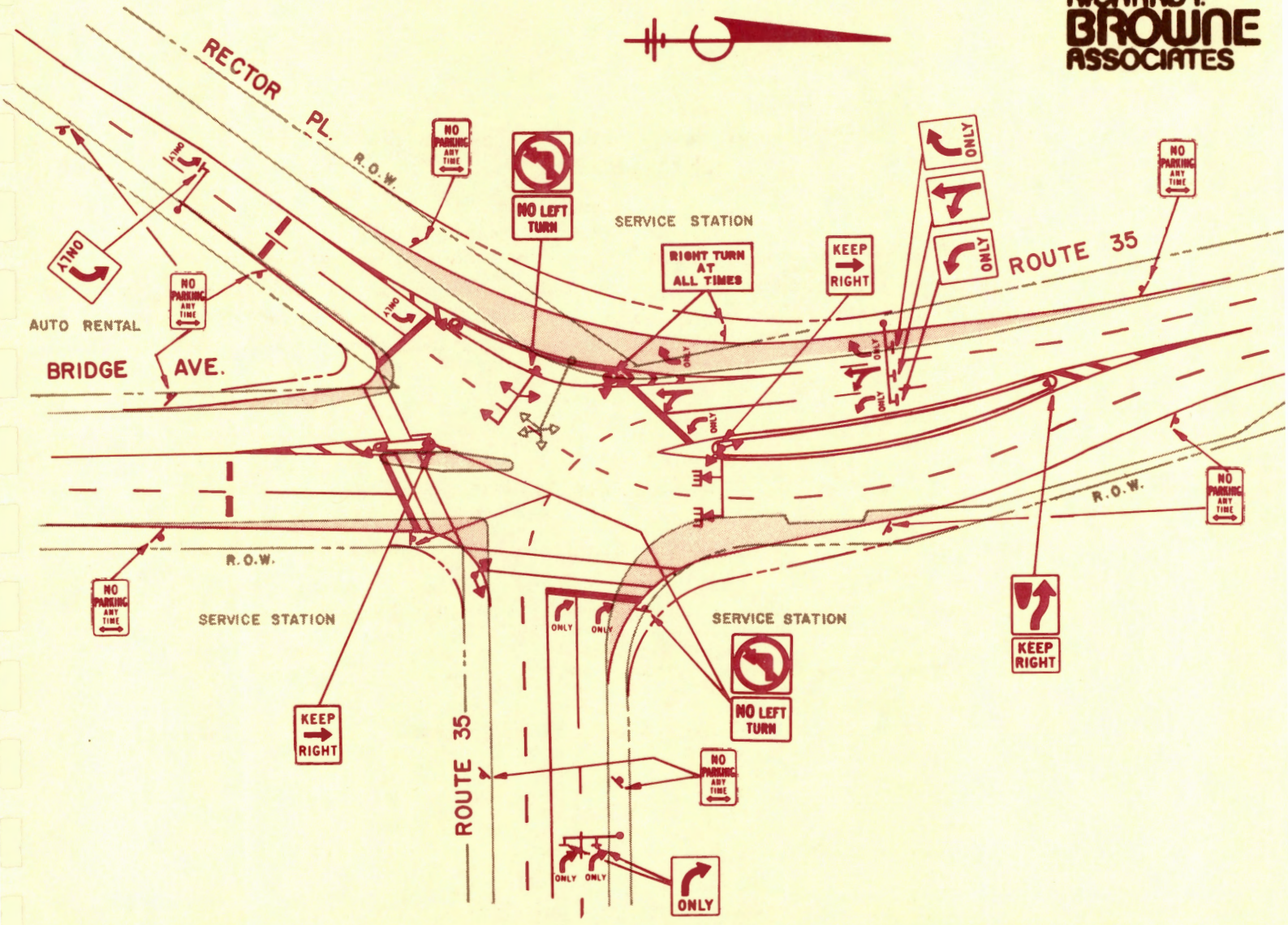
Modifications to the approach lanes and turning radii are recommended along with construction and revision of traffic islands to facilitate the approach lane arrangements indicated. Modification of the signal layout is also recommended.

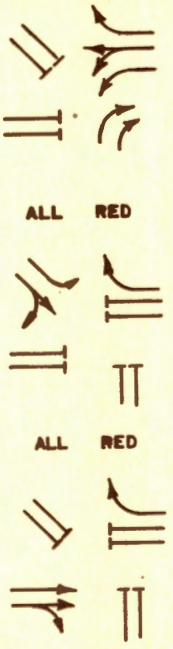
Benefits

The proposed revision to the approach lane arrangements and minor widening and curb turning radii improvements will increase the capacity and operational characteristics of this location and will combine with signal modifications to increase the safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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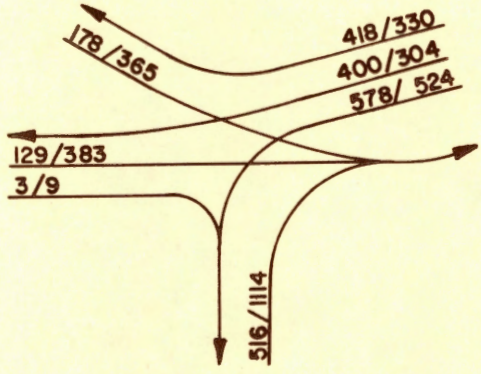
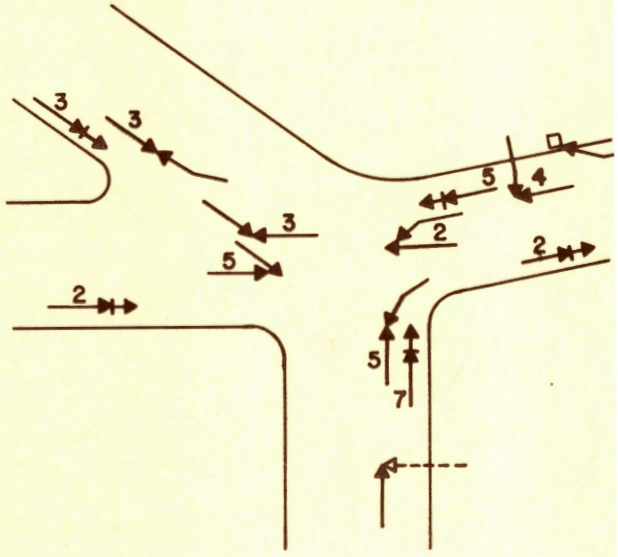


PEAK HOUR VOLUME
7:30 – 8:30 A.M. / 4:30 – 5:30 P.M.



ACCIDENT SUMMARY – 3 YR. PERIOD
13 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 4-1

4 - 2 SYCAMORE AVENUE AND NEW JERSEY ROUTE 35 (BROAD STREET) SHREWSBURY

Sycamore Avenue, running from Tinton Avenue to Ocean Avenue, is a major connecting roadway through Shrewsbury. New Jersey Route 35 (Broad Street) is also a major roadway for Shrewsbury and the region. The intersection of these two major roadways, is presently controlled by a semi-actuated traffic signal.

Problems

High traffic volumes with considerable left turn movements on the Broad Street north approach were observed at this location. The median on the westbound approach has several historical monuments on it and this precludes the possiblity of using this portion of the roadway for through or turning lanes. The location experienced nine right angle and a significant amount of left turn type accidents.

Recommendations

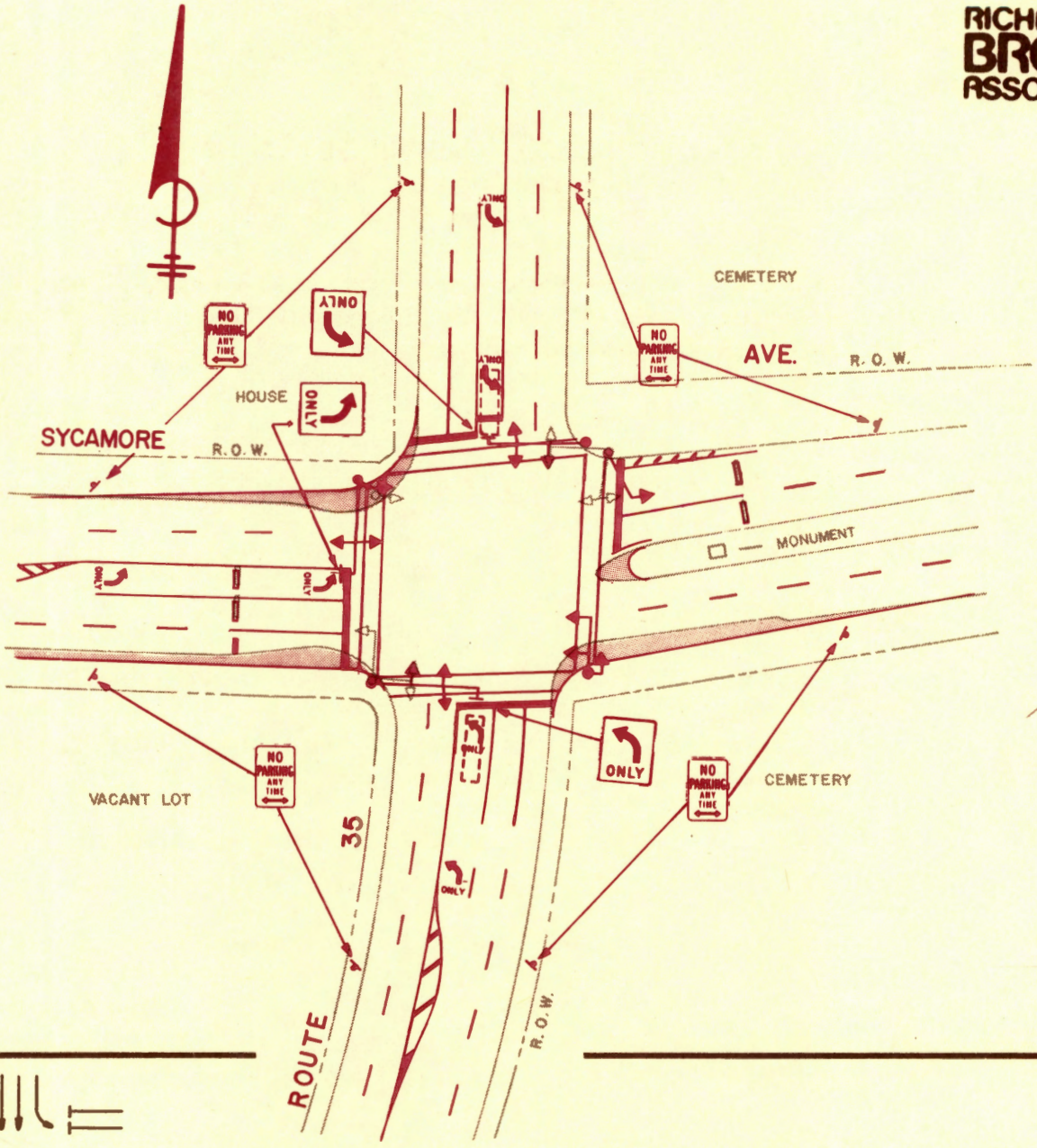
Minor modifications to the turning radii are recommended along with minor revisions to the center median on the westbound approach. Left turn lanes should be installed on three approaches as indicated. Modification of the signal layout is recommended to increase its visibility.

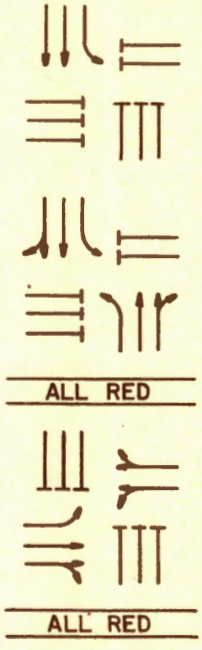
Benefits

The operational characteristics and safety of this location will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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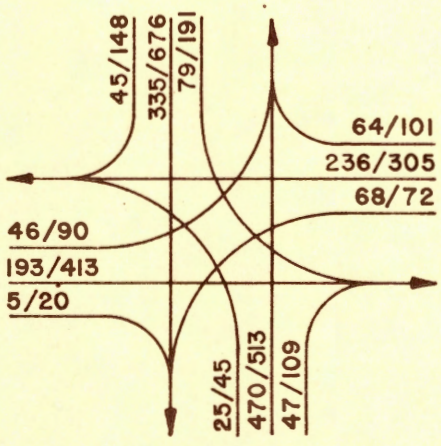

PEAK HOUR VOLUME
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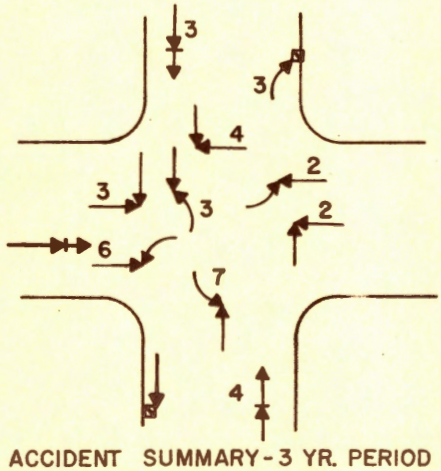


ACCIDENT SUMMARY - 3 YR. PERIOD
8 NOT SHOWN

0 60 120
Scale: 1"- 60'

PROPOSED IMPROVEMENT 4-2

4 - 3 MONMOUTH STREET AND BRIDGE AVENUE RED BANK

Bridge Avenue is a major collector road in Red Bank, and is hampered at this intersection by the railroad passing diagonally through the northeast corner. The location is presently controlled by stop signs.

Problems

During the three year study period, 35 of the 48 accidents occurring were of the right angle type.

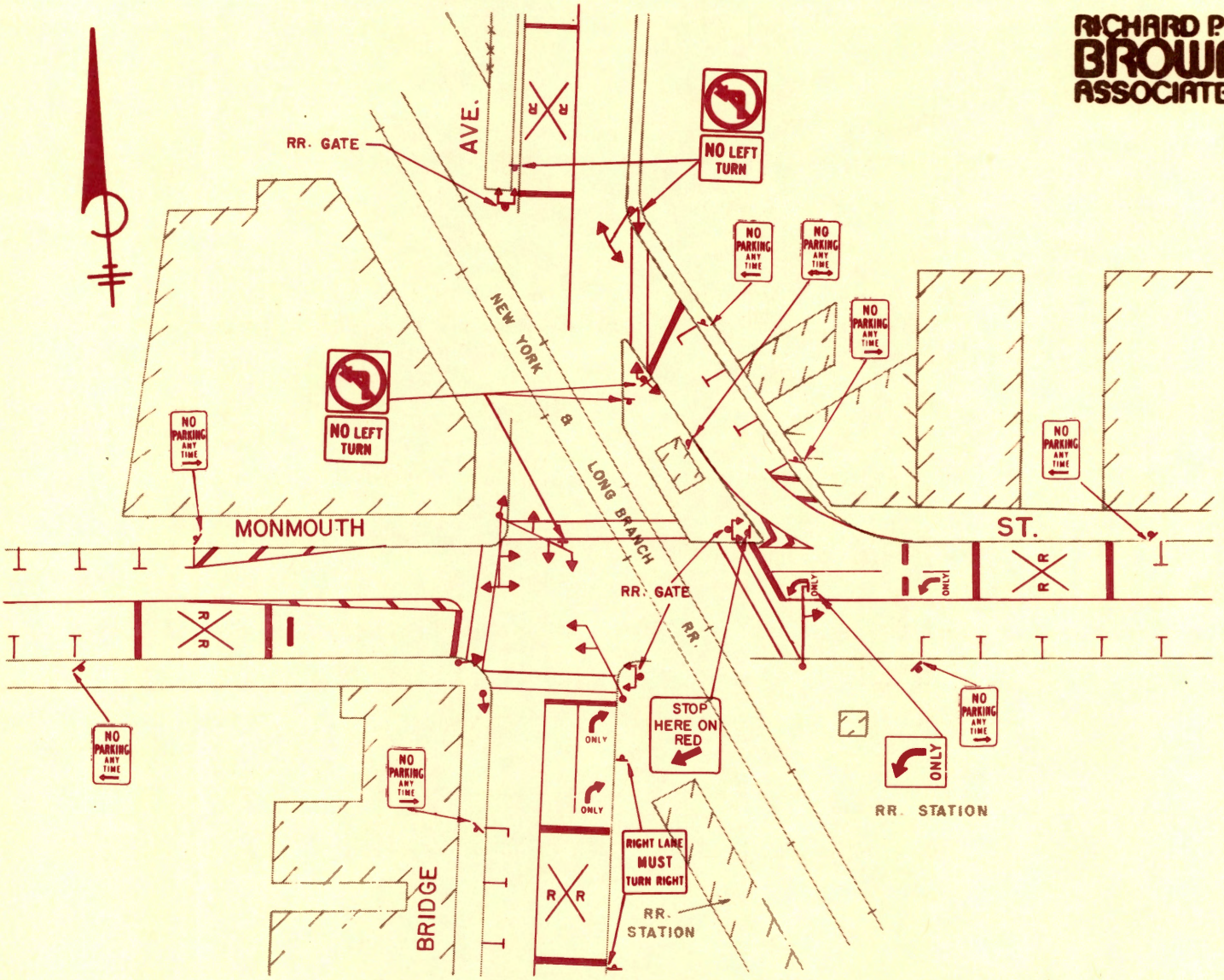
Recommendations

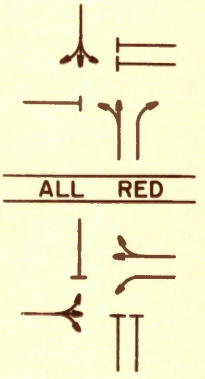
Installation of a semi-actuated traffic signal is recommended. In order to provide for railroad preemption, this traffic signal should be interconnected to the railroad warning gates.

Benefits

The operational characteristics of this location should be improved by these recommendations. The safety at this hazardous intersection should be greatly increased with the installation of the proposed traffic signal.

RICHARD P. BROWNE ASSOCIATES





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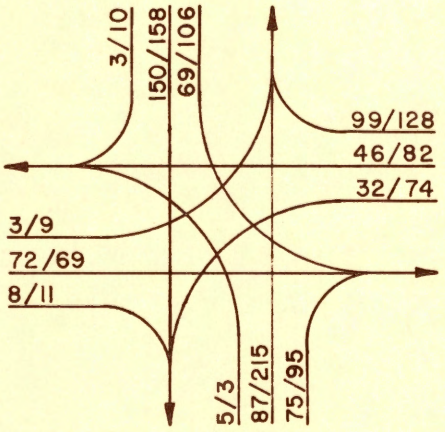
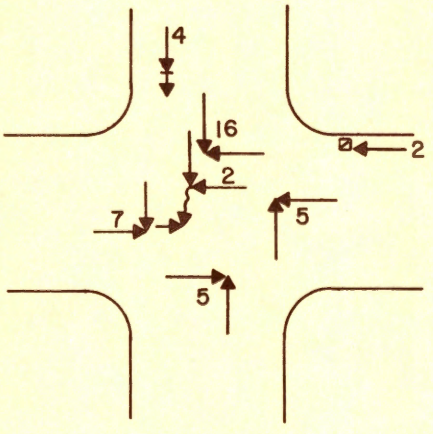


PEAK HOUR VOLUME
7:45 - 8:45 A.M. / 4:30 - 5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
7 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 4-3

4 - 4 SYCAMORE AVENUE AND SHREWSBURY AVENUE NEW SHREWSBURY

This location is the intersection of two major roads for the surrounding area. The location is presently controlled by a fixed time traffic signal which is mounted on span wire.

Problems

High traffic volumes with considerable left turn movements were observed at this location. Insufficient approach lane width exists and turning radii are inadequate.

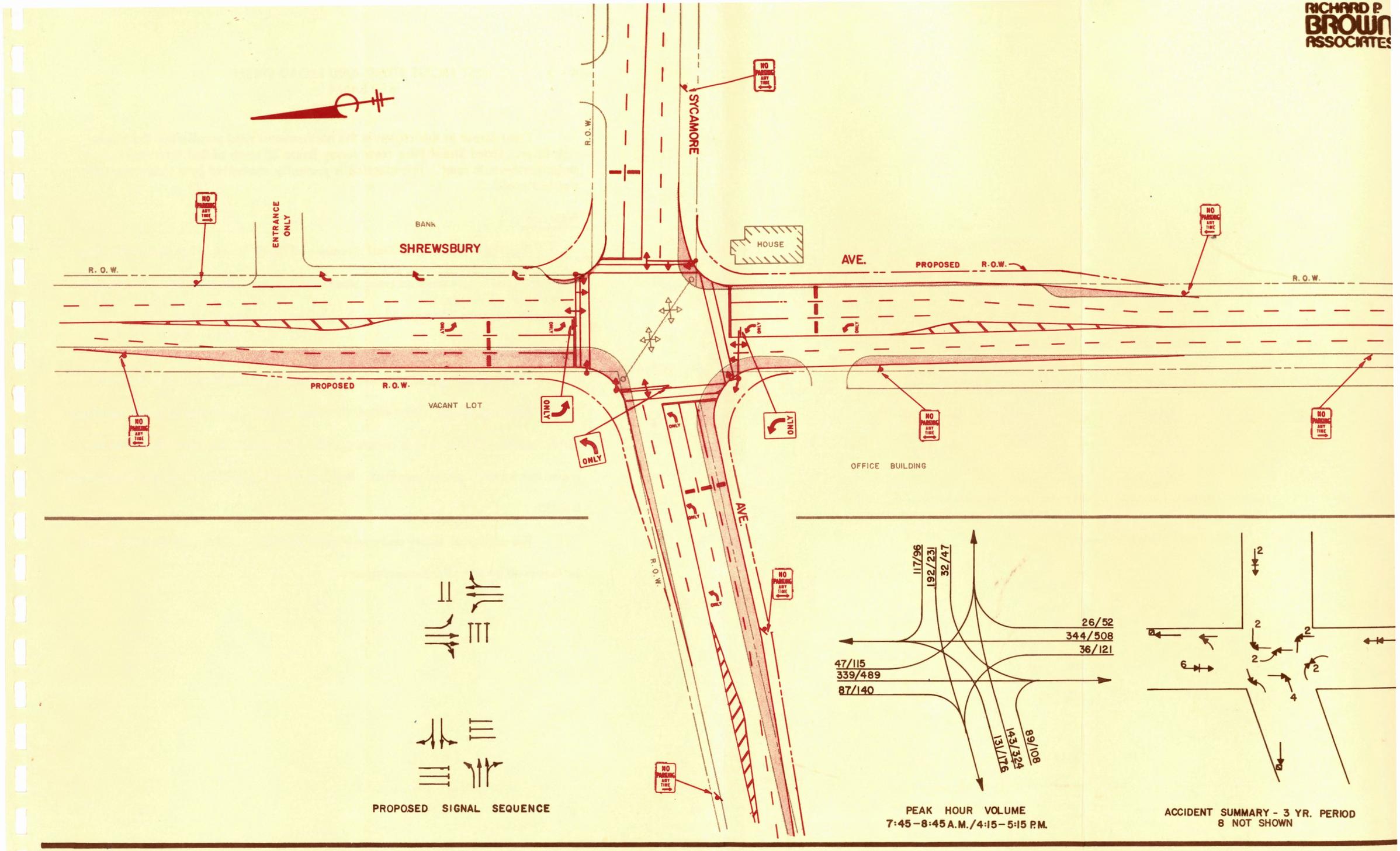
Recommendations

Widening of the approach lanes is recommended to provide for two through lanes and a left turn on the northbound, eastbound and southbound approaches. Revisions to the signal layout is also recommended. Convert signal to fully actuated operation.

Benefits

The capacity, safety and operational characteristics of this location would be improved by these recommendations.

RICHARD P. BROWN ASSOCIATES



PROPOSED SIGNAL SEQUENCE

PEAK HOUR VOLUME
7:45–8:45 A.M./4:15–5:15 P.M.

ACCIDENT SUMMARY - 3 YR. PERIOD
8 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-

4 - 5 WEST FRONT STREET AND BROAD STREET RED BANK

Front Street in this region is the northernmost road paralleling the Navesink River. Broad Street joins New Jersey Route 35 south of Red Bank and is a major north-south road. This location is presently controlled by a semi-actuated traffic signal.

Problems

Front Street between Wharf Avenue and Broad Street is too narrow for four lane operation. Left turns on Front Street interfere with through traffic. A significant amount of accidents involving parked cars were experienced.

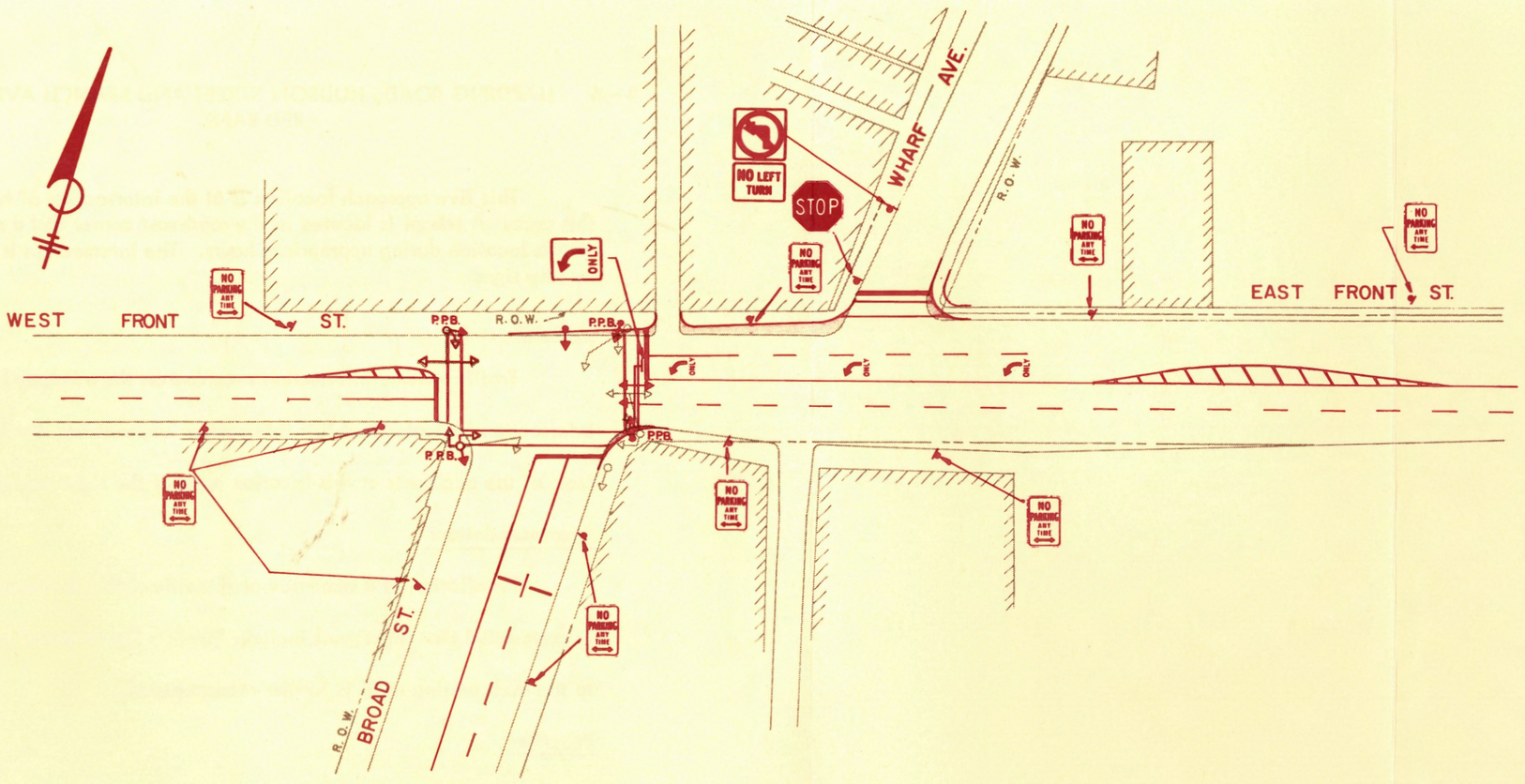
Recommendations

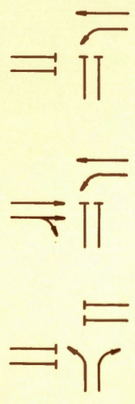
Minor widening of the westbound approach and modification to the curb turning radius on the southeast corner is recommended. Provision of a left turn lane for the westbound approach is recommended. Revision to the signal layout to improve its visibility is also proposed. Parking should be prohibited at the intersection.

Benefits

The capacity, safety and operational characteristics of this location would be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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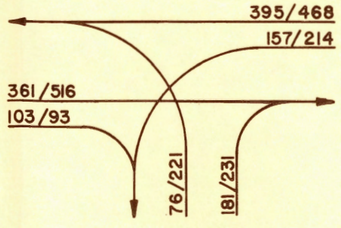
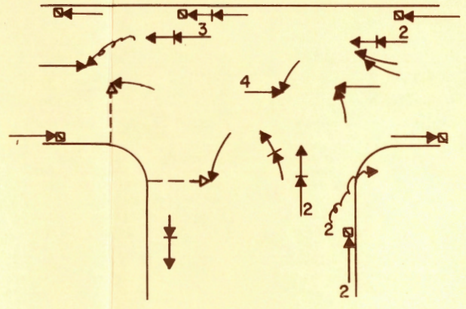


PEAK HOUR VOLUME
8:30-9:30 A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
3 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-5

4 - 6 HARDING ROAD, HUDSON STREET AND BRANCH AVENUE RED BANK

This five approach location is at the intersection of two major roads in this area. A school is located in the southeast corner and a school guard is posted at this location during appropriate hours. The intersection is presently controlled by stop signs.

Problems

Traffic volume information recorded on the roadway links adjacent to this intersection indicates that this intersection experiences considerable traffic volumes. Most of the accidents at this location were of the right angle type.

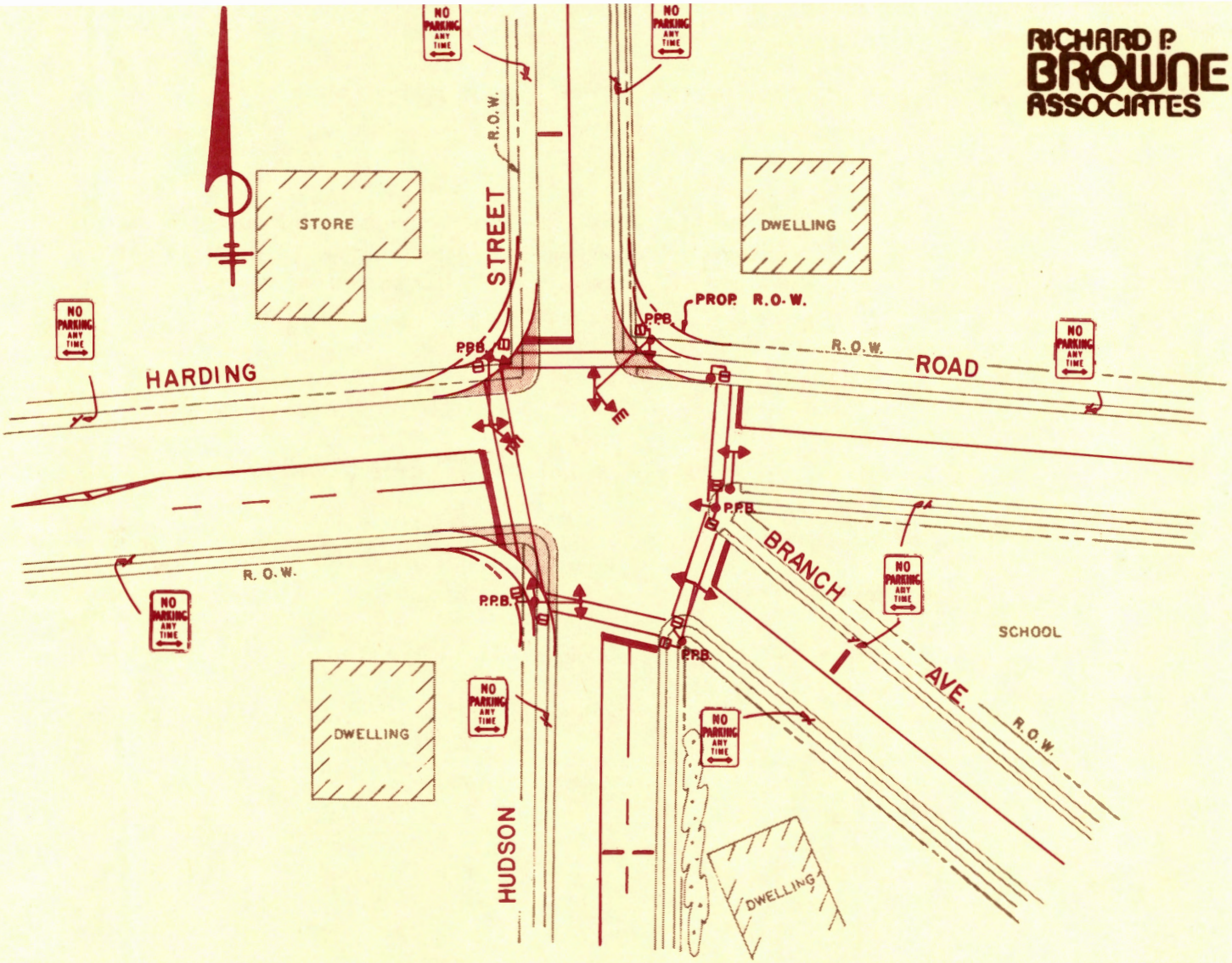
Recommendations

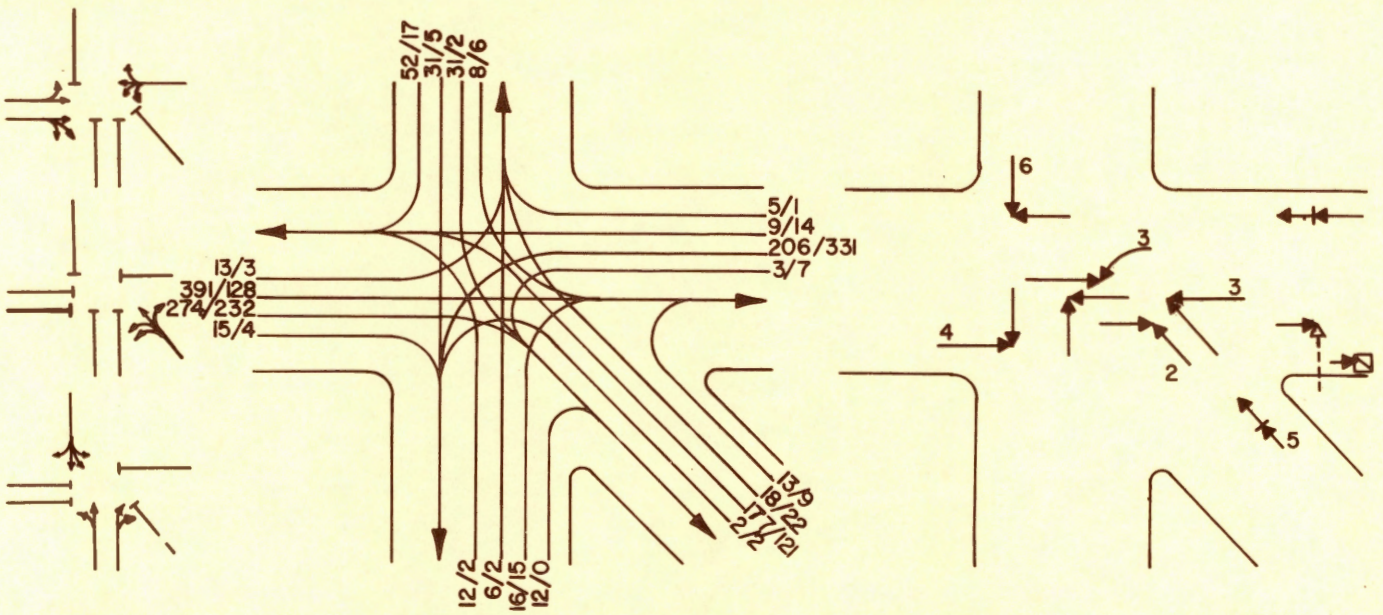
Installation of a semi-actuated traffic signal is recommended. It is also recommended that this signal include "Walk - Don't Walk" heads. Minor revision to the curb turning radii is further recommended.

Benefits

The safety and operational characteristics of this location should be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





PROPOSED SIGNAL SEQUENCE

PEAK HOUR VOLUME
7:00 - 8:00 A.M./4:45 - 5:45 P.M.

ACCIDENT SUMMARY - 3 YR. PERIOD
4 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 4-6

4 - 7 RIDGE AVENUE AND BINGHAM AVENUE RUMSON

This intersection has slightly skewed approaches for the east-west direction. Ridge Avenue is an arterial road serving the surrounding area. Bingham Avenue is a local street. The location is presently controlledby stop signs.

Problems

This location has insufficient turning radii and skewed approaches on Ridge Avenue. Seven right angle accidents were experienced in the three year study period.

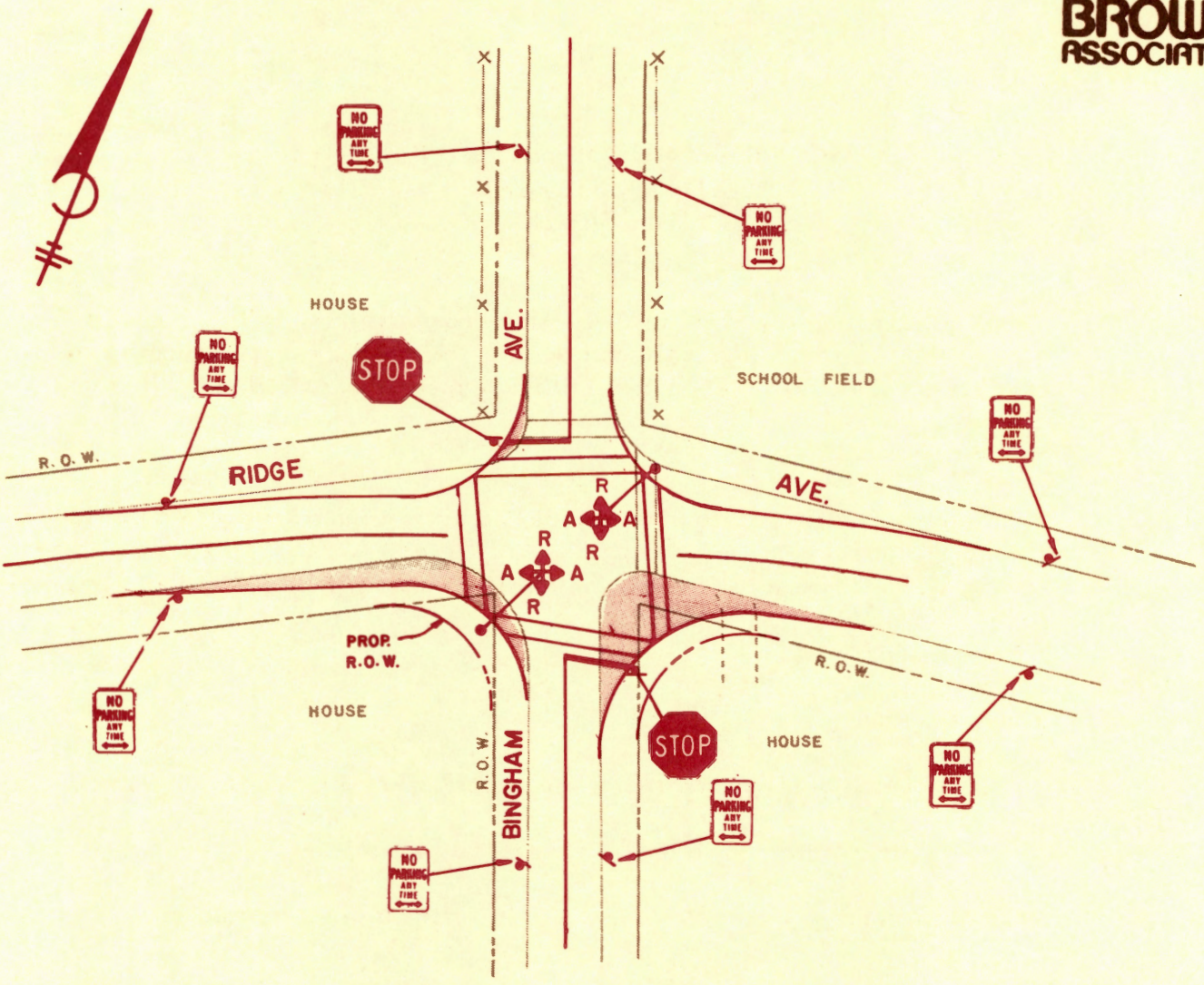
Recommendations

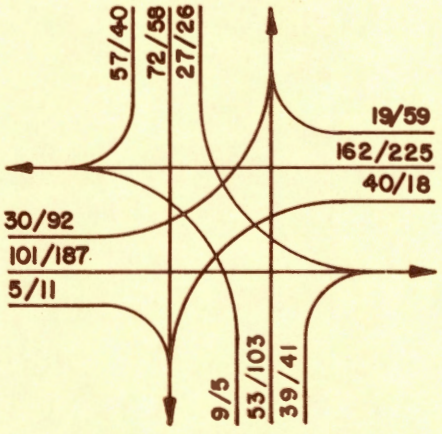
Modification to the approaches to align Ridge Avenue is recommended along with modification to the curb turning radii. The installation of a flasher signal and oversized stop signs is also recommended.

Benefits

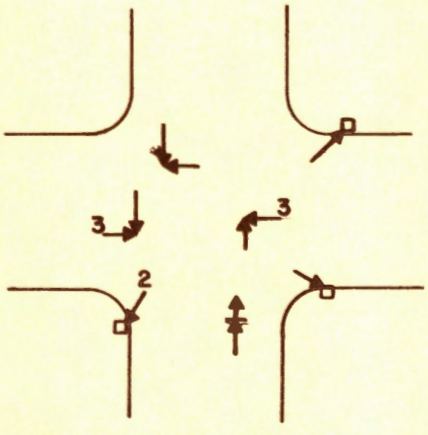
The operational characteristics and safety of this location would be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
8:30-9:30 A.M. /4:30-5:30 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD
9 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-7

4 - 8 RUMSON ROAD AT HARDING AVENUE AND SEVEN BRIDGE ROAD LITTLE SILVER

Rumson Road is a major roadway which connects the Red Bank area with the coastline. Seven Bridge Road and Harding Avenue are major collector roads for the surrounding area. The intersections are presently controlled by stop signs.

Problems

The approaches of Harding Avenue and Seven Bridge Road have insufficient roadway widths. The location has high traffic volumes with high left turn movements on Rumson Road.

Recommendations

Widening of all approaches at this double offset intersection are recommended along with the provision for left turning lanes on Rumson Road. Installation of a semi-actuated traffic signal control serving both locations is also recommended.

Benefits

The capacity, safety and operational characteristics of this location should be improved by these recommendations. Left turn lanes will function at level of service "D" in design year however, sufficient justification does not exist for any further improvement than that shown.

RICHARD P. BROWNE ASSOCIATES

HARDING AVE.

R.O.W.

HOUSE

HOUSE

VACANT

RUMSON RD.

PROP. R.O.W.

PROP. R.O.W.

R.O.W.

HOUSE

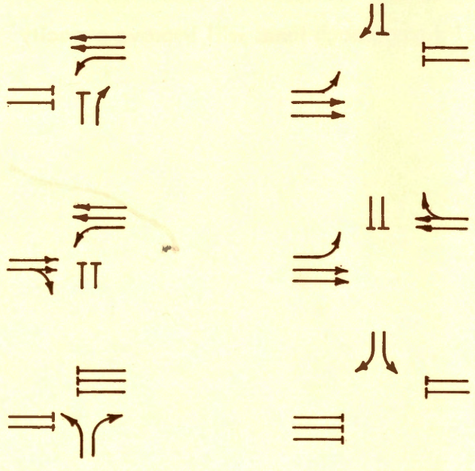
HOUSE

SEVEN BRIDGE RD.

R.O.W.

NO PARKING ANY TIME

ONLY



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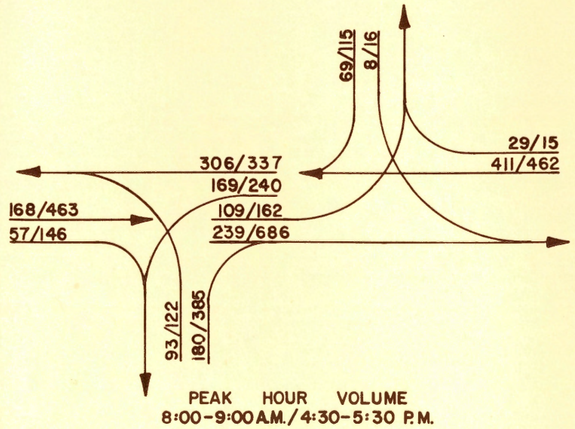
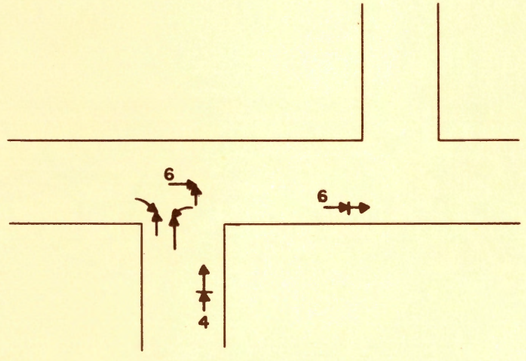


PEAK HOUR VOLUME
8:00-9:00 A.M./4:30-5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
2 NOT SHOWN

0 60 120

Scale: 1" = 60'

PROPOSED IMPROVEMENT 4-8

4 - 9 BARKER AVENUE AND SHREWSBURY AVENUE SHREWSBURY TOWNSHIP

Shrewsbury Avenue is a major north-south road and is used as a connector for the surrounding area. Barker Avenue is the only roadway connection Shrewsbury Township has with the surrounding system. All traffic movements with destinations or origins in Shrewsbury Township must enter or exit by way of this intersection which is presently controlled by a flasher with stop sign control.

Problems

This location has moderately high traffic volumes on Shrewsbury Avenue. Some right angle, same direction and left turn type accidents have occurred.

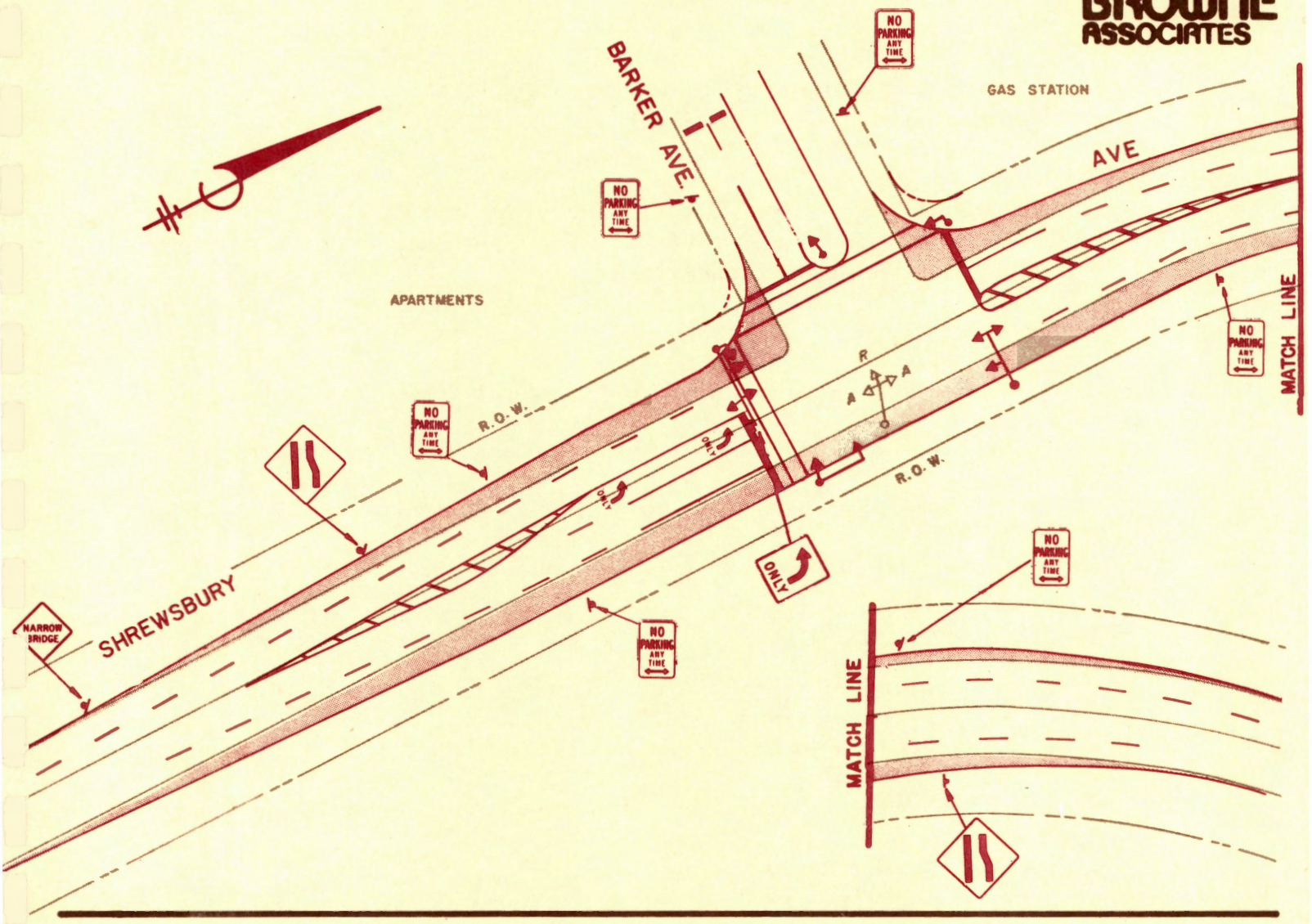
Recommendations

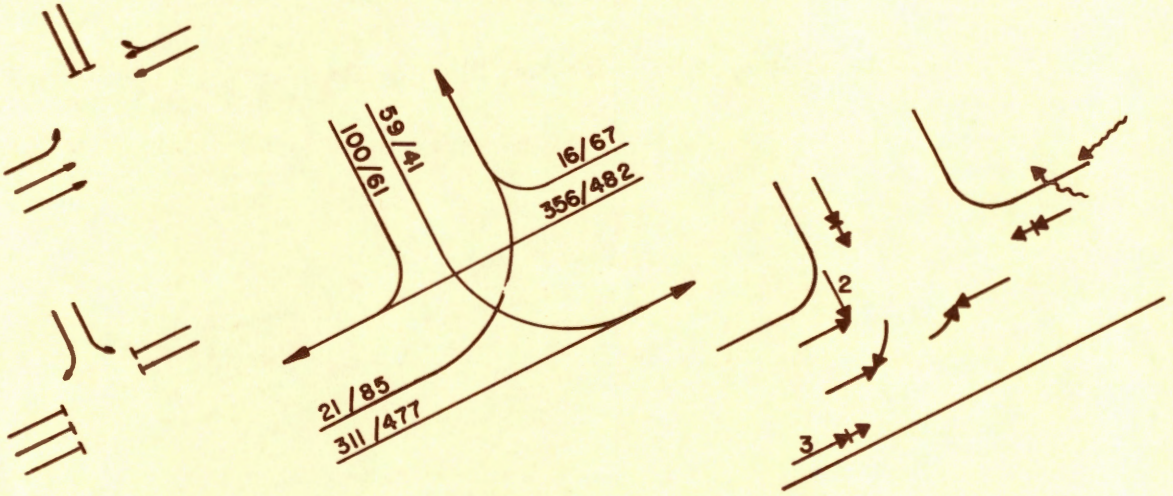
Widening the approaches of this location and modification to the curb turning radii are recommended in order to provide two through lanes in each direction on Shrewsbury Avenue with a left turning lane for Shrewsbury Avenue northbound. Installation of a semi-actuated traffic signal is also recommended.

Benefits

The operational characteristics and safety of this location would be improved by these recommendations. Widening of the approach lanes will improve capacity.

RICHARD P. BROWNE ASSOCIATES





PROPOSED SIGNAL SEQUENCE

PEAK HOUR VOLUME
7:00-8:00 A.M./4:00-5:00 P.M.

ACCIDENT SUMMARY - 3 YR. PERIOD

0 60 120

Scale: 1"-60'

PROPOSED IMPROVEMENT 4-9

4 - 10 BRANCH AVENUE AND RUMSON ROAD LITTLE SILVER

This location is the western terminus of Rumson Road which serves as a connector between this area and the coastline to the east. Branch Avenue is a collector road for the surrounding area.

Problems

The intersection is presently controlled by a flasher signal with stop sign control. This location has high left turn volumes on Branch Avenue and also right turn volumes on Rumson Road. Approach widths and approach lane arrangements are inadequate. The curb turning radii are also inadequate.

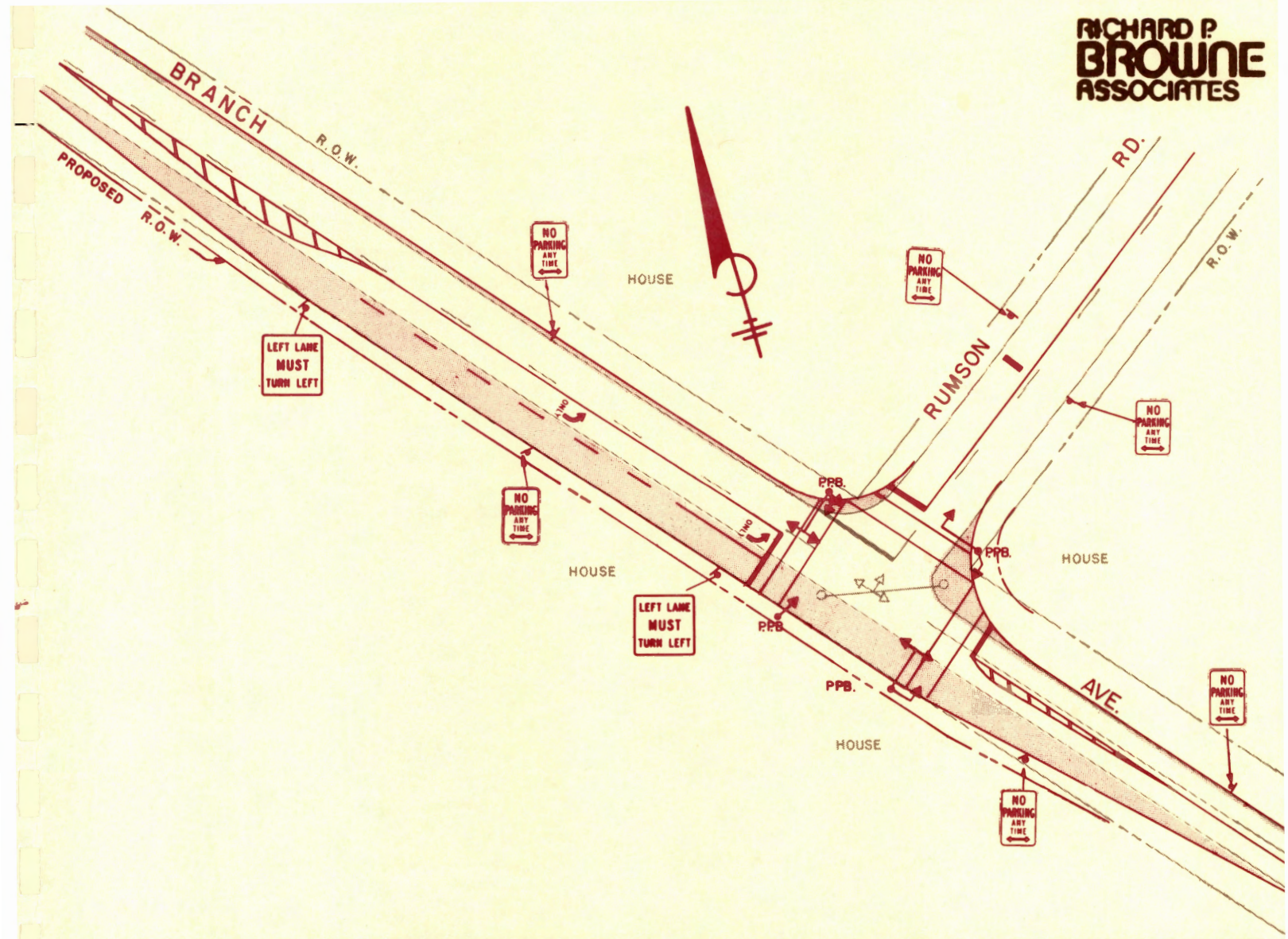
Recommendations

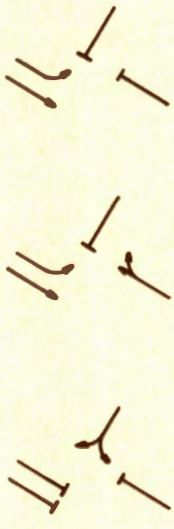
The widening of Branch Avenue is recommended to provide for a through lane and a separate left turning lane into Rumson Road. Modifications of the curb turning radii are also recommended. It is proposed that the flasher signal be converted to a semi-actuated type signal.

Benefits

The capacity, safety and operational characteristics of this location would be improved by these recommendations. The left turn lanes will provide storage for this traffic movement and minimize the effect on through traffic.

RICHARD P. BROWNE ASSOCIATES





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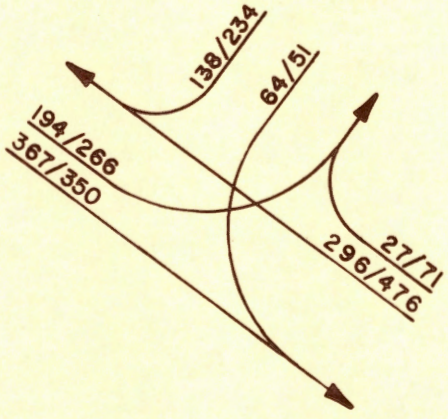
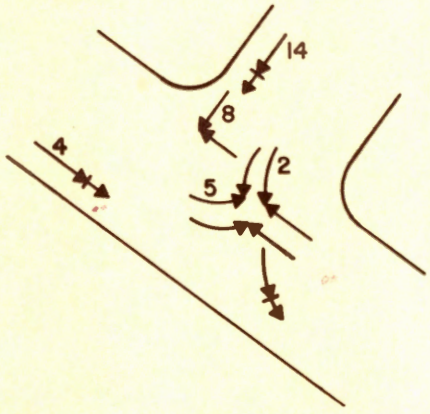


PEAK HOUR VOLUME
7:30-8:30 A.M./4:30-5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
7 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 4-10

4 - 11 BRIDGE AVENUE AND WEST FRONT STREET RED BANK

Front Street in this region is the most northerly roadway paralleling the Navesink River. Bridge Avenue is a collector road for the surrounding area.and also provides access to the New Jersey Route 35 bridge over the Navesink River. The intersection is presently controlled by a fixed time traffic signal.

Problems

This location has inadequate curb turning radii. The southbound left turn interferes with through traffic. Seventeen right angle type collisions were recorded at this location for the three year study period.

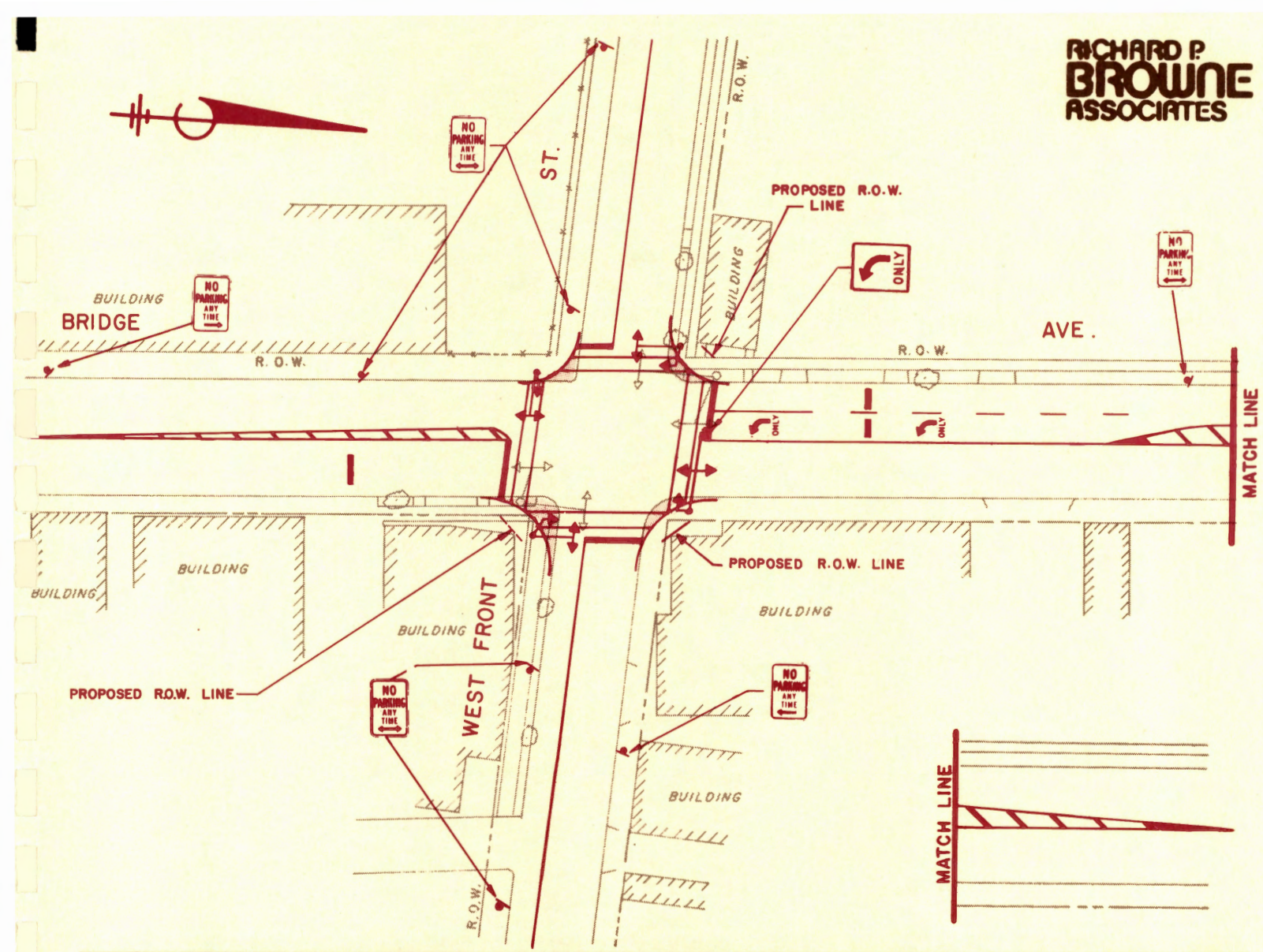
Recommendations

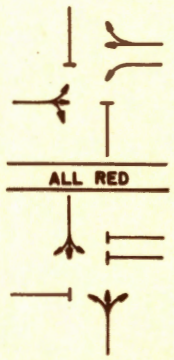
Modifications to the curb turning radii and to the southbound approach lanes are recommended to provide a special left turning lane for southbound to eastbound movements. Revisions to the signal layout is recommended to increase its visibility. Conversion of the present fixed time signal to a semi-actuated traffic signal is recommended.

Benefits

The capacity, safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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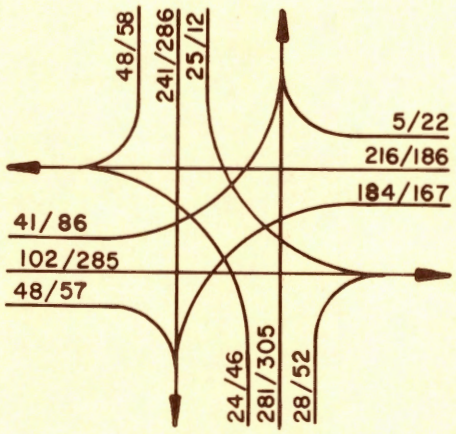
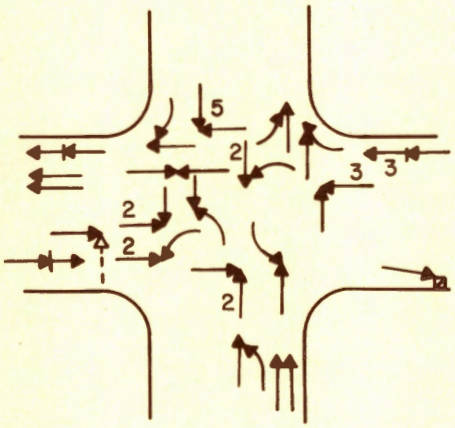


PEAK HOUR VOLUME
7:45–8:45 A.M./4:45–5:45 P.M.



ACCIDENT SUMMARY—3 YR. PERIOD
5 NOT SHOWN

0 60 120
Scale : 1"=60'

PROPOSED IMPROVEMENT 4-11

4 - 12

N. J. ROUTE 35 (BROAD STREET) AT THOMAS AVENUE AND WHITE ROAD SHREWSBURY BOROUGH

Thomas Avenue is a local road serving the immediate area. White Road connects New Jersey Route 35 with Branch Avenue to the east. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

This location has a number of conflicts produced by the fact that the side streets are offset. A large number of left turn accidents and some right angle accidents are experienced at this location. The curb turning radius on the northwest corner is inadequate.

Recommendations

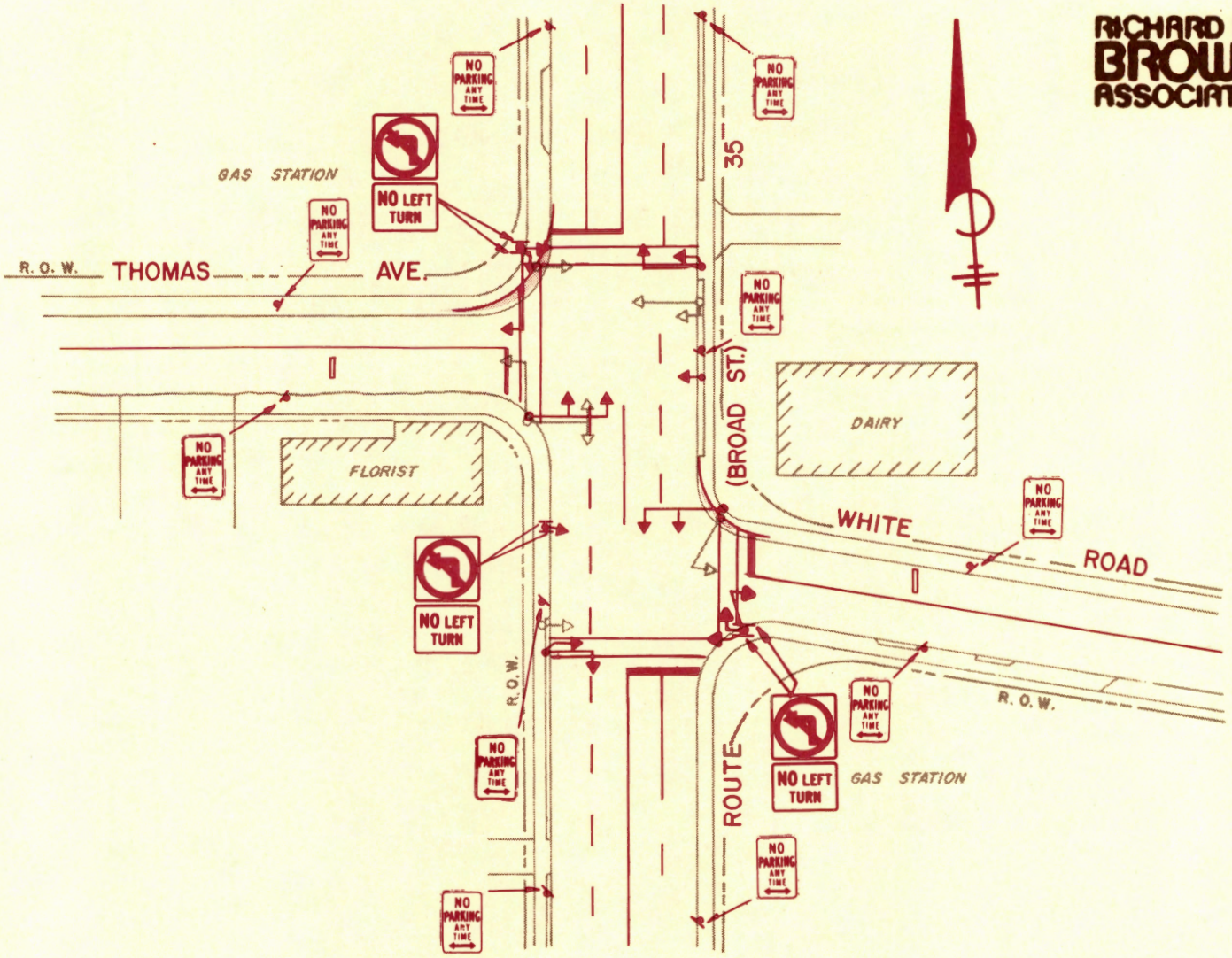
Modification to the curb turning radius on the northwest corner is recommended. Prohibition of left turning movements for both approaches of New Jersey Route 35 is also recommended. Modification to the signal layout to increase its visibility is further recommended.

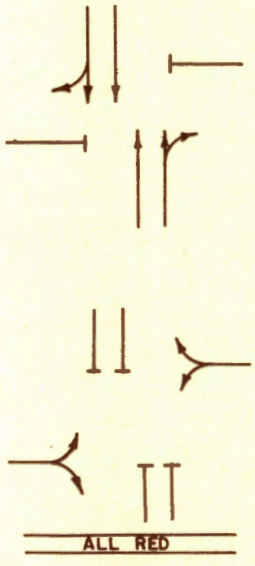
Benefits

The capacity, safety and operational characteristics of this location would be improved by these recommendations. The turning movements prohibited at this location can be accommodated on the adjacent street network.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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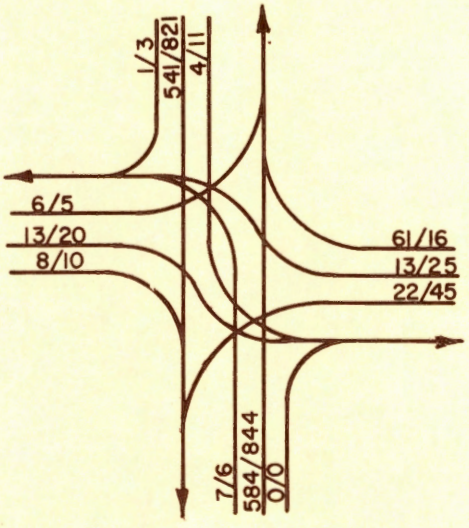

PEAK HOUR VOLUME
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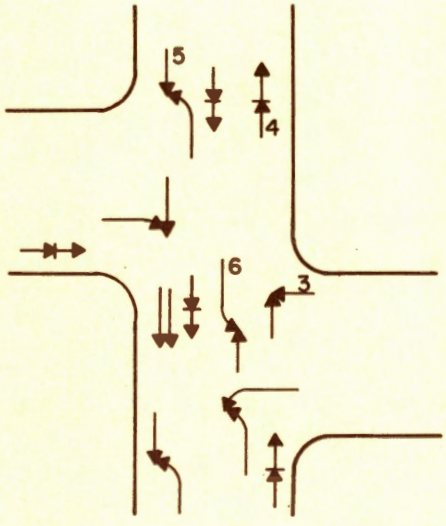


ACCIDENT SUMMARY– 3 YR. PERIOD
4 NOT SHOWN

0 60 120
Scale : 1"= 60'

PROPOSED IMPROVEMENT 4-12

4 - 13 HARDING AVENUE AND SPRING STREET
RED BANK

Harding Avenue is an east-west collector road for this area while Spring Street is a local street. The intersection is presently controlled by stop signs and a flashing traffic signal.

Problems

The curb turning radius on the northwest corner is inadequate. During the three year study period a large number of right angle accidents (26) were experienced.

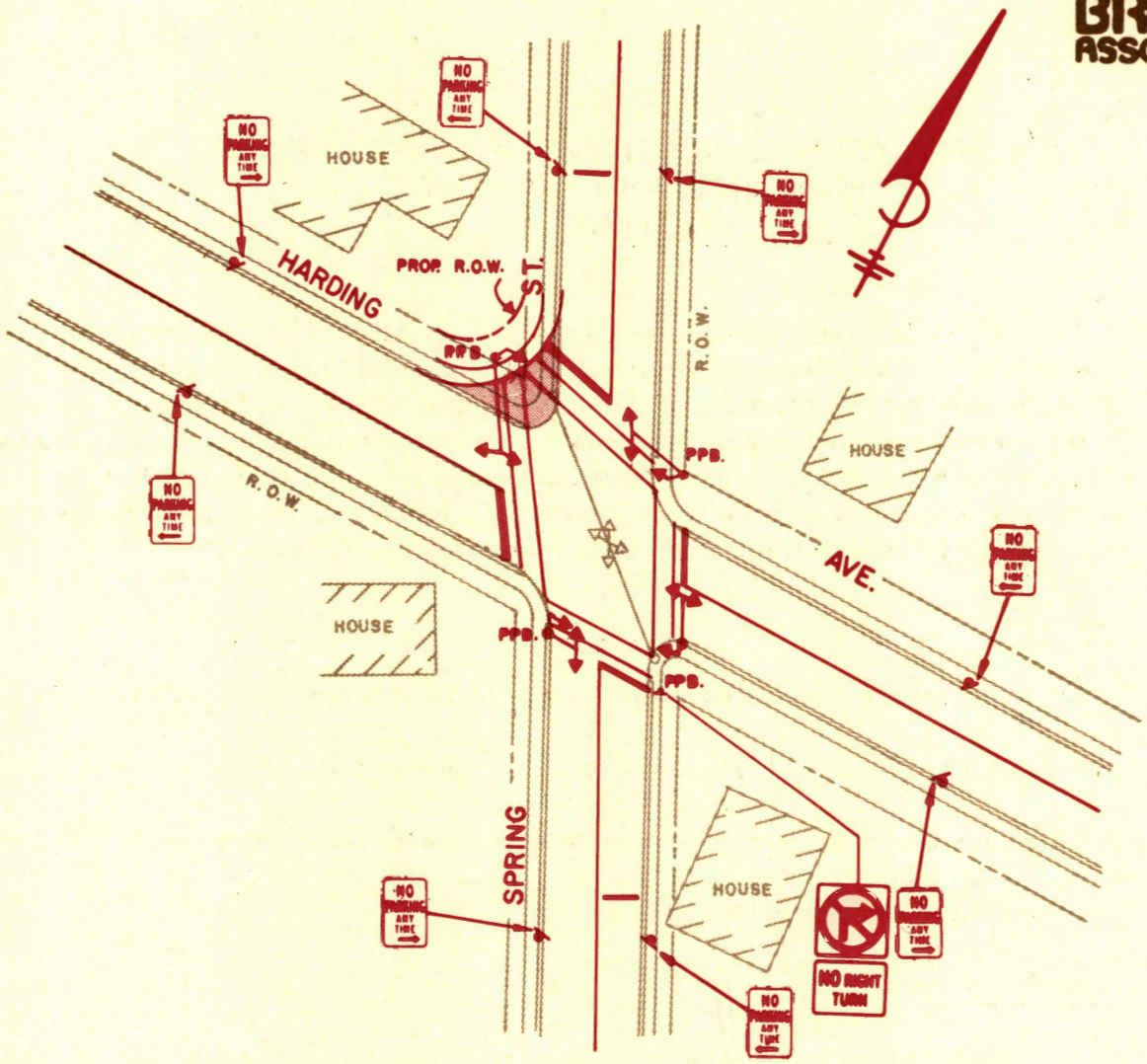
Recommendations

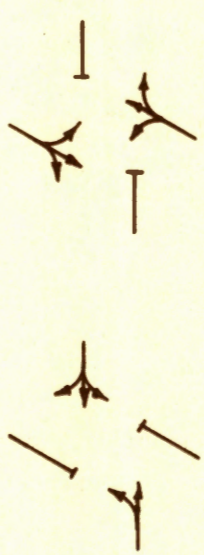
Revision to the curb turning radius on the northwest corner is recommended. It is also recommended to change the existing flasher to a semi-actuated signal.

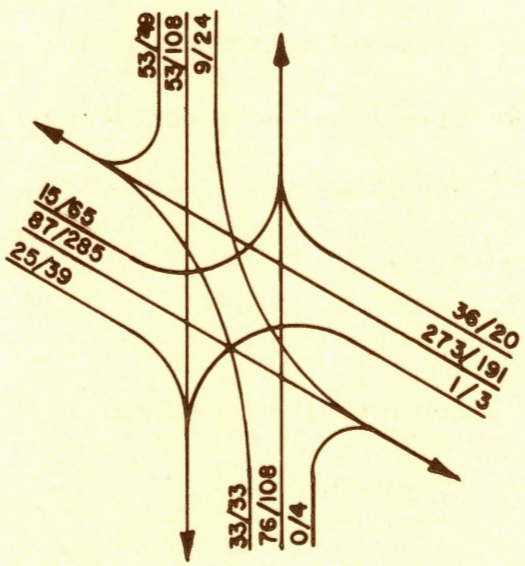
Benefits

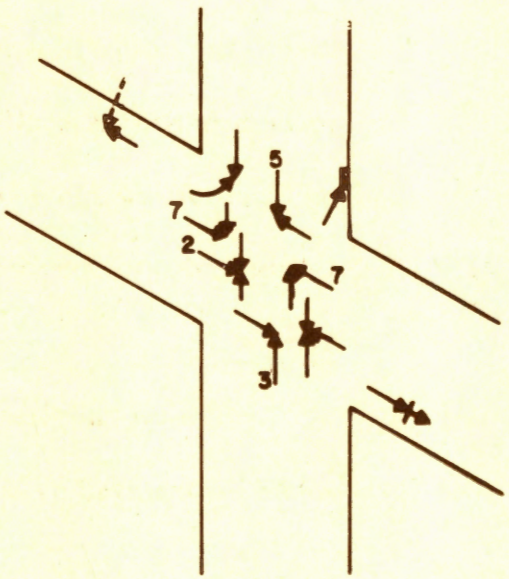
The safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES









PROPOSED SIGNAL SEQUENCE

PEAK HOUR VOLUME
7:30-8:30A.M./4:30-5:30PM.

ACCIDENT SUMMARY-3 YR. PERIOD
5 NOT SHOWN

0 60 120
Scale : 1"=60'

PROPOSED IMPROVEMENT 4-13

4 - 14

NEW JERSEY ROUTE 35 (RIVERSIDE AVENUE), FRONT STREET PEARL STREET AND MAPLE STREET RED BANK

At this location New Jersey Route 35 (Riverside Avenue) northbound traffic movements occur on Maple Street as a one-way operation and New Jersey Route 35 southbound movements occur on Pearl Street as a one-way operation. Front Street is the northernmost roadway in Region IV which runs parallel to the Navesink River. The north and southbound lanes of New Jersey Route 35 join each other just to the north of this location and one block south of this location. The two intersections forming this system are controlled by semi-actuated traffic signals.

Problems

This double intersection location has inadequate approach widths on Front Street. All streets carry high traffic volumes. The majority of the accidents at this location are of the same direction type, with some right angle and turning movement accidents also occurring.

Recommendations

Modification to the approach lanes and receiving lane routes are recommended to provide for two lane operation in each direction on West Front Street through this area. The traffic island should be revised to accommodate this widening. It is also recommended that modification be made to the approach lane markings and signing on Maple Avenue to provide for a dual left turn. Revision of the signal layout is recommended to increase its visibility.

Benefits

The capacity, safety and operational characteristics of these two locations would be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

TO NAVESINK RIVER

RIVERSIDE AVE.

EXIST. ONE WAY

HOUSES

BLDG.

PROP. R.O.W.

FRONT

MAPLE AVE.

ST.

R.O.W.

KEEP RIGHT

NO PARKING ANY TIME

NO LEFT TURN

NO RIGHT TURN

DO NOT ENTER

ONLY

WEST

USED CAR LOT

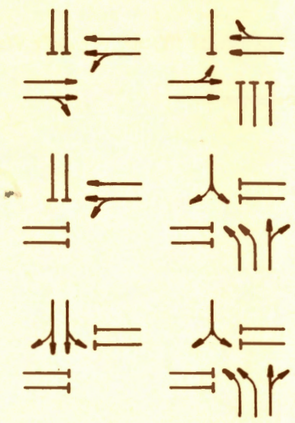
PEARL ST.

EXIST. ONE-WAY

STORES

DINER

SERVICE STATION



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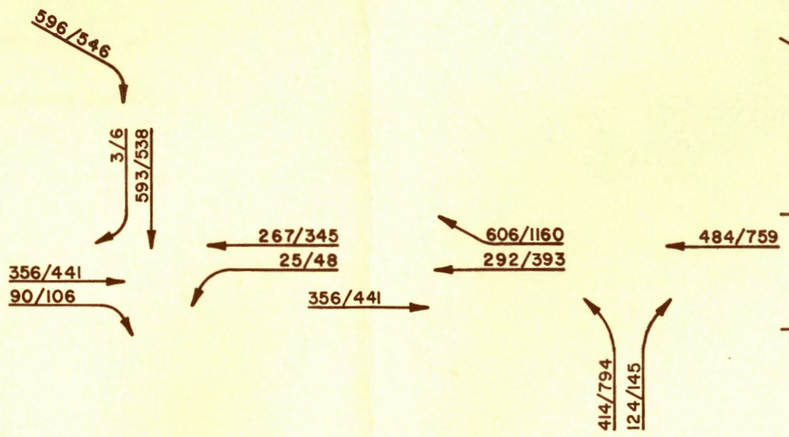
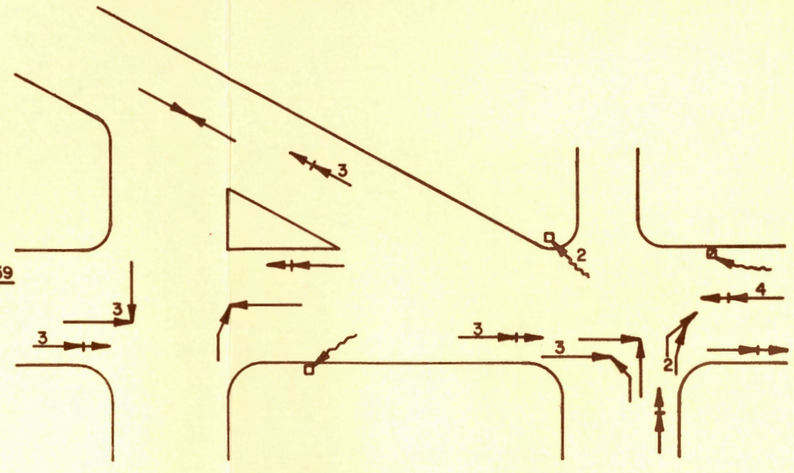


PEAK HOUR VOLUME
8:30 - 9:30 A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
2 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-14

4 - 15 BROAD STREET AND MONMOUTH STREET
RED BANK

Monmouth Street is part of the Red Bank downtown grid system. Broad Street is a major collector roadway for the surrounding area. The intersection is presently controlled by a semi-actuated-traffic signal.

Problems

This location has high traffic volumes on Broad Street with a high left turning movement. The sight distance on all approaches is reduced by buildings which were constructed close to the property lines. These buildings primarily contain small shops and other small commercial establishments.

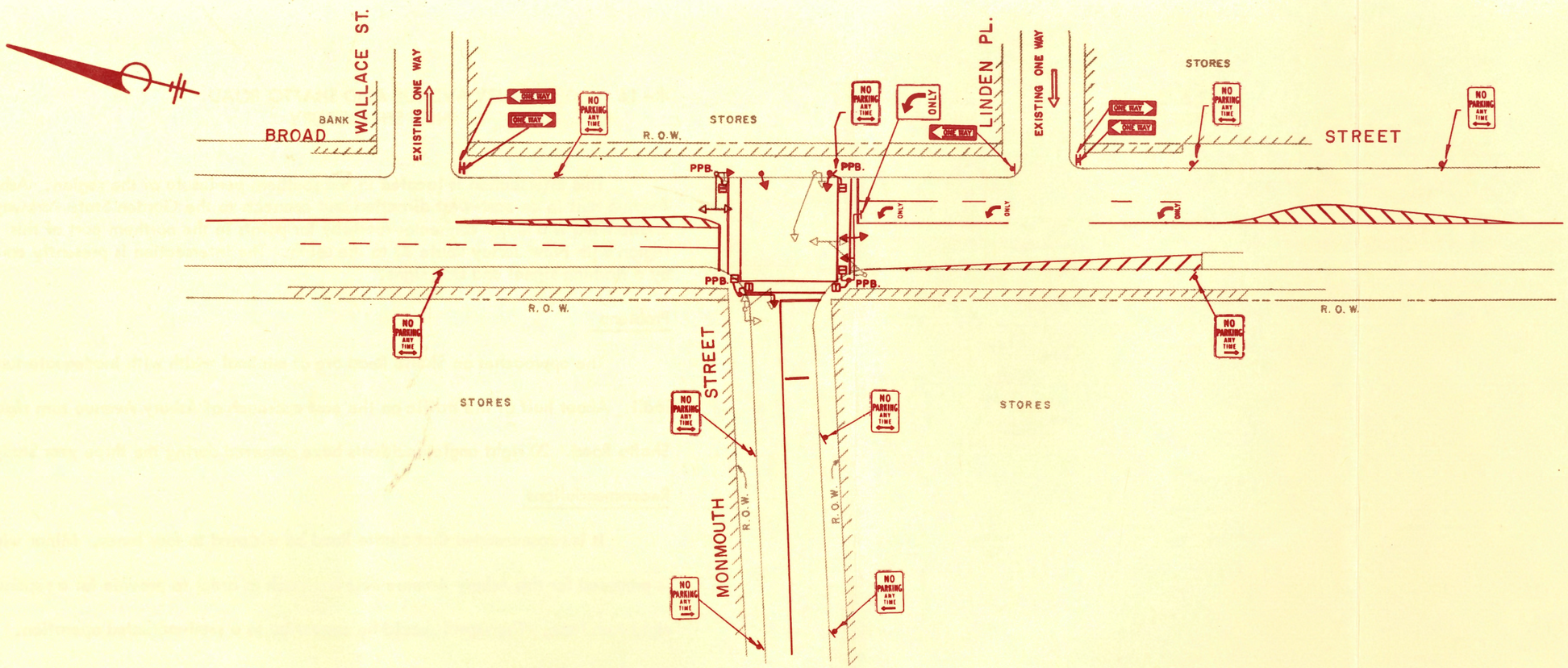
Recommendations

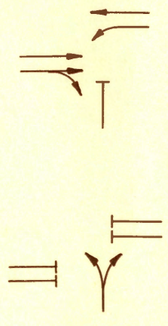
Modification to the northbound approach lane arrangements is recommended to provide for a left turning lane. Revision of the signal layout is recommended to increase its visibility. Installation of "Walk - Don't Walk" signal heads in connection with the signal modification is also recommended.

Benefits

The safety and operational characteristics of this location would be improved by these recommendations. The installation of "Walk - Don't Walk" signal heads should provide for safer pedestrian movements.

RICHARD P. BROWNE ASSOCIATES





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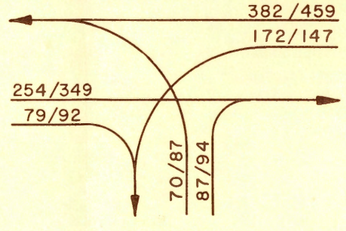
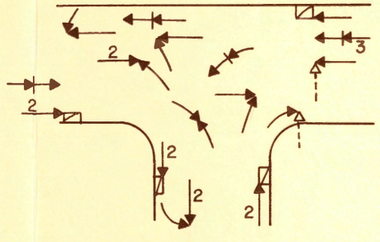


PEAK HOUR VOLUME
8:30 - 9:30 A.M./ 4:45 - 5:45 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
6 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-15

4 - 16 ASBURY AVENUE AND SHAFTO ROAD NEW SHREWSBURY

This intersection is located in the southern peninsula of the region. Asbury Avenue runs in an east-west direction and connects to the Garden State Parkway. Shafto Road is a major connector roadway for points in the northern part of this region with New Jersey Route 33 to the south. The intersection is presently controlled by a flashing signal and stop signs.

Problems

The approaches on Shafto Road are of minimal width with inadequate turning radii. About half of the traffic on the east approach of Asbury Avenue turn right onto Shafto Road. 20 right angle accidents have occurred during the three year study period.

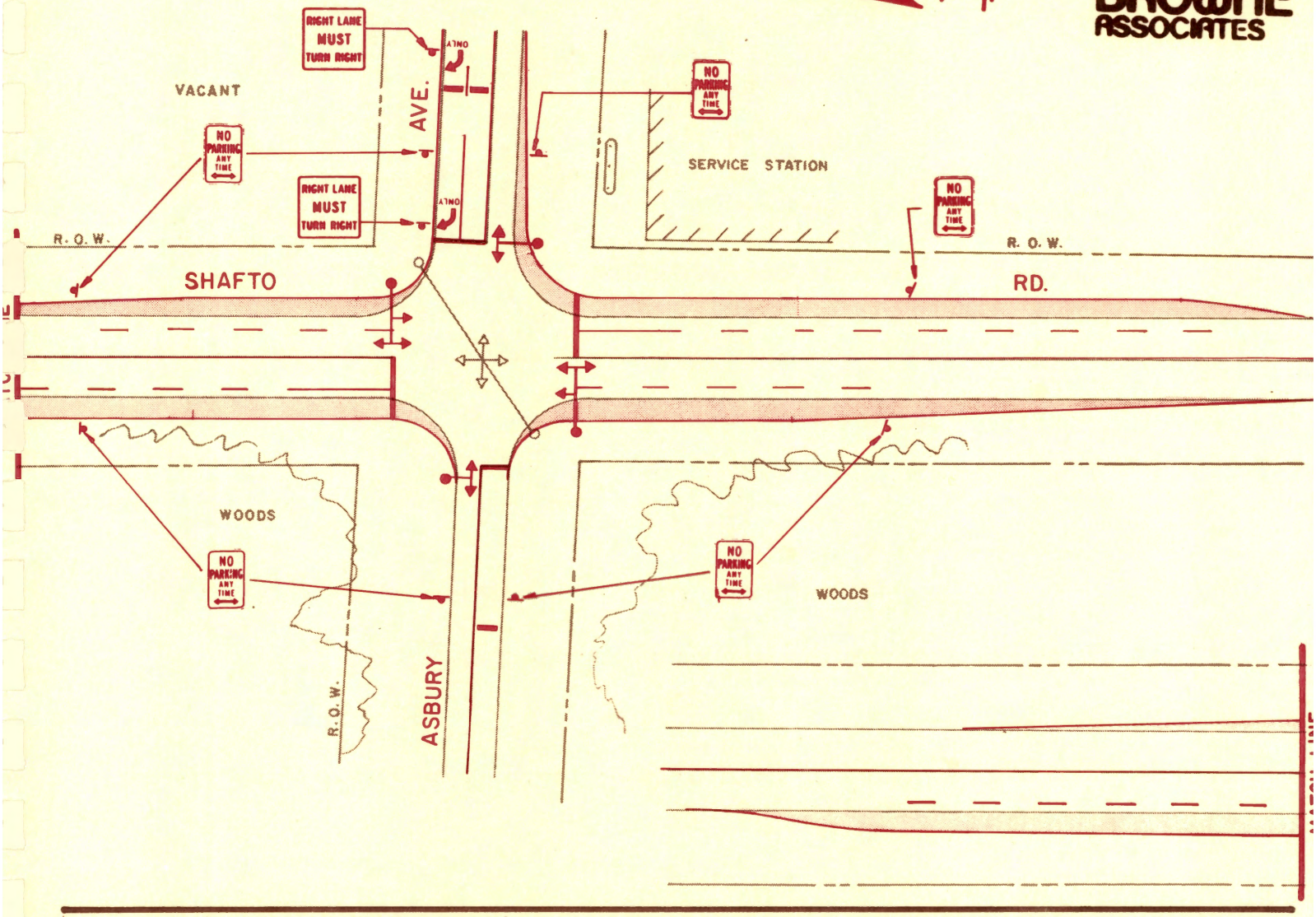
Recommendations

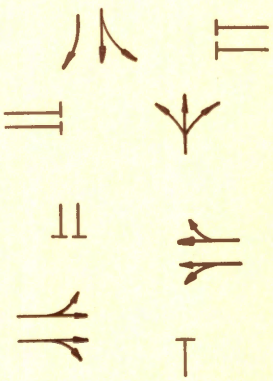
It is recommended that Shafto Road be widened to four lanes. Minor widening is proposed for the Asbury Avenue east approach in order to provide for a separate right turn lane. The signal should be converted to a semi-actuated operation.

Benefits

The capacity, safety and operational characteristics of this location would be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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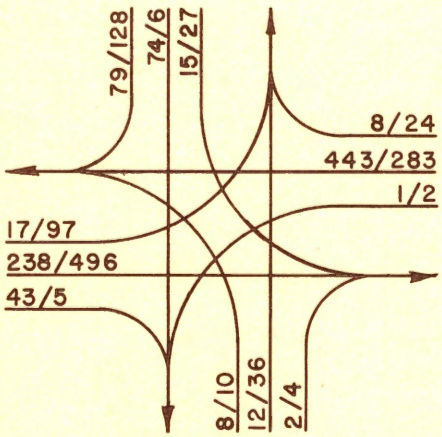
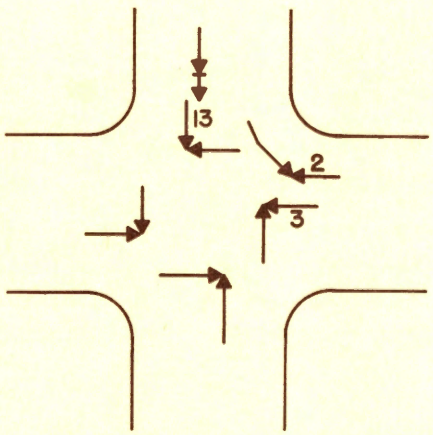


PEAK HOUR VOLUME
7:00 - 8:00 A.M. / 4:15 - 5:15 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
5 NOT SHOWN

0 60 120
Scale : 1"- 60'

PROPOSED IMPROVEMENT 4-16

4 - 17 CHESTNUT STREET AND BRIDGE AVENUE RED BANK

Chestnut Street is a local collector road. Bridge Avenue is a connecting roadway for the surrounding area and provides access to the New Jersey Route 35 bridge over the Navesink River. This location is presently controlled by stop signs.

Problems

The church on the southeast corner limits sight distance across this corner. The curb turning radii are somewhat inadequate. 23 right angle collisions were experienced at this intersection.

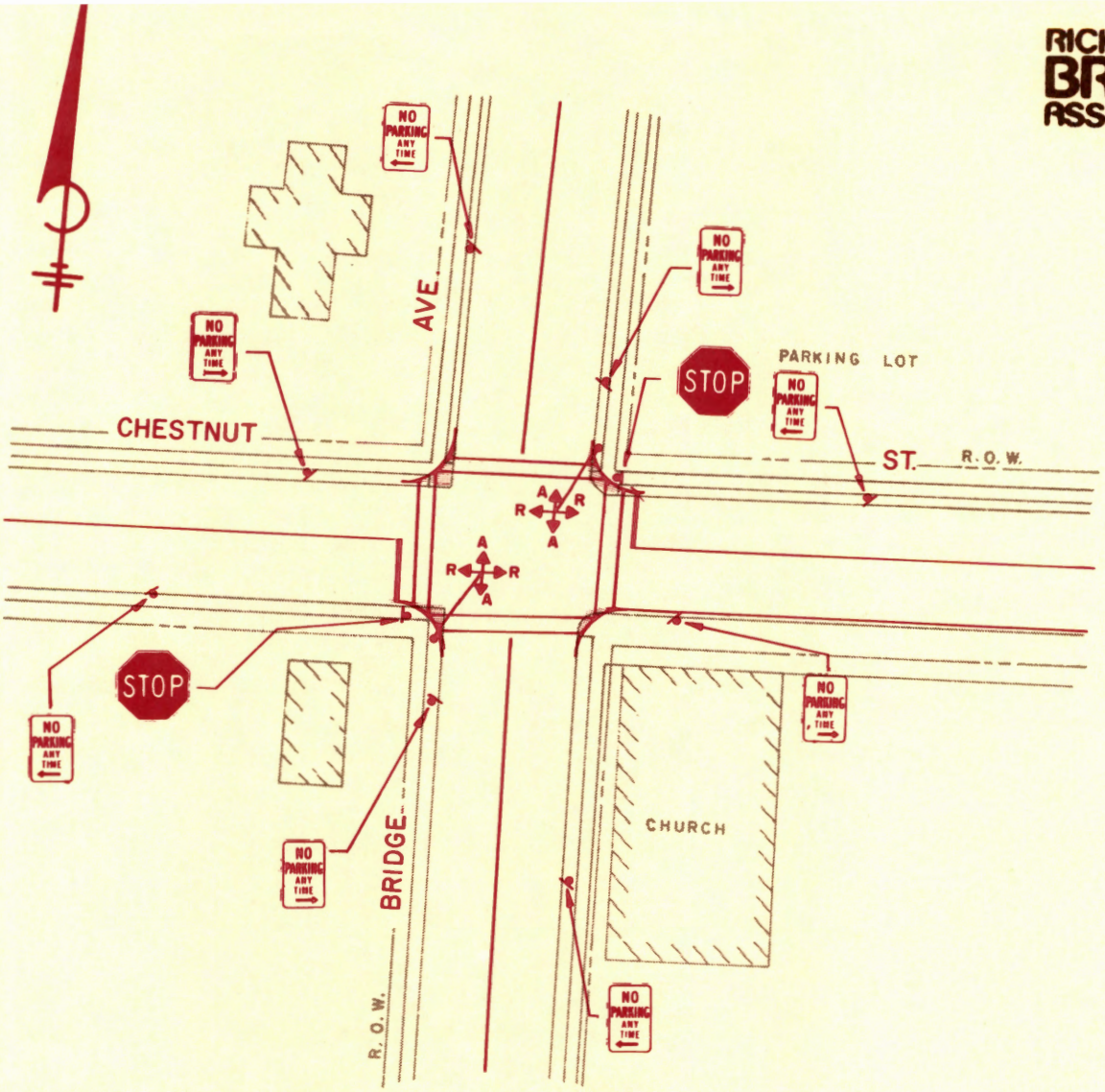
Recommendations

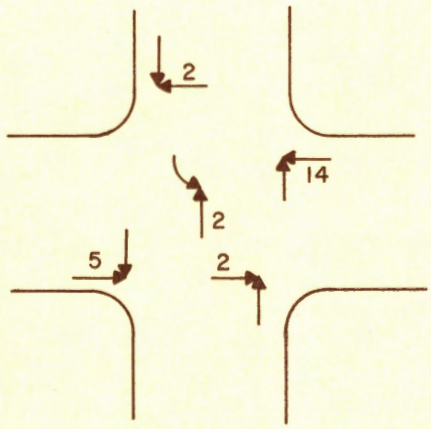
Modification to the turning radii are recommended. The installation of a flasher signal and oversized stop signs are recommended.

Benefits

The operational characteristics and safety of this location would be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





ACCIDENT SUMMARY—3 YR. PERIOD
1 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-17

4 - 18 N.J. ROUTE 35 (MAPLE AVENUE) AND BERGEN PLACE RED BANK

Bergen Place connects the east and west sides of the Red Bank downtown area. The intersection is presently controlled by a fixed time traffic signal.

Problems

A grade crossing for the New York and Long Branch Railroad exists immediately to the west of this location. This location has high traffic volumes with considerable traffic volumes on the side street. There is an inadequate roadway width on New Jersey Route 35 south of this location. Turning radii are also inadequate. A significant amount of turning movement, right angle, rear end and fixed object type accidents are experienced. The railroad is very close to the intersection.

Recommendations

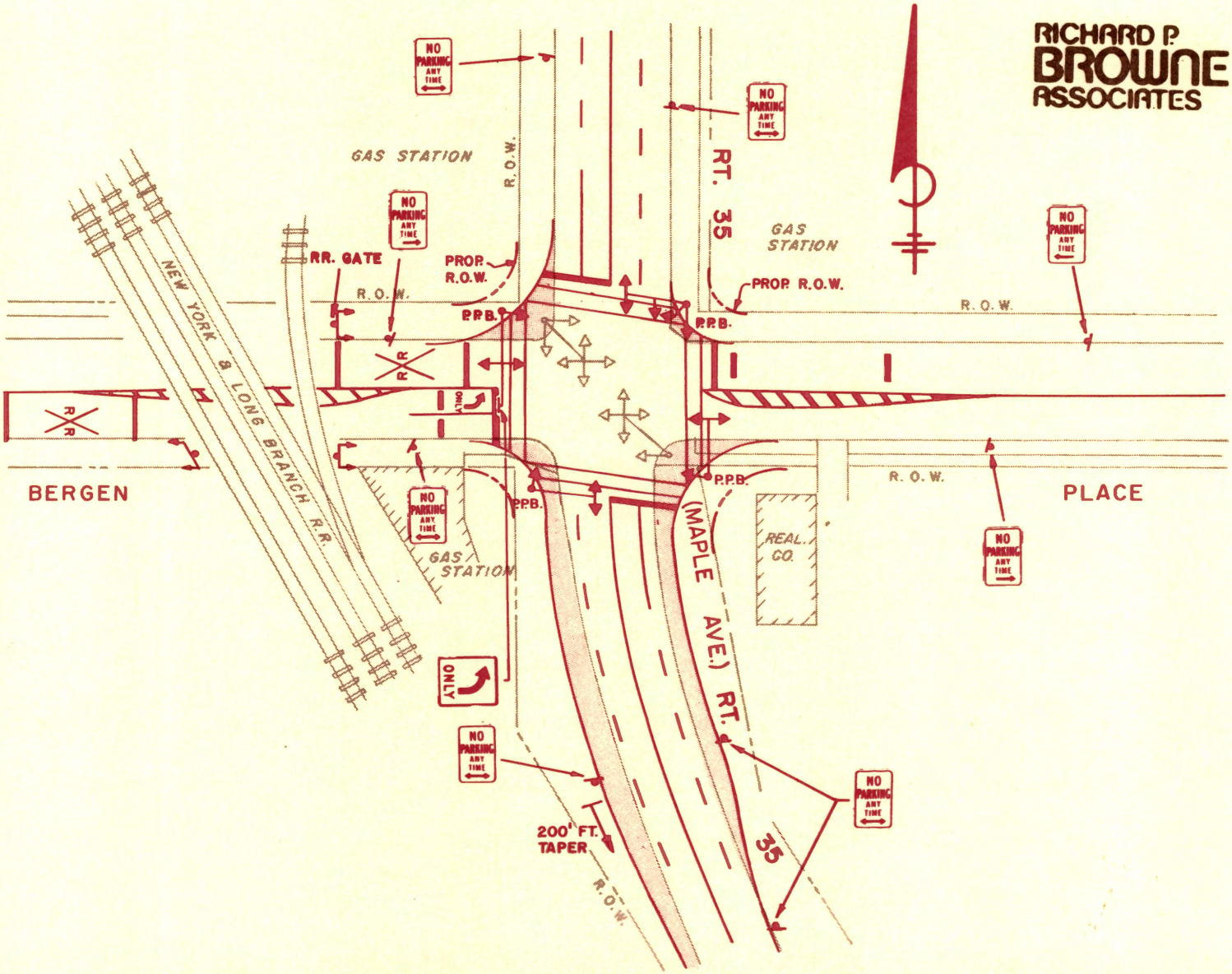
Widening of New Jersey Route 35 south approach is recommended to provide for two approach lanes and two receiving lanes. Modification to the curb turning radii are also recommended. Revision to the approach lanes on the eastbound approach to provide for a left turn lane. Modify signal layout to increase its visibility and install railroad preemption sequence. Convert signal to semi-actuated operation.

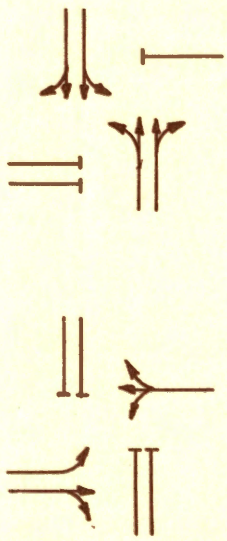
Benefits

The widening and turning radii improvements will improve the capacity and operational characteristics of this location and will combine with signal modification to increase safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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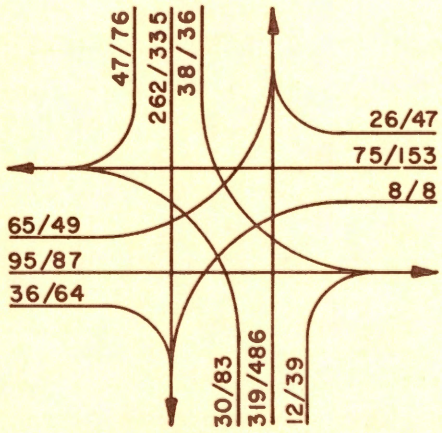
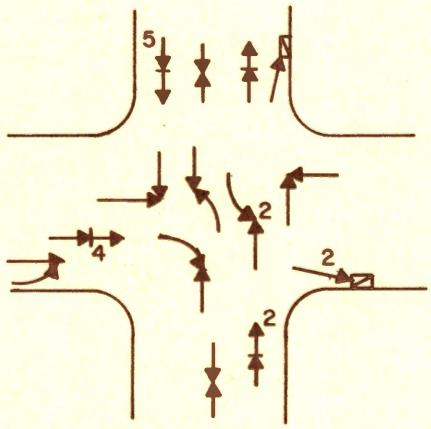


PEAK HOUR VOLUME
8:15 -9:15 A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY- 3 YR. PERIOD
1 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-18

4 - 19 N.J. ROUTE 35 AT BROAD STREET AND NEWMAN SPRINGS ROAD RED BANK

This location consists of two intersections separated from each other by a grade crossing of the New York and Long Branch Railroad. The location is presently controlled by two semi-actuated traffic signals.

Problems

This location has high traffic volumes with high turning movements. Approach lane arrangements are insufficient. A significant number of accidents were experienced at this location, some of which involved the railroad.

Recommendations

Modification to the N.J. Route 35 lanes north of the intersection to provide for two approach lanes and two receiving lanes separated by a median is recommended. The present small jughandle for left turns from northbound into Newman Springs Road should be abandoned and replaced with a left turn lane as indicated. A jughandle for northbound N.J. Route 35 movements to northwest bound N.J. Route 35 movements should be constructed. Modification to the approach lanes at Newman Springs Road is also recommended. Modification to the signal layout at both locations is also recommended along with incidental signing and pavement markings. The geometric modifications recommended are intended to provide for uniform two lane service for all major movements while subordinating the minor movements to the major movements.

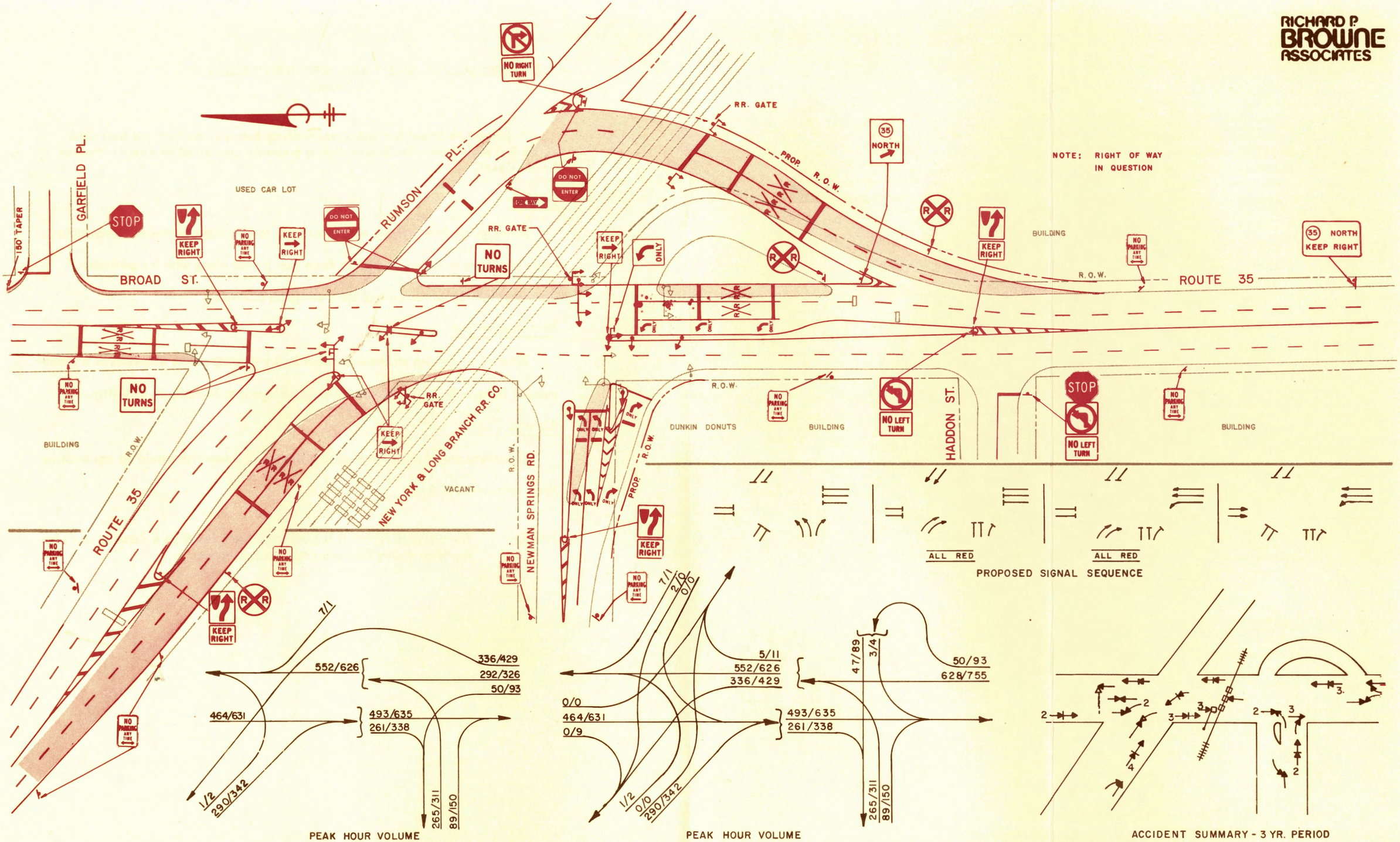
Benefits

The capacity, safety and operational characteristics of this location will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

NOTE: RIGHT OF WAY IN QUESTION



PROPOSED SIGNAL SEQUENCE

PEAK HOUR VOLUME
(AFTER IMPROVEMENT)

PEAK HOUR VOLUME
8:30-9:30 A.M./4:30-5:30 P.M.

ACCIDENT SUMMARY - 3 YR. PERIOD

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-19

4 - 20 MONMOUTH STREET AND NEW JERSEY ROUTE 35
RED BANK

Monmouth Street is a connector roadway between the east and west sides of the Red Bank area. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

Buildings on three corners at this location restrict sight distance. Seven right angle accidents occurred during the three year period along with a significant number of turning movement and same direction accidents.

Recommendations

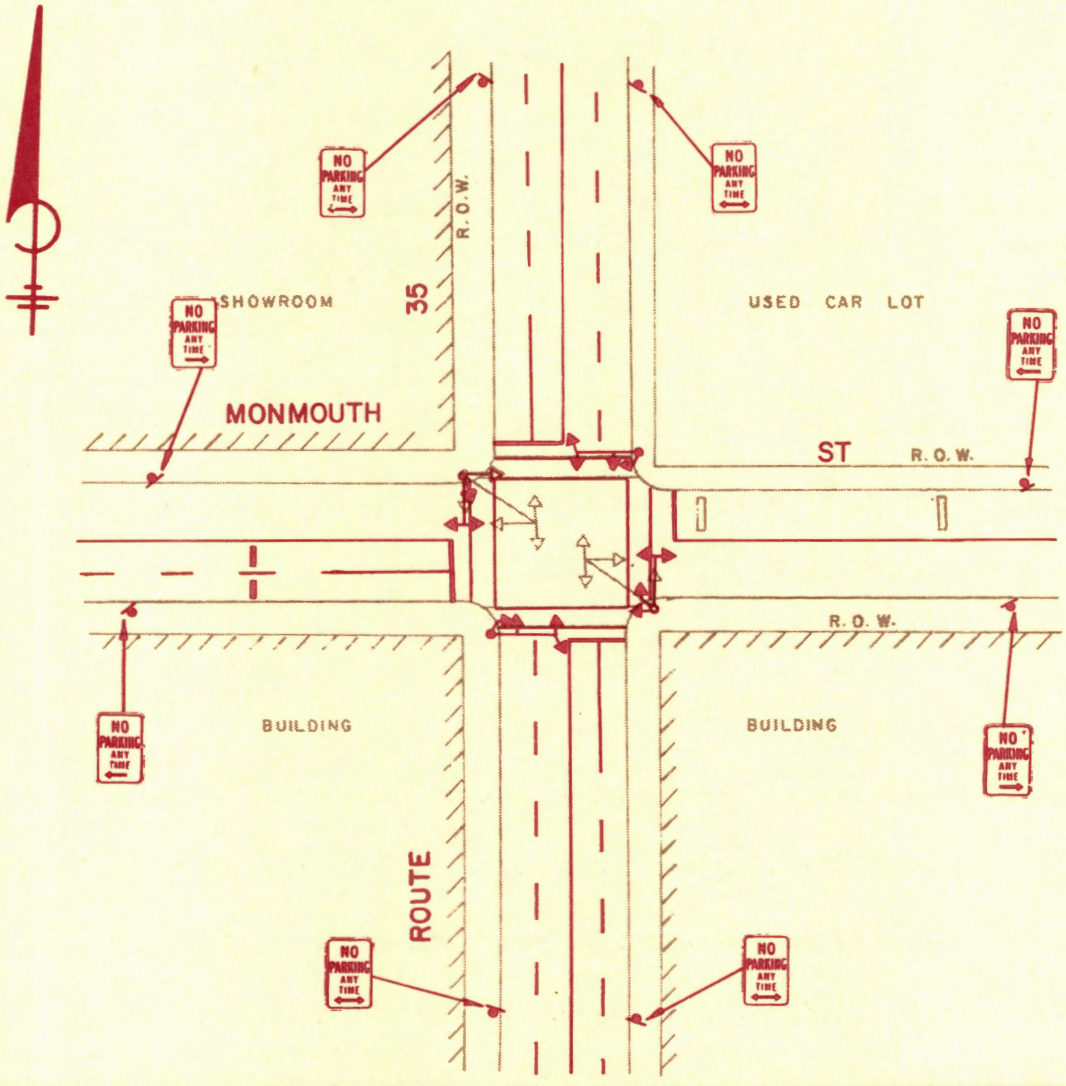
Removal of parking on the side street in the vicinity of the intersection is recommended along with modification of the signal layout to increase its visibility.

Benefits

The safety and operational characteristics of this location would be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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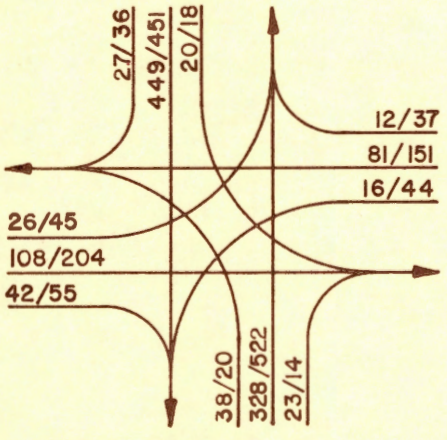
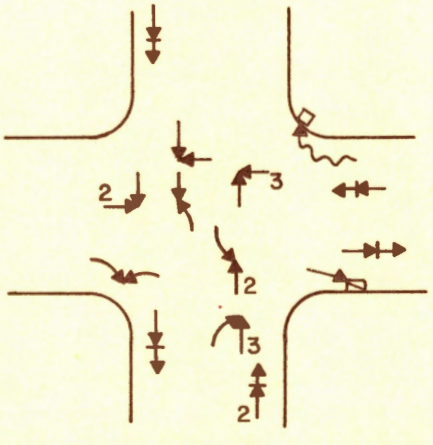


PEAK HOUR VOLUME
8:00-9:00 A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD
3 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-20

4 - 21 BROAD STREET AT RECKLESS PLACE AND HARDING ROAD RED BANK

Harding Road is a collector road for the surrounding area. Reckless Place is a local road. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

Right turns, through movements and left turns are allowed from the approaches of both side streets, however due to the offset nature of the intersection, traffic movements from the side streets function as if it were a "T" intersection. Approach routes and curb turning radii are inadequate.

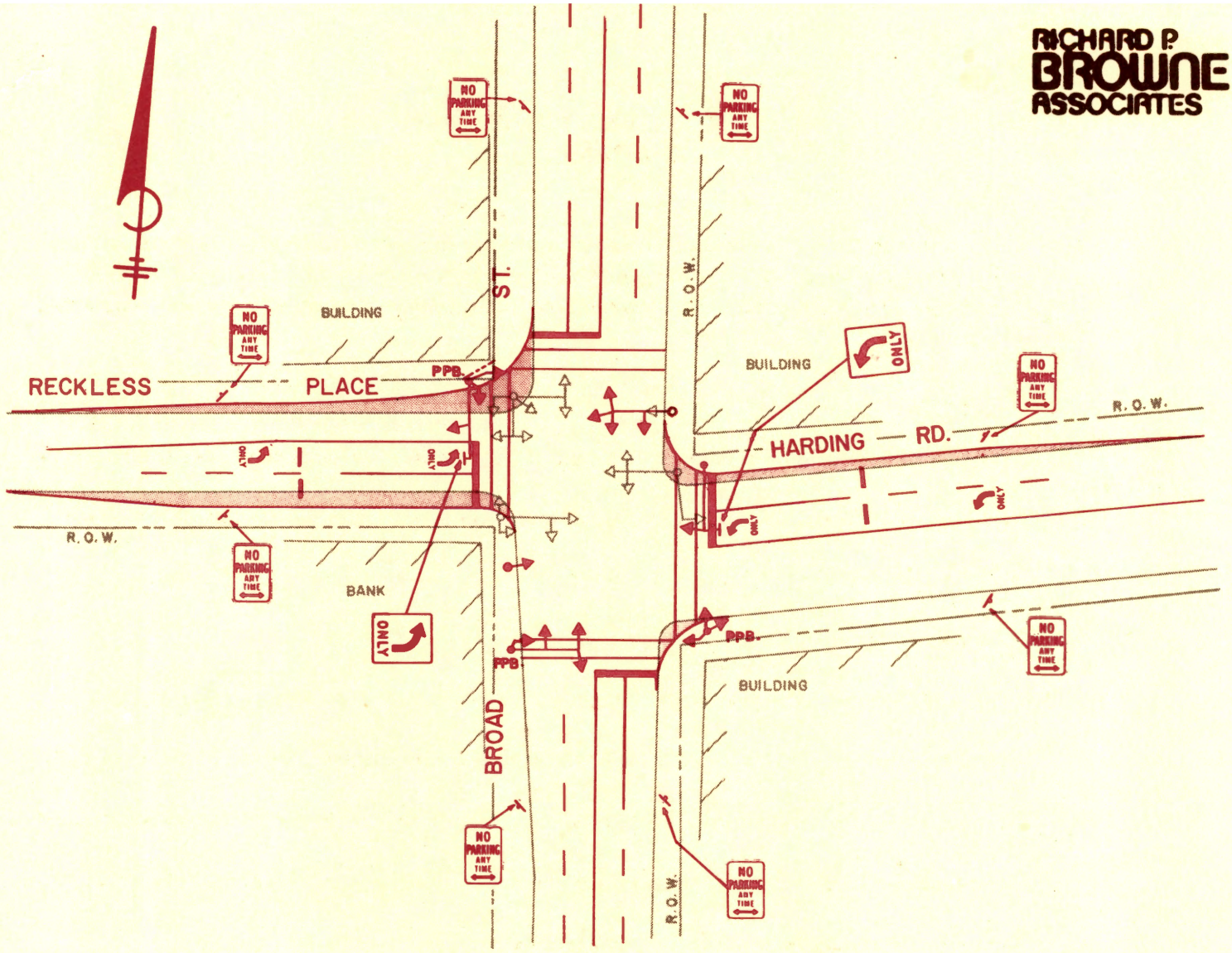
Recommendations

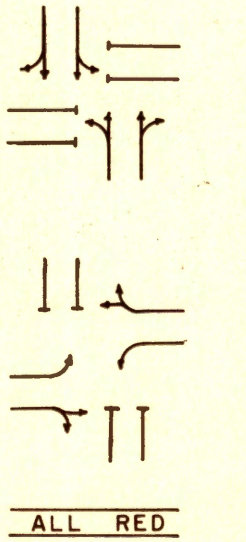
Modificiation to the approach lanes on both side streets is recommended to provide for separate left turning lanes, thus separating these movements from the right turn movements some of which have destinations across the intersection moving as through movements. Modification to the curb turning radii are recommended. Revisions to the signal layout is recommended to increase visibility.

Benefits

The separating of the traffic movements from the side street into lanes should reduce hazardous movements in the intersection somewhat, while reducing the amount of green time required by side street movements. Modification of the curb turning radii and signal layout will combine with the above to improve the capacity, safety and operational characteristics of this location.

RICHARD P. BROWNE ASSOCIATES





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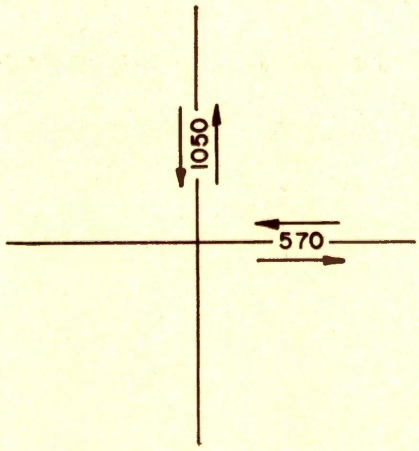
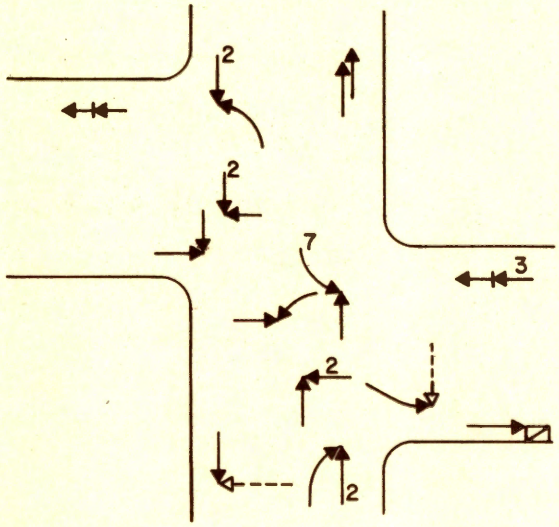


PEAK HOUR VOLUME
4:30 – 5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
3 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 4-21

4 - 22 BERGEN PLACE AND BROAD STREET
RED BANK

Broad Street is a major collector road for the surrounding area and connects with New Jersey Route 35. Bergen Place connects the east and west sides of the Red Bank downtown area. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

This location has inadequate approach widths on Broad Street and tight turning radii on all corners. Moderate volumes occur on Broad Street and there is a heavy left turn on the Bergen Place east approach.

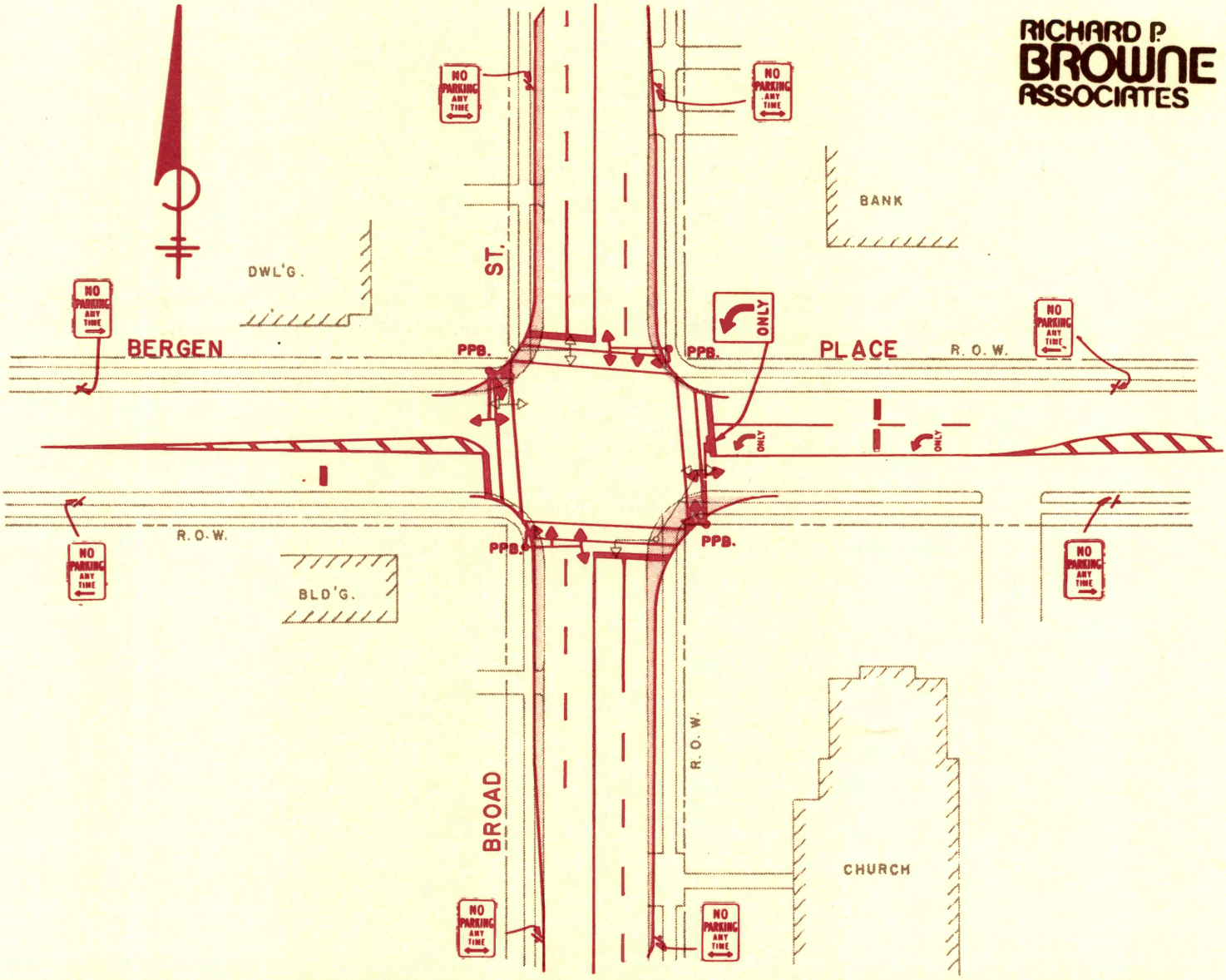
Recommendations

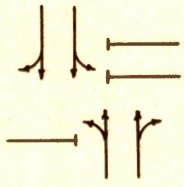
Minor widening of Broad Street is recommended to provide for two approach lanes and two receiving lanes in each direction on this street. Modifications to curb turning radii are recommended. Provision of a special left turning lane for westbound to southbound movement is further recommended. Revision of the signal layout to improve its visibility is further recommended.

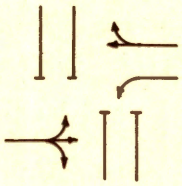
Benefits

The widening of Bergen Place, improvement of the turning radii and provision of the left turning lanes will improve the capacity and operational characteristics and combine with signal layout modifications will increase safety.

RICHARD P. BROWNE ASSOCIATES







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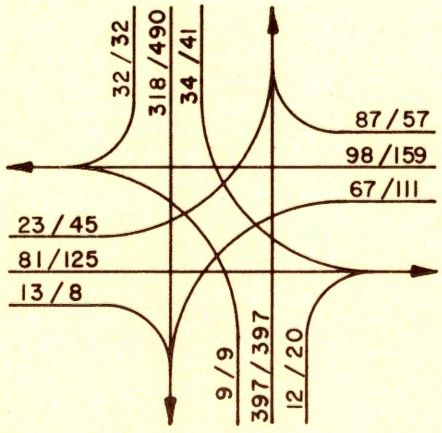
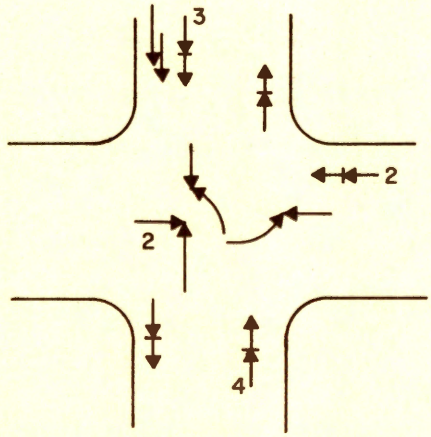


PEAK HOUR VOLUME
8:30-9:30 A.M./6:30-7:30 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD
5 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-22

4 - 23 RIDGE ROAD AND FAIR HAVEN ROAD
FAIR HAVEN

Fair Haven Road connects the Navesink River shore area with the Shrewsbury River shore area. The location is presently controlled by a flashing signal.

Problems

This location has considerable traffic volumes based on traffic counts in the surrounding area. Twelve right angle accidents were experienced during the three year period. The location has inadequate curb turning radii.

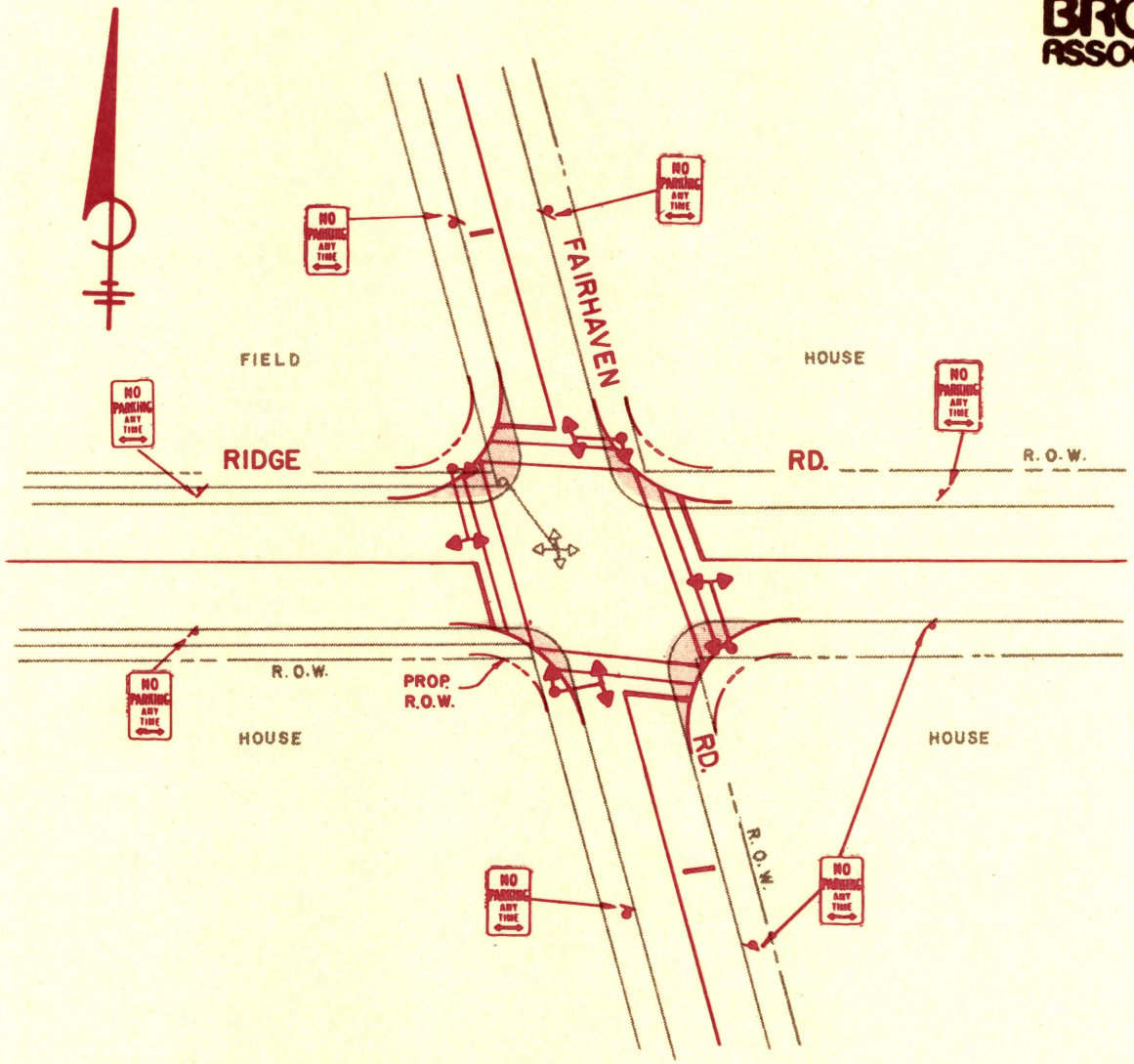
Recommendations

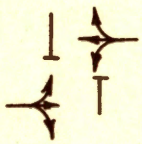
Modifications of curb turning radii is recommended along with installation of a semi-actuated traffic signal.

Benefits

The safety and operational characteristics of this location would be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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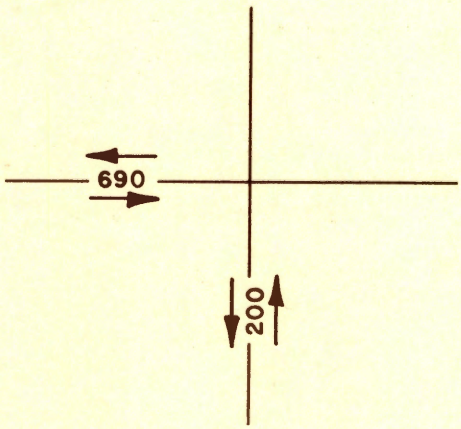
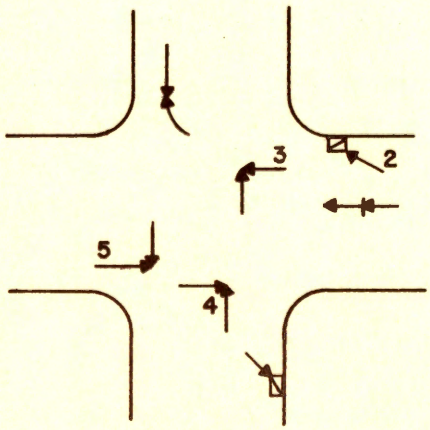


PEAK HOUR VOLUME
4:00-5:00 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD
4 NOT SHOWN

0 60 120
Scale : 1"- 60'

PROPOSED IMPROVEMENT 4-23

4 - 24 NEW JERSEY ROUTE 35 AND WHITE STREET-OBRE PLACE SHREWSBURY

White Street and Obre Place are local Streets. This location is presently controlled by a semi-actuated traffic signal.

Problems

This location has high traffic volumes on New Jersey Route 35 with considerable turning movements to the side streets based on traffic counts in the surrounding area. A significant number of left turn and same direction accidents occurred during the three year study period.

Recommendations

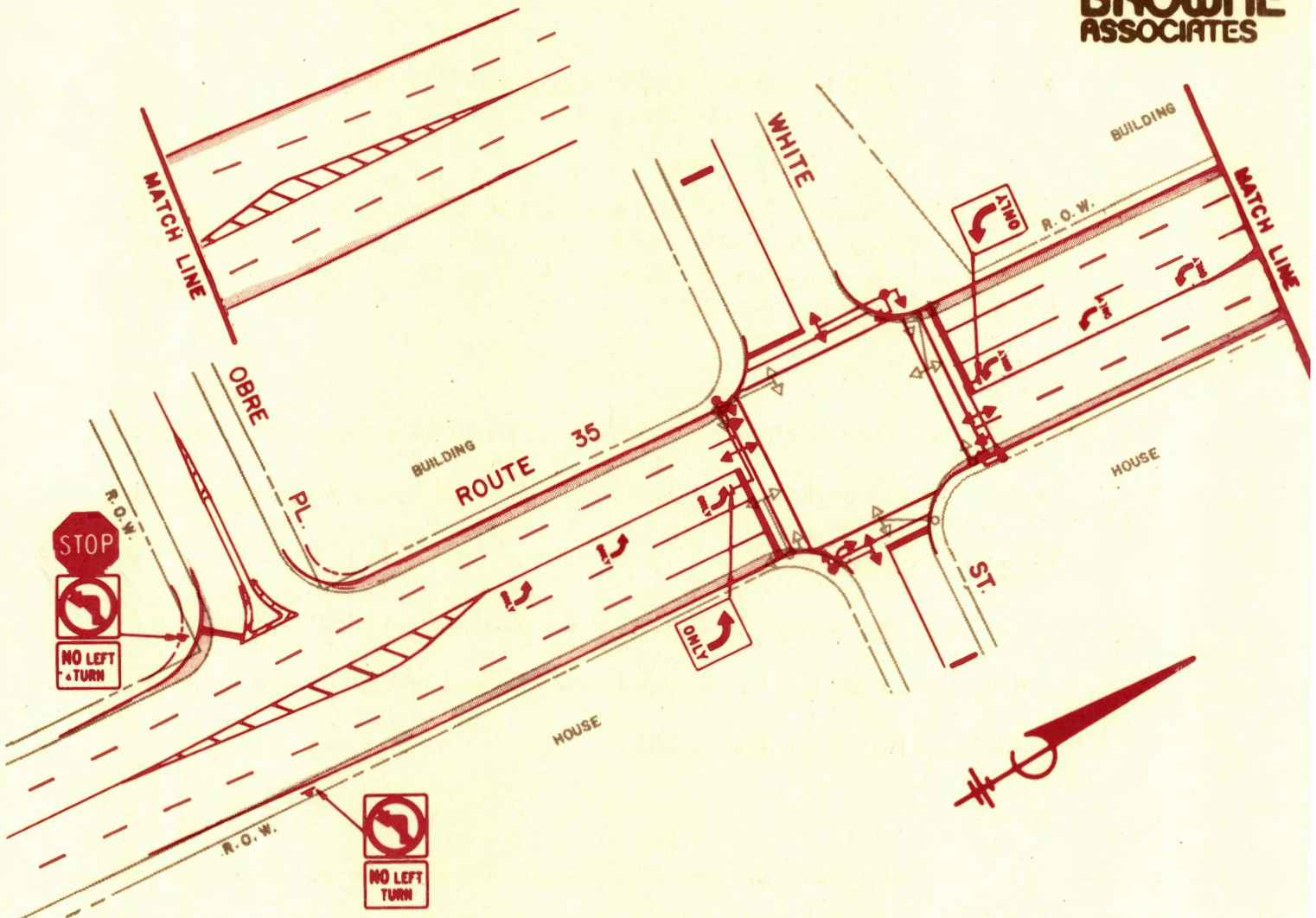
Minor widening on New Jersey Route 35 is recommended to provide for two through lanes in each direction and left turning lanes for movements into White Street. Construction of a traffic island at Obre Place is recommended to prevent conflicting turning movements out of that street. Modification of the signal layout to increase its visibility is also recommended.

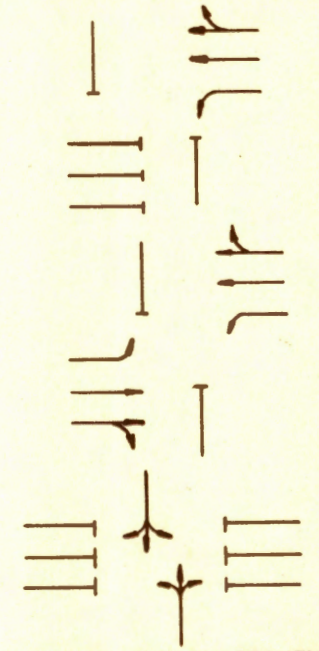
Benefits

The capacity, safety and operational characteristics of this location would be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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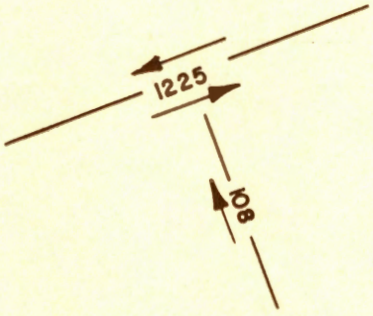
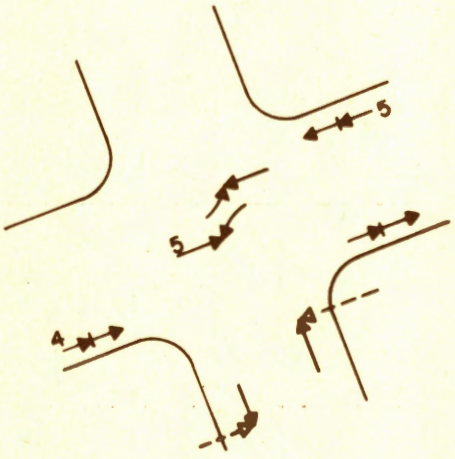


PEAK HOUR VOLUME
8:00-9:00A.M.



ACCIDENT SUMMARY - 3 YR. PERIOD

0 60 120

Scale : 1" = 60'

PROPOSED IMPROVEMENT 4-24

4 - 25 RUMSON ROAD AND AVENUE OF TWO RIVERS RUMSON

Rumson Road is a major road running between the coastline and the Red Bank area of Region IV. Avenue of Two Rivers is the first roadway west of the Shrewsbury River connecting to the Navesink River Bridge. The intersection is presently controlled by stop signs.

Problems

This location has high traffic volumes based on counts in the surrounding area. A number of out of control and right angle accidents were experienced.

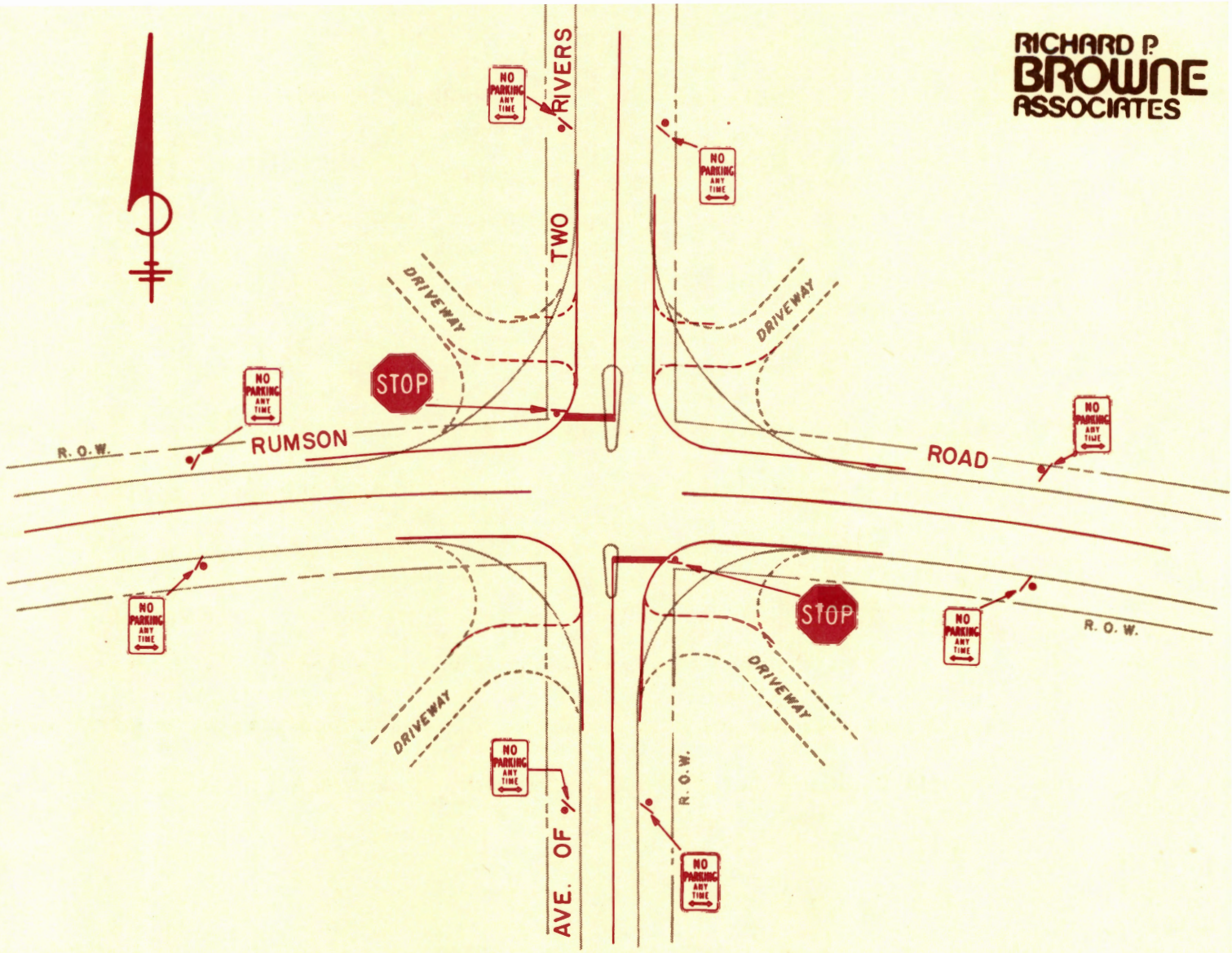
Recommendations

It is recommended that the intersection be compacted by providing tighter turning radii on all four corners and by requiring all driveways to be on Avenue of Two Rivers which is the minor street.

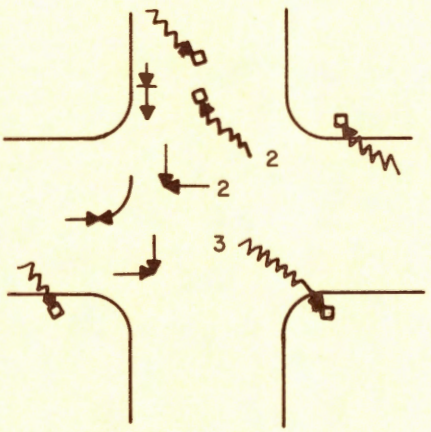
Benefits

The safety and operational characteristics of this location would be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES



NO COUNT



ACCIDENT SUMMARY - 3YR. PERIOD
5 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-25

4 - 26 PROSPECT AVENUE AND HARDING ROAD FAIR HAVEN

This location is the intersection of two local roads. The intersection is presently controlled by stop signs and a flashing signal.

Problems

This location has inadequate curb turning radii. On the southeast corner of the intersection is a private driveway which enters the intersection at the mid-point of the return. During the three year period studied, nine right angle accidents were recorded.

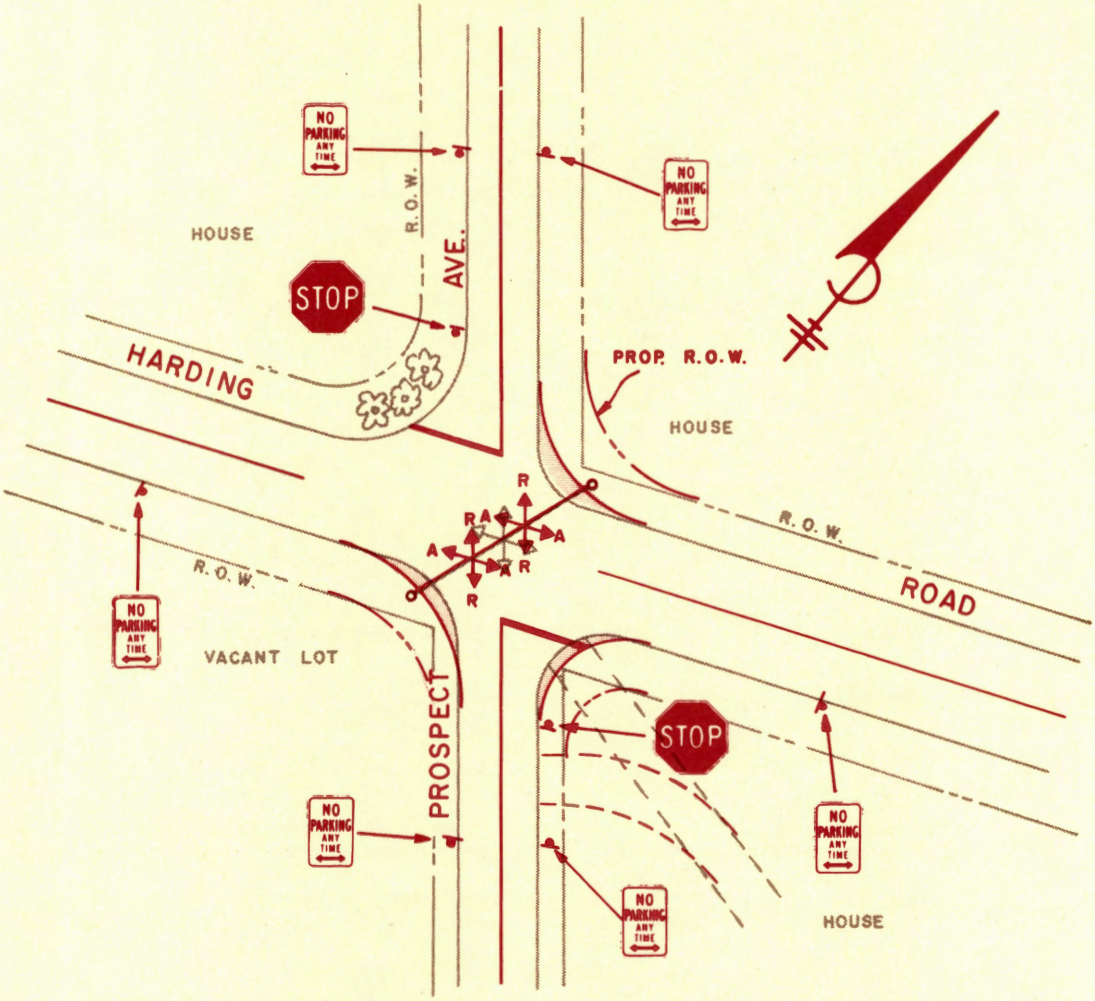
Recommendations

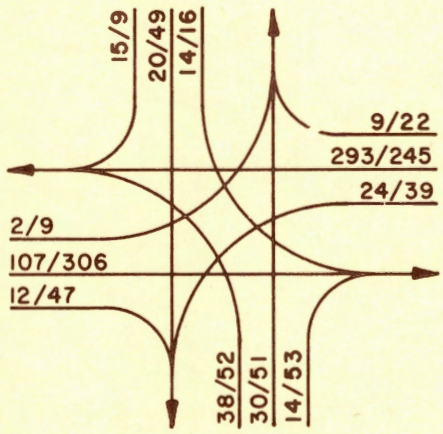
Modifications to curb turning radii are recommended. Relocation of the driveway on the southeast corner is recommended. Installation of oversized stop signs and modification of the signal flasher to provide two separate signal controls for each approach is also proposed.

Benefits

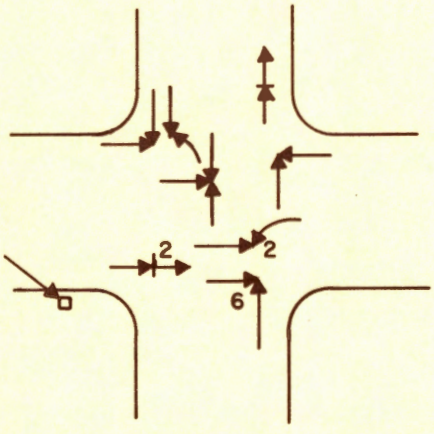
The safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
7:45 - 8:45 A.M./4:45 - 5:45 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-26

4 - 27 SYCAMORE AVENUE AND HANCE AVENUE NEW SHREWSBURY

Sycamore Avenue is a major arterial road in this area. Hance Avenue is a collector road. The intersection is presently controlled by a stop sign.

Problems

This location has moderate traffic volumes on Sycamore Avenue with a heavy left turn from Hance Avenue. Insufficient roadway widths exist on the Sycamore Avenue approaches. Curb turning radii are inadequate. A considerable number of turning movement accidents are experienced.

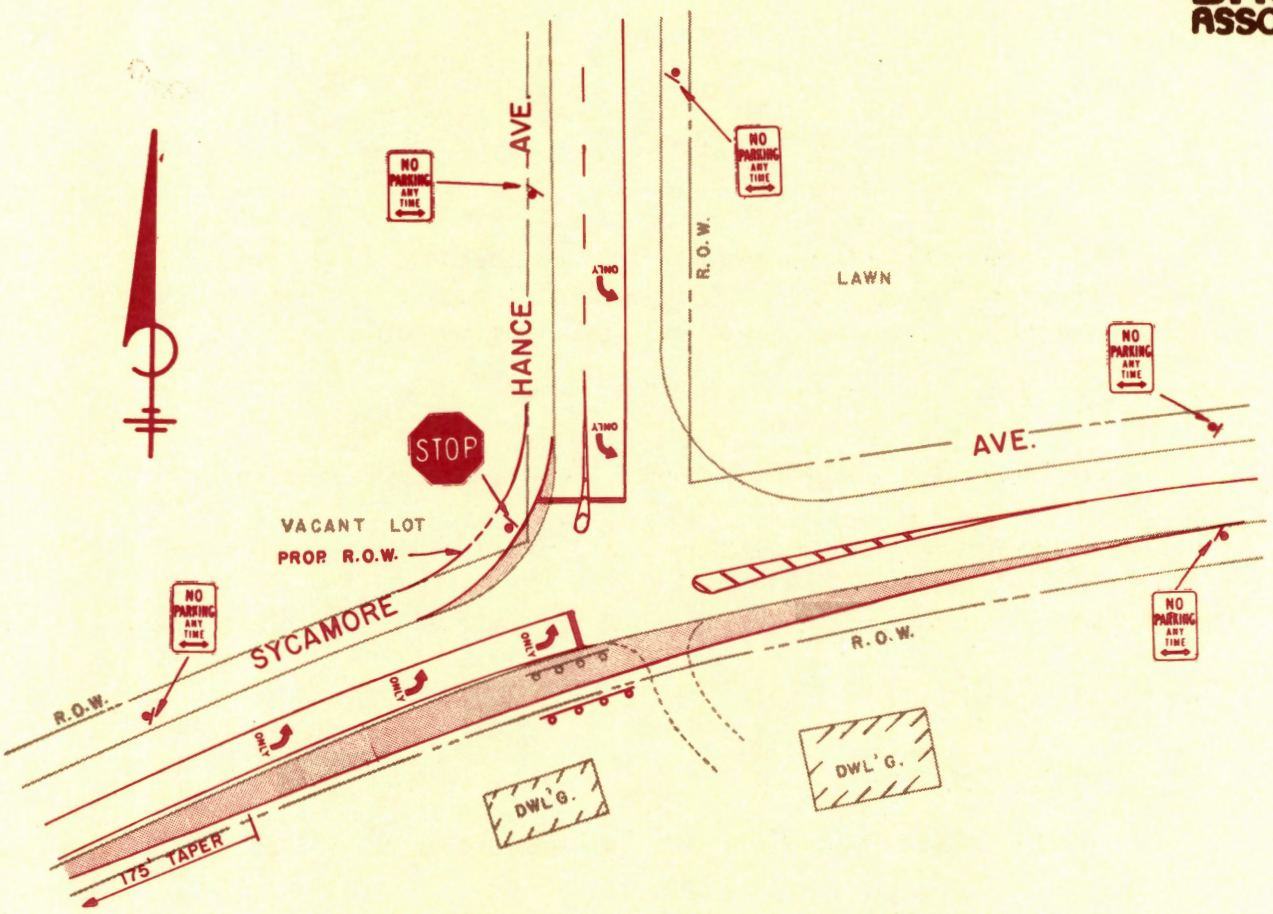
Recommendations

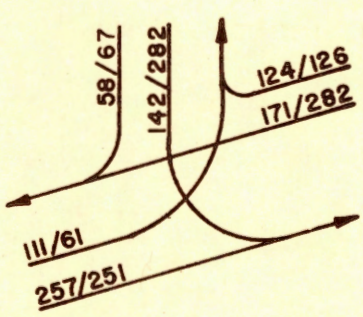
Widening of the roadway at Sycamore Avenue is recommended to provide for a left turning lane into Hance Avenue. Modifications to the northwest curb turning radius is recommended. Two lane outbound operation should be permitted on Hance Avenue.

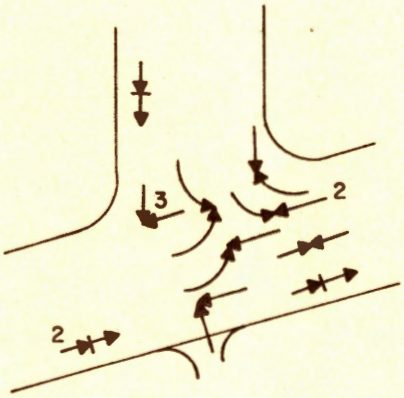
Benefits

The safety and operational characteristics of this location would be improved by these recommendations. Left turns on Sycamore Avenue will not interfere with through traffic.

RICHARD P. BROWNE ASSOCIATES







PEAK HOUR VOLUME
7:30 - 8:30 A.M./4:15-5:15 P.M.

ACCIDENT SUMMARY - 3 YR. PERIOD
1 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 4-27

4 - 28 SHREWSBURY AVENUE AND BERGEN PLACE
RED BANK

Shrewsbury Avenue is a major arterial parallel to and eventually intersecting New Jersey Route 35. Bergen Place is a collector road. This inte section is presently controlled by a fixed time traffic signal.

Problems

This location has high traffic volumes with considerable turning volume occurring on the westbound approach. The turning radii are inadequate. A considerable number of same direction and five right angle accidents were experienced.

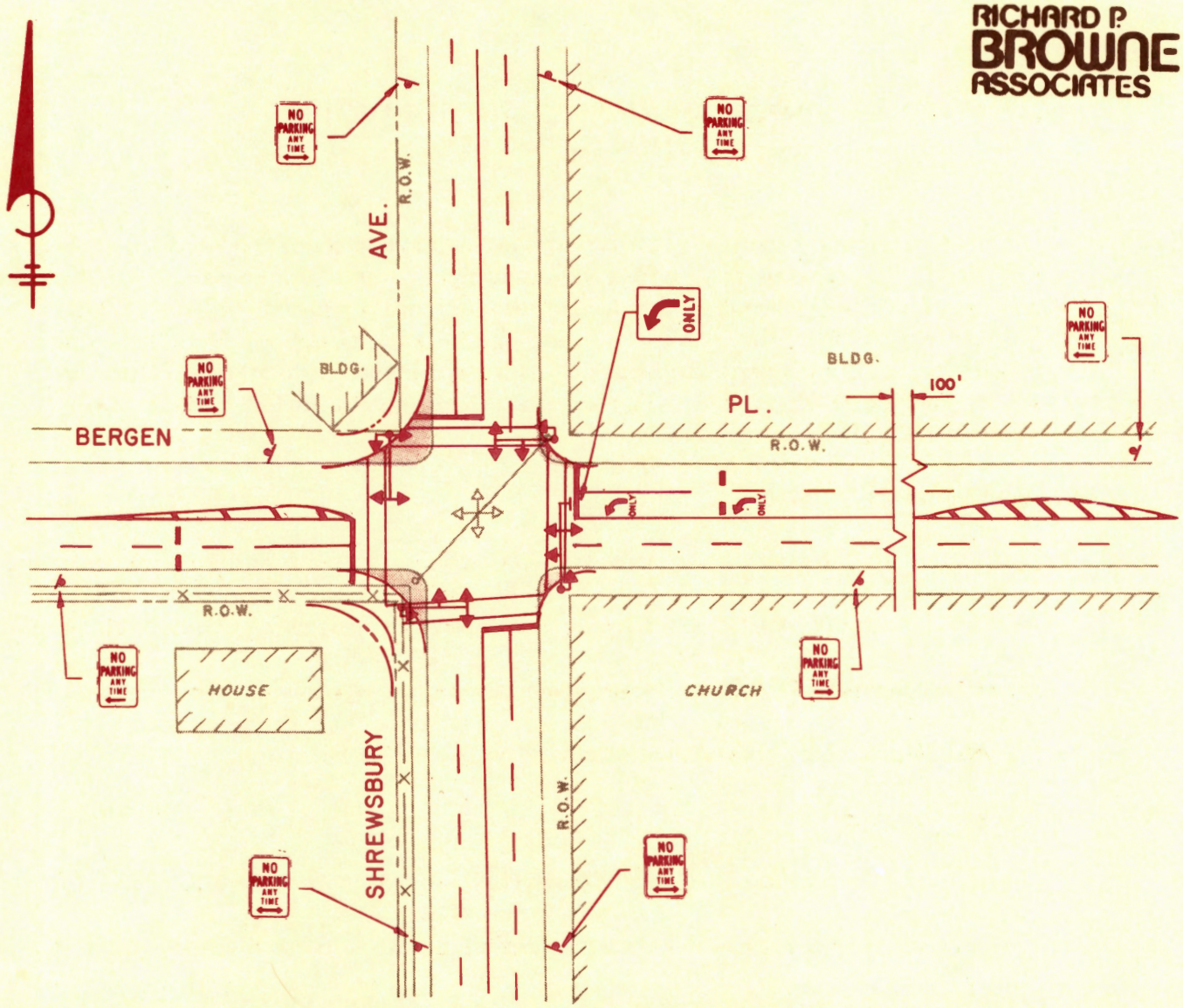
Recommendations

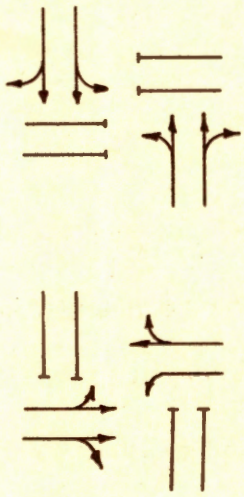
Modification to the curb turning radii are recommended along with provisions for a special left turn lane for the westbound to southbound turning movement. Revision of the signal layout is recommended to improve its visibility. Conversion of the fixed time traffic signal to a semi-traffic actuated signal is proposed.

Benefits

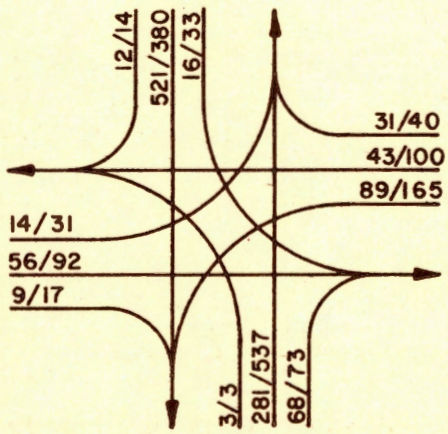
The capacity and operational characteristics of this location would be improved by these recommendations. A reduction of the number of same direction accidents should be accomplished by the signal modification and increasing the safety of the location.

RICHARD P. BROWNE ASSOCIATES

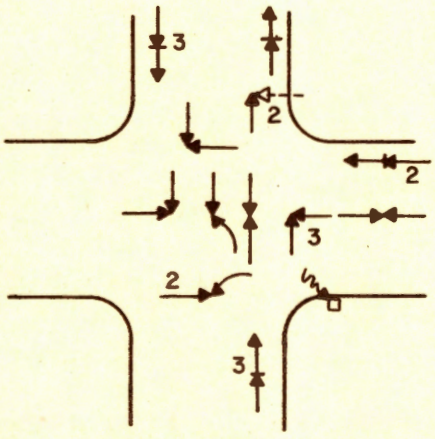




PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
7:30-8:30 A.M./4:30-5:30 P.M.



ACCIDENT SUMMARY—3 YR. PERIOD
1 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-28

4 - 29 TINTON AVENUE AND WAYSIDE AVENUE NEW SHREWSBURY

Tinton Avenue presently functions as a major connector roadway for east-west traffic moving between Freehold and the center of the county. Traffic projections for Tinton Avenue to the design year indicate a two-way volume of 26,000 vehicles a day. Tinton Avenue is one lane in each direction. A new commercial office building is under construction in the northwest quadrant of this location. It is anticipated that this building will be generating over 3,000 trips by the summer of 1973.

Problems

This location has a considerable number of conflicting turning movements. It is anticipated that the increasing development of this area will produce an increase in traffic volumes. Eastbound movements on Tinton Avenue presently must yield to traffic with origin or destinations in Wayside Avenue.

Recommendations

It is recommended that Tinton Avenue be widened to two through lanes in each direction. Revision to the connecting roadways to Wayside Avenue to provide two lanes in each direction is also recommended. All necessary ramp roadways to provide for turning movements as illustrated are recommended. Close off Branford Circle. Install semi-actuated traffic signal.

Benefits

The capacity and operational characteristics of this location would be improved by these recommendations. Modifications in the vicinity of the Wayside connection and the entrance to the new commercial building parking lot will provide for appropriate movements to and from that facility. The developers of the commercial building have agreed to deed the necessary right of way to facilitate improvements. The Garden State Parkway already has plans to widen their bridge to a cpacity of two lanes in each direction at the eastern point of this improvement.

RICHARD P BROWNE ASSOCIATES

ENTRANCE TO PARKING LOT FOR 3000 EMPLOYEES

NEW COMMERCIAL OFFICE BUILDING

R.O.W.

PROP. R.O.W.

1:30 TAPER TO EXISTING SECTION

WAYSIDE RD.

VACANT

KEEP RIGHT

NO PARKING

YIELD

DO NOT ENTER

NO LEFT TURN

NO TURNS

ONE WAY

AVE. (537)

DWL'G.

BLANFORD CIRCLE

TINTON

PARKWAY BRIDGE TO BE WIDENED BY OTHERS

PROPOSED SIGNAL SEQUENCE

ACCIDENT SUMMARY – 3 YR. PERIOD

LESS THAN 13 ACCIDENTS

PEAK HOUR VOLUME
7:30 – 8:30 A.M. / 4:30 – 5:30 P.M.

173/180
40/32
107/277
483/384
262/613
26/60

0 60 120
Scale: 1" = 60'

PROPOSED IMPROVEMENT 4-29

4 - 30 TINTON AVENUE AND SYCAMORE AVENUE NEW SHREWSBURY

Tinton Avenue is a major roadway in this area connecting Freehold and the western part of the county with the shore area. Traffic is expected to increase to over 26,000 vehicles per day in less than five years. Sycamore Avenue connects Tinton Avenue with the peninsula area of Region IV, and the Red Bank area. The intersection is presently controlled by stop signs and a flashing signal.

Problems

It is anticipated that this location will have high traffic volumes with considerable turning movements from eastbound to northbound. The narrow bridge located west of the intersection acts as a bottleneck now, and will become more so as traffic increases. High turning movements occur from Sycamore Avenue to Tinton Avenue in both directions. Water Street presently provides access only to several local properties.

Recommendations

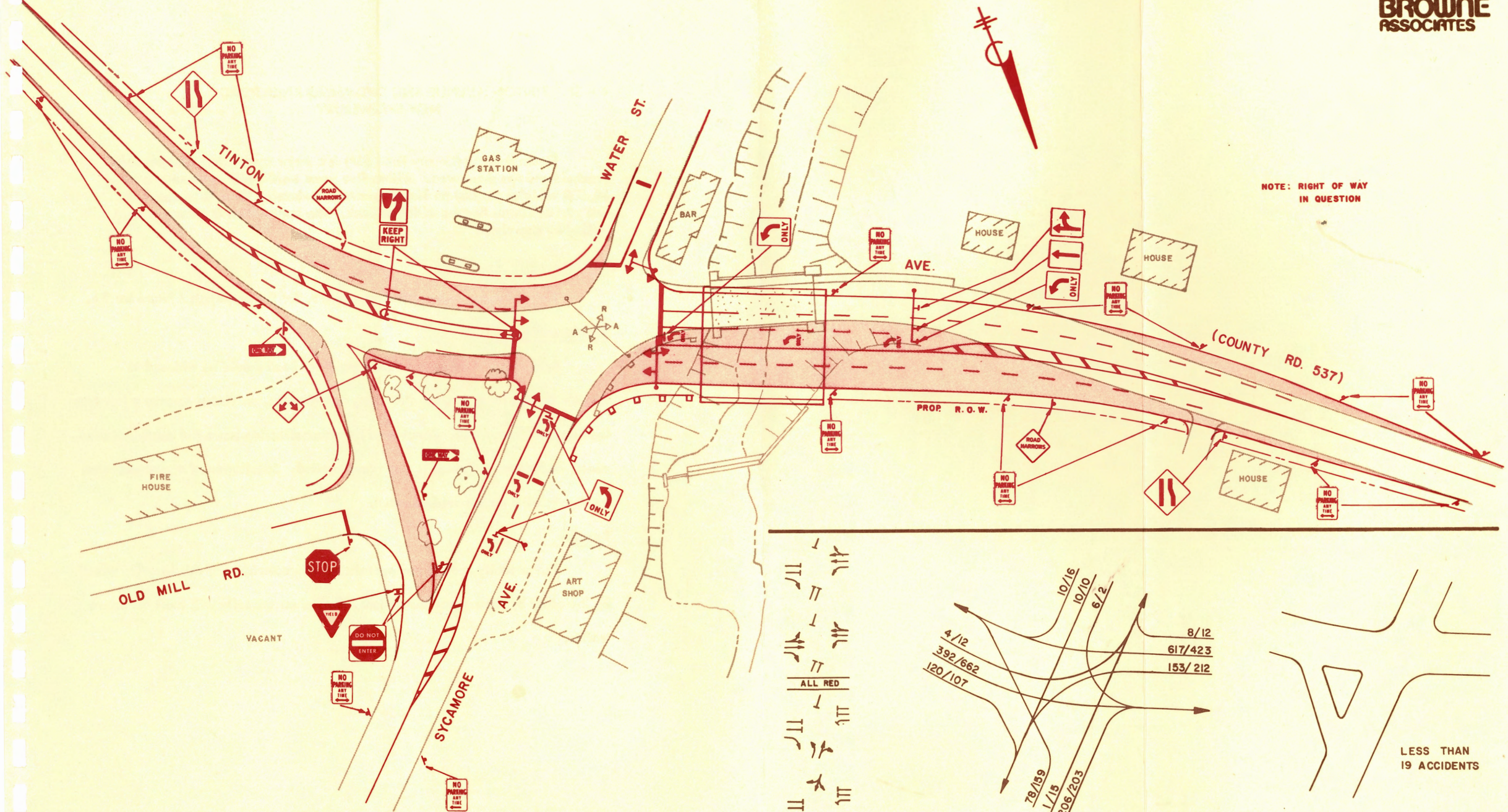
Widening and realignment of the approaches of Tinton Avenue is recommended to provide for two through lanes in each direction and a left turning lane for eastbound to northbound movements. This requires major reconstruction of the bridge on the eastbound approach. Modification to the roadway in front of the firehouse is also recommended to provide circulation from Old Mill Road. Conversion of the flasher signal to a semi-actuated traffic signal is also recommended.

Benefits

The widening and lane arrangements recommended above would provide capacity to meet anticipated future traffic growth. Modification to the signal system and the installation of channelization will increase the safety of this location.

RICHARD P. BROWNE ASSOCIATES

NOTE: RIGHT OF WAY IN QUESTION



PROPOSED SIGNAL SEQUENCE

PEAK HOUR VOLUME
7:15 – 8:15 AM./ 4:15 – 5:15 PM.

ACCIDENT SUMMARY – 3 YR. PERIOD

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-30

4 - 31 TINTON AVENUE AND SWIMMING RIVER ROAD NEW SHREWSBURY

Tinton Avenue (County Road 537) is a major connecting road between Freehold and the shore area. Within five years traffic will increase to over 26,000 vehicles per day on Tinton Avenue. Swimming River Road connects this part of Tinton Avenue with Red Bank. The intersection is presently controlled by stop signs.

Problems

Tinton Avenue lacks sufficient capacity for the anticipated future traffic.

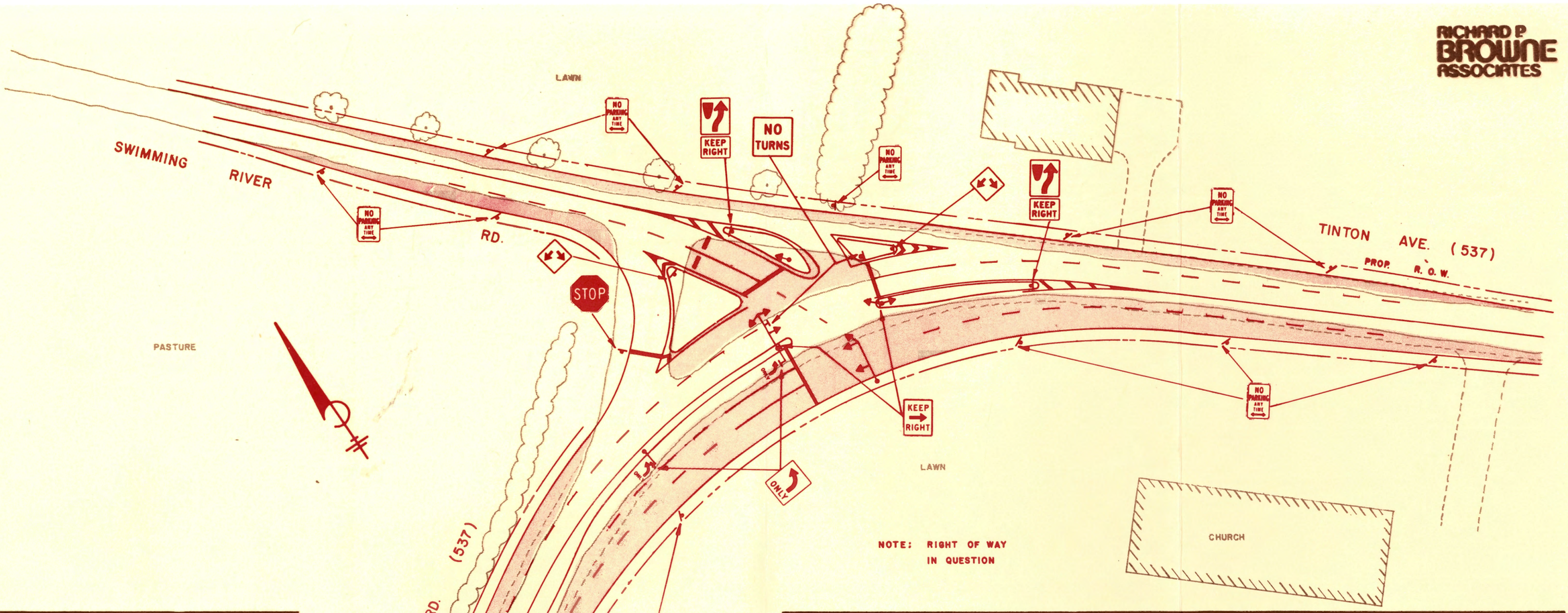
Recommendations

Both Tinton Avenue and Swimming River Road should be widened to provide for two lanes in each direction, additionally, on Tinton Avenue a left turn lane should be provided. Revision of the channelization lanes and construction of center medians as indicated is also recommended. Installation of a semi-actuated traffic signal is further recommended.

Benefits

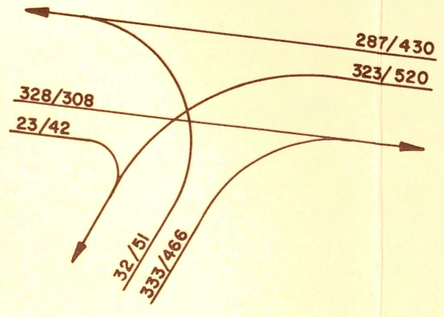
The capacity, safety and operational characteristics of this location would be increased by these recommendations. Sufficient capacity will exist for future traffic.

RICHARD P. BROWNE ASSOCIATES

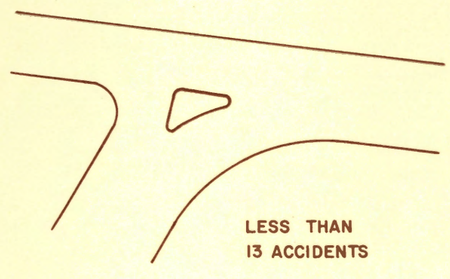


NOTE: RIGHT OF WAY IN QUESTION

PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
7:15 – 8:15 A.M. / 4:30 – 5:30 P.M.



LESS THAN
13 ACCIDENTS

ACCIDENT SUMMARY – 3 YR. PERIOD

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 4-31

REGION 5

REGION V - MONMOUTH COUNTY TOPICS

Regional Setting

Region V is made up of the Boroughs of Allenhurst, Interlaken, Neptune City, Deal, Bradley Beach, Avon-by-the-Sea, and the Townships of Ocean and Neptune, and the City of Asbury Park. Asbury Park has the highest population density of any city in the Monmouth County TOPICS Study area and consequently has the highest number of traffic problems. The region is bounded on the east by the Atlantic Ocean, on the north by Region III, on the west by Region IV and on the south by Region VI. The region is a combination of residential and commercial property with some light industry. There is also several large industrial units.

Federal-Aid System

The region is served by New Jersey Routes 33, 35 and 71. New Jersey Route 18 will have a significant influence on the region when completed. The Garden State Parkway presently has an influence though it does not pass directly through. Parkway interchanges are at New Jersey Route 33 and 66 and at Asbury Avenue. These roadways carry the largest portion of the traffic between the coast and the Garden State Parkway and are also loaded by north-south traffic using New Jersey Route 35.

PLATE 5 - 1 shows the Region V study system and the recommended Federal-Aid System. Selection procedures were in accordance with Federal Highway Administration PPM 21-18, May, 1972. The system is intended to provide the basis for present and future local traffic demands. The system mileage by type is listed in TABLE 5 - 1.

Bus and Rail Transportation

Region V is served by several bus companies and the New York and Long Branch Railroad as shown on PLATE 5 - 2.

Most of the bus service connects the region with employment centers in the New York Metropolitan area. Some local bus service is available however, along the coast.

The rail passenger service is primarily a commuter service to New York which carries standing room only loads on equipment badly in need of improvement. Rail passenger stations are located in Allenhurst, Asbury Park, Bradley Beach and Avon.

Accident Experience

The police departments in each of the municipalities of the region made accident records available for analysis. High accident locations along with computed

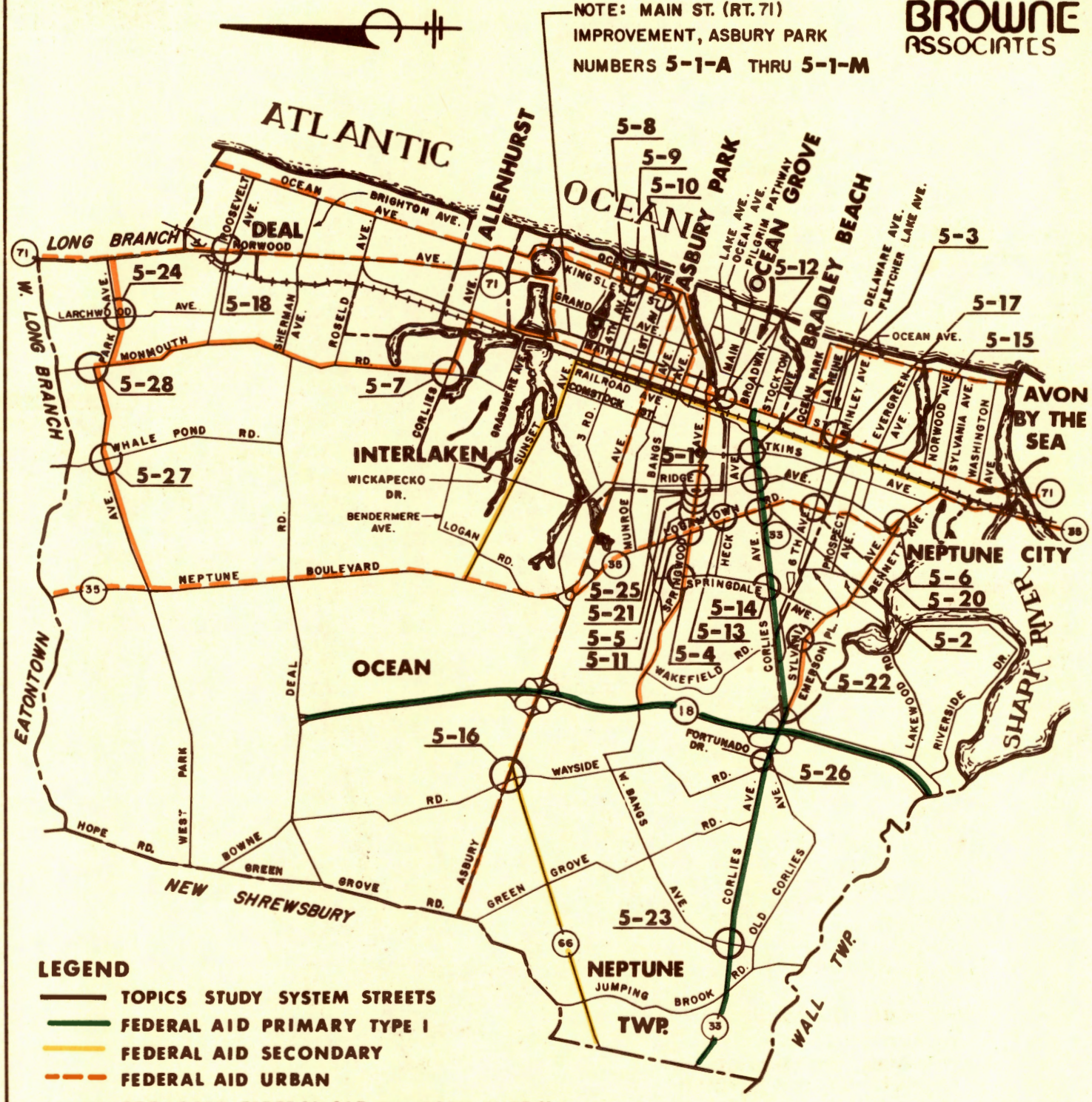
EXISTING AND PROPOSED FEDERAL-AID SYSTEMS MILEAGE TABLE 5 - 1

EXISTING	MILES
Federal Aid Urban	21.95
Federal Aid Primary Type I	8.17
Federal Aid Secondary	4.12
PROPOSED ADDITIONS	
Federal Aid Primary Type II	12.48

T-4001 (16)

RICHARD P BROWNE ASSOCIATES

NOTE: MAIN ST. (RT. 71) IMPROVEMENT, ASBURY PARK NUMBERS 5-1-A THRU 5-1-M



LEGEND

- TOPICS STUDY SYSTEM STREETS
- FEDERAL AID PRIMARY TYPE I
- FEDERAL AID SECONDARY
- FEDERAL AID URBAN
- PROPOSED FEDERAL AID PRIMARY TYPE II
- IMPROVEMENT LOCATION X-X

REGION V
STUDY SYSTEM
PROPOSED FEDERAL AID SYSTEM
IMPROVEMENT LOCATIONS

0 2000 4000

PLATE 5-1

T-4001 (16)

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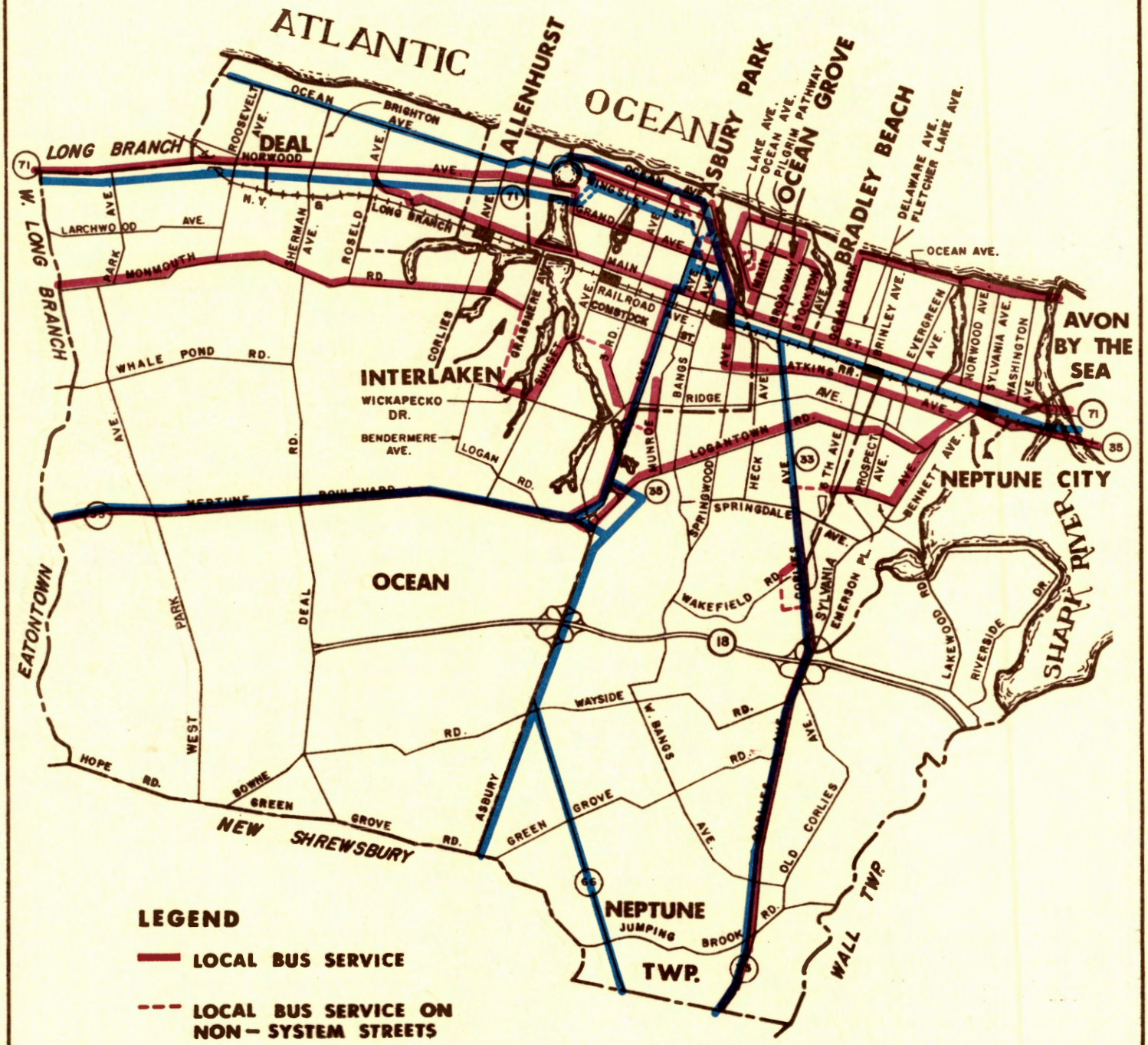

LEGEND

- LOCAL BUS SERVICE
- LOCAL BUS SERVICE ON NON-SYSTEM STREETS
- LONG DISTANCE BUS SERVICE
- LONG DISTANCE BUS SERVICE ON NON-SYSTEM STREETS
- BUS STATION
- TRAIN STATION

0 2000 4000

REGION V PUBLIC TRANSPORTATION

PLATE 5-2

accident rates are shown on PLATE 5 - 3 and summarized on TABLE5 - 2.

The intersection of Asbury Park and New Jersey Route 71 (Main Street) in Asbury Park is the highest accident location in this region. Operations at this location are complicated by a fire headquarters on the northeast corner which has driveways onto both streets. A rialroad grade crossing is located immediately to the west. This section of New Jersey Route 71 (Main Street) carries high traffic volumes on a roadway which is local in character. All side streets intersect Main Street, some with signals and some with stop sign control. Over a period of time local congestion has caused many of the side streets to be used as short cuts or relief roads. This has resulted in a succession of high volume intersections with no discernable functional street classification. In the section on system improvements later in this report, recommendations to correct these situations are made.

Speed and Delay

Speed and delay data was obtained in Region V through the use of a data compiler installed in a moving car. Data for on and off peak periods was analyzed and is presented on PLATE 5 - 4.

A considerable concentration of 5 - 19 miles per hour travel speeds can be noted in the downtown Asbury Park area, specifically on Asbury Avenue, Third Avenue, New Jersey Route 71 (Main Street) and Monroe Avenue. This is indicative of the high traffic volumes occurring on streets not designed to function as high volume roadways.

Traffic Volumes

Turning movement counts and automatic traffic recorder counts were made at various locations in the region. These were supplemented by traffic volume information supplied by the New Jersey Department of Transportation and the Monmouth County Engineer's Office. These were analyzed and the traffic volume map on PLATE 5 - 5 was developed. The information was further analyzed and projected into the future producing the volumes shown on PLATES 5 - 6 and 5 - 7 respectively.

Turning movement counts were used also to analyze capacity at various locations and determine level of service . Levels of service are shown on PLATE 5 - 8.

Traffic Signals

Existing and proposed traffic signals are shown on PLATE 5 - 9 . As mentioned above, increasing traffic volumes over the years cause many side streets to be used as relief roads when the main streets become congested. The side street intersections, carrying traffic not intended for them, soon become congested and produce accidents. To alleviate these accidents traffic signals were installed. Thus a traffic signal was located on every corner making progressive movement on the network difficult if not impossible.

ACCIDENT INFORMATION SUMMARY

TABLE 5 - 2

LOCATION	NUMBER OF ACCIDENTS*	ACCIDENT RATE**	PRIORITY INDEX
Asbury Ave. and Main St. (N.J. 71)	130	49.8	765
Corlies Ave. (N.J. 33), Broadway and Main St. (N.J. 71)	103	38.7	673
Corlies Ave. (N.J. 33) and Route 35	84	27.5	560
Cookman Ave. and Main St. (N.J. 71)	78	38.0	495
Lincoln Ave., Prospect Ave. and Springwood Ave.	72	70.0	465
Lake Ave., Main St. and Springwood Ave.	67	31.2	460
Asbury Ave., Bowne Rd. (N.J. Route 66) and Wayside Rd.	61	27.5	410
Atkins Ave. and Corlies Ave. (N.J. Route 33)	49	33.3	395
Bangs Ave. and Main St. (N.J. 71)	55	23.6	380
Fifth Ave. and Main St. (N.J. 71)	50	21.6	355
Main St. (N.J. 71) and Sunset Ave.	58	23.6	355
Springdale Ave. and Springwood Ave.	49	26.6	350
Drummond Ave. and Springwood Ave.	46	52.4	335
N.J. 35 and Springwood Ave.	45	18.8	330
Ridge Ave., N.J. 35 and Sylvania Ave.	43	13.0	320
Main Ave. and Main St. (N.J. 71)	42	17.5	315
Main St. (N.J. 71) and Summerfield Ave.	42	20.8	315
Norwood Ave. (N.J. 71) and Roosevelt Ave.	38	26.5	315
Corlies Ave. (N.J. 33) and Springdale Ave.	39	18.4	310
Brinley Ave. and Main St. (N.J. 71)	37	17.6	310
Ridge Ave. and Springwood Ave.	38	28.8	305
Atkins Ave. and Springwood Ave.	39	38.3	300
Corlies Ave. (N.J. 33) and Ridge Rd.	38	29.4	295
Monmouth Rd. and West Park Ave.	26	15.9	292
Main St. (N.J. 71) and Second Ave.	37	16.2	290
Main St. (N.J. 71) and Third Ave.	36	15.4	285
N.J. 35 and Sixth Ave.	36	15.2	285
Heck Ave. and N.J. 35	35	16.4	280
First Ave. and Main St. (N.J. 71)	35	13.8	280
Corlies Ave. (N.J. 33) and West Bangs Ave.	31	17.2	280
Corlies Ave. (N.J. 33), Schoolhouse Rd. and West Jumping Brook Rd.	34	17.4	275
Milton Ave. and N.J. 35	33	15.4	270
Corlies Ave. and Monmouth Rd.	32	21.5	265
Corlies Ave. (N.J. 33), Oxford Way and Sixth Ave.	32	15.5	265
Fourth Ave. and Main St. (N.J. 71)	31	12.9	260
Myrtle Ave. and Springwood Ave.	31	37.2	260
Lawrence Dr., Oxford Way and Sylvania Ave.	31	26.2	260

ACCIDENT INFORMATION SUMMARY (Continued)

TABLE 5 - 2

LOCATION	NUMBER OF ACCIDENTS*	ACCIDENT RATE**	PRIORITY INDEX
Larchwood Ave. and Park Ave.	30	52.3	255
LaRiene Ave. and Main St. (N.J. 71)	30	14.9	255
Fourth Ave. and Kingsley Ave.	29	44.9	250
Fisher Ave. and Springwood Ave.	29	33.0	250
Corlies Ave. (N.J. 33) and Fortunado Dr.	28	15.7	245
First Ave. and Kingsley Ave.	27	37.4	240
Grand Ave. and Sunset Ave.	23	30.2	240
Fourth Ave. and Ocean Ave.	27	37.4	240
First Ave. and Railroad Ave.	24	31.4	225
Asbury Ave. and Railroad Ave.	23	8.8	220
Main St. (N.J. 71) and Sylvania Ave.	19	11.3	220
Munroe Ave. and N.J. 35	23	10.8	220
Logan Rd. and Sunset Ave.	22	15.5	215
Ocean Ave. and Roosevelt Ave.	21	14.5	210
Grand Ave. and Summerfield Ave.	21	18.4	210
Fourth Ave. and Ridge Ave.	21	17.5	210
West Park Ave. and Whale Pond Rd.	21	15.6	210
Grand Ave. and Lake Ave.	20	22.4	205
Bangs Ave. and Railroad Ave.	19	26.9	200
Green Grove Rd. and N.J. 66	19	13.6	200
Comstock Ave. and Summerfield Ave.	19	30.2	200
Neptune Ave. and Sylvania Ave.	19	13.9	200
Main St. (N.J. 71) and McCabe Ave.	19	9.5	200
Corlies Ave. (N.J. 33) and Old Corlies Ave.	18	9.0	195
Laird Ave., N.J. 35 and Sylvania Ave.	17	8.1	190
Cedar Ave. and Ocean Ave.	15	12.8	180

*Per Three Years (1968-1970)
**Per Ten Million Vehicles

T-4001 (16)

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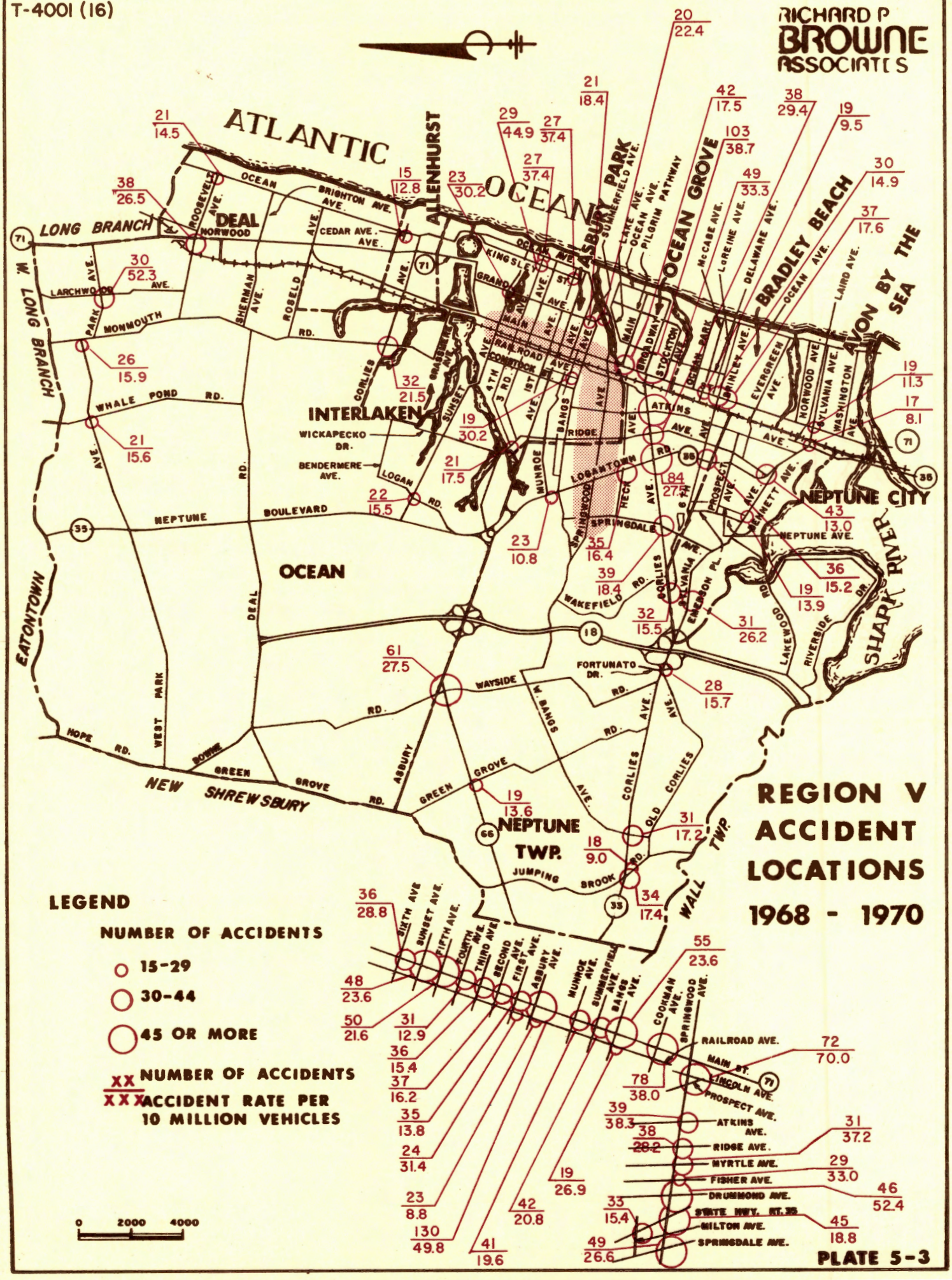

REGION V ACCIDENT LOCATIONS 1968 - 1970

LEGEND

NUMBER OF ACCIDENTS

- ○ 15-29
- ◯ 30-44
- ◯ 45 OR MORE

XX NUMBER OF ACCIDENTS

XXX ACCIDENT RATE PER 10 MILLION VEHICLES

PLATE 5-3

T-4001 (16)

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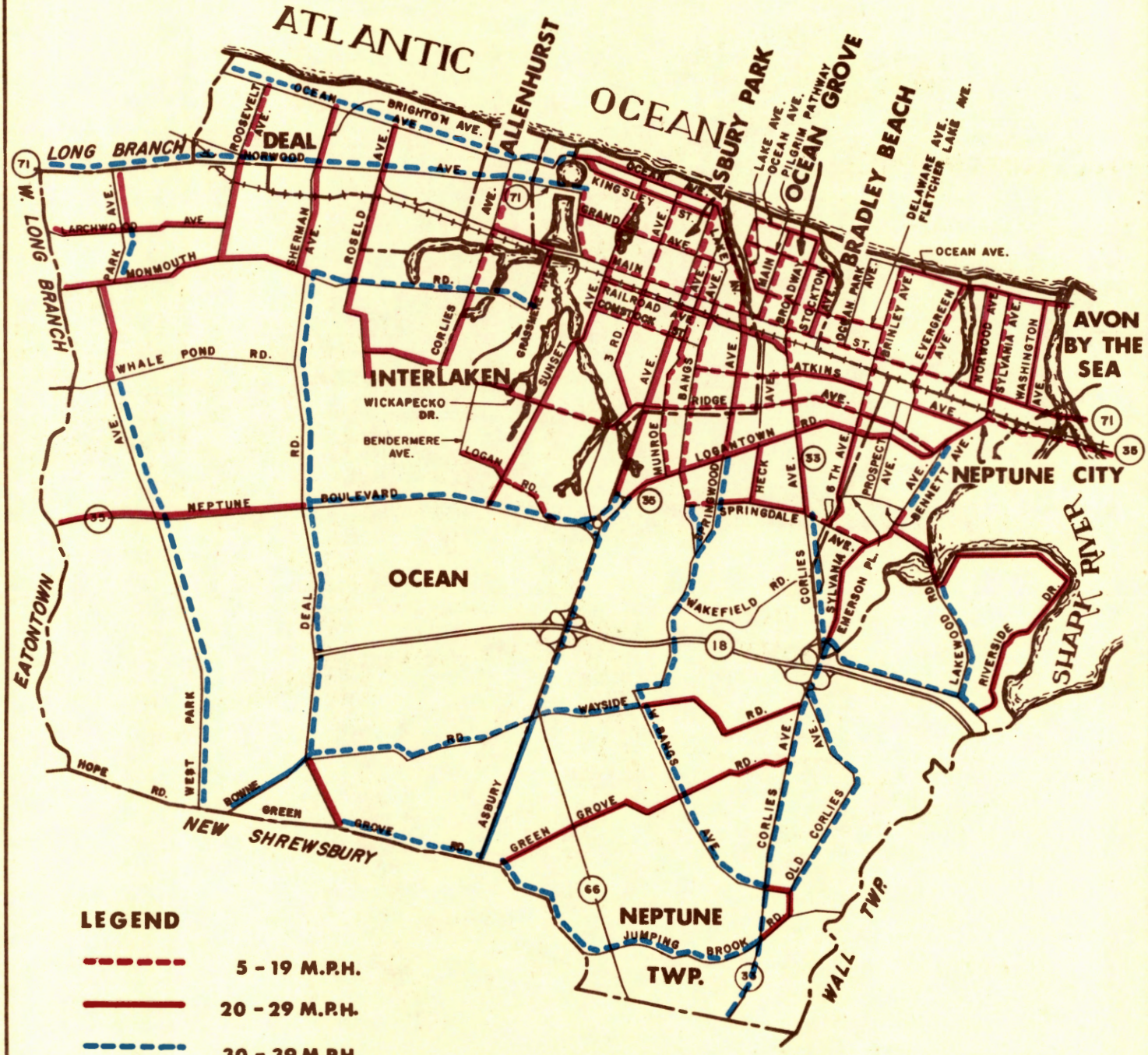

LEGEND

- 5 - 19 M.P.H.
- 20 - 29 M.P.H.
- 30 - 39 M.P.H.
- 40 - 50 M.P.H.

THESE SPEEDS REFLECT AN AVERAGE OF PEAK HOUR AND OFF PEAK HOUR CONDITIONS.

0 2000 4000

REGION V AVERAGE TRAVEL SPEEDS

PLATE 5-4

T-4001 (16)

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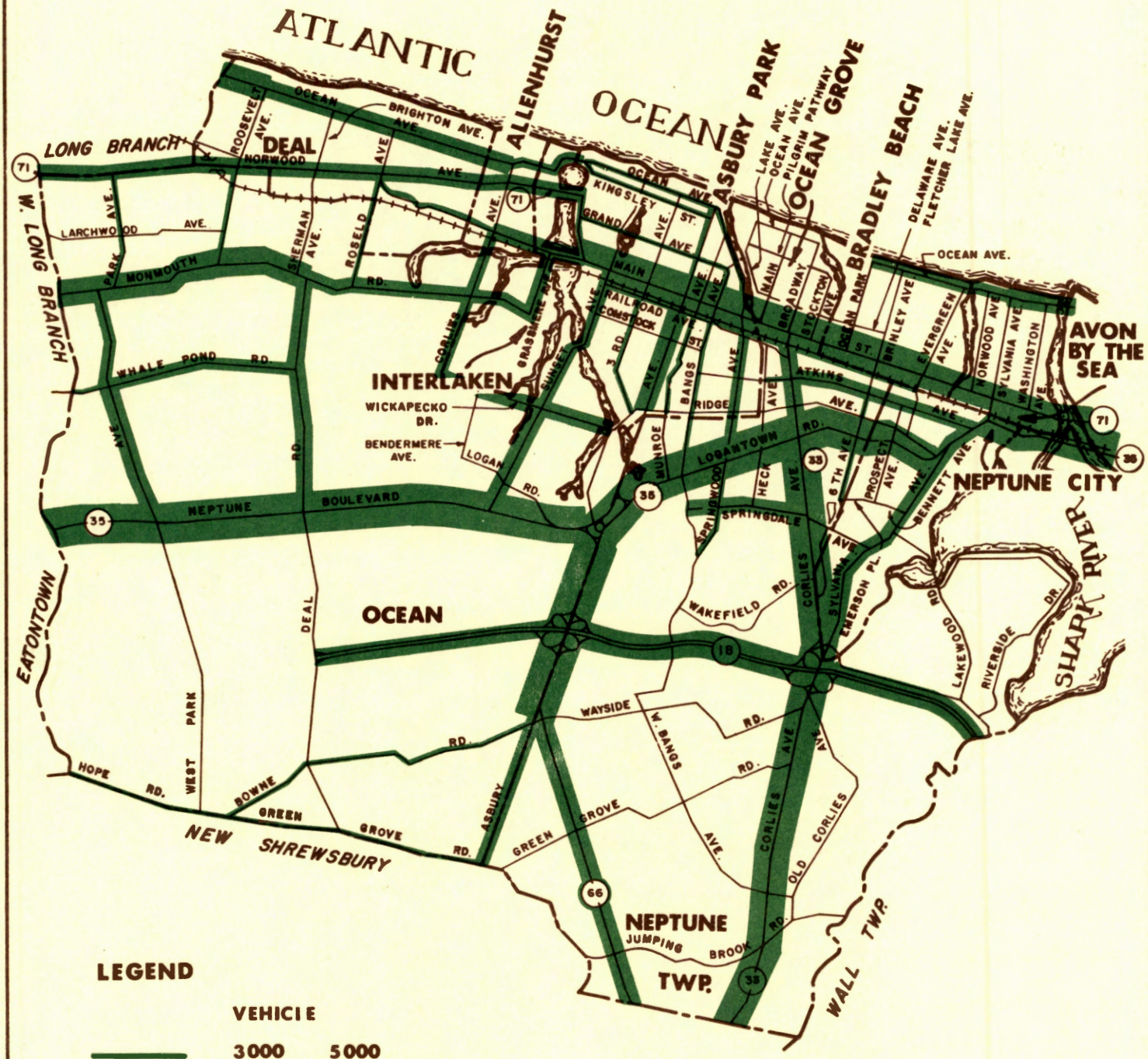


LEGEND

VEHICLE

3000	5000
5000	8000
8000	12000
12000	15000
15000 OR MORE	

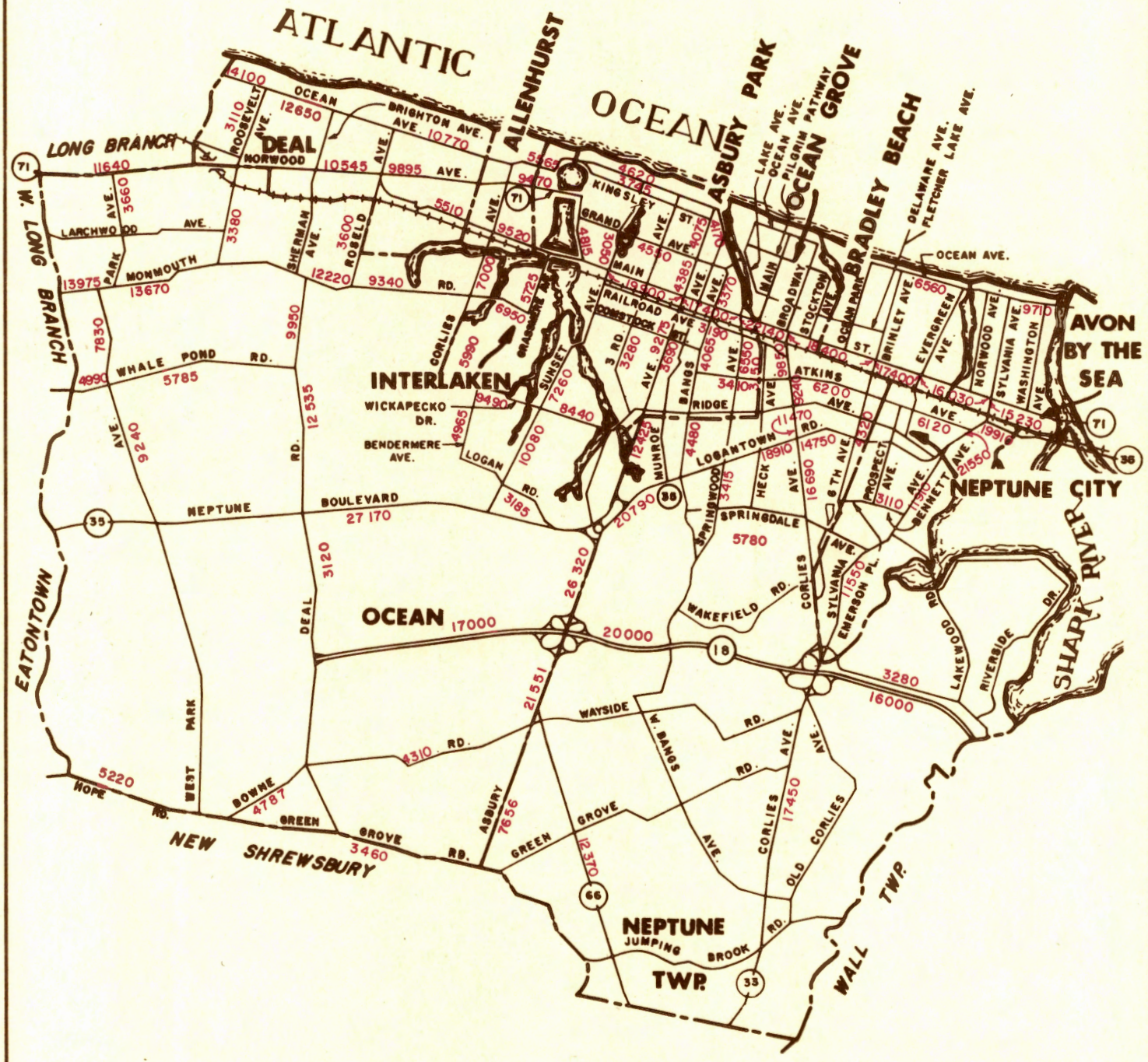
0 2000 4000

REGION V
1971
TRAFFIC VOLUMES
AVERAGE DAILY TRAFFIC

PLATE 5-5

T-4001 (16)

RICHARD P BROWNE ASSOCIATES



LEGEND

XXXX 1975

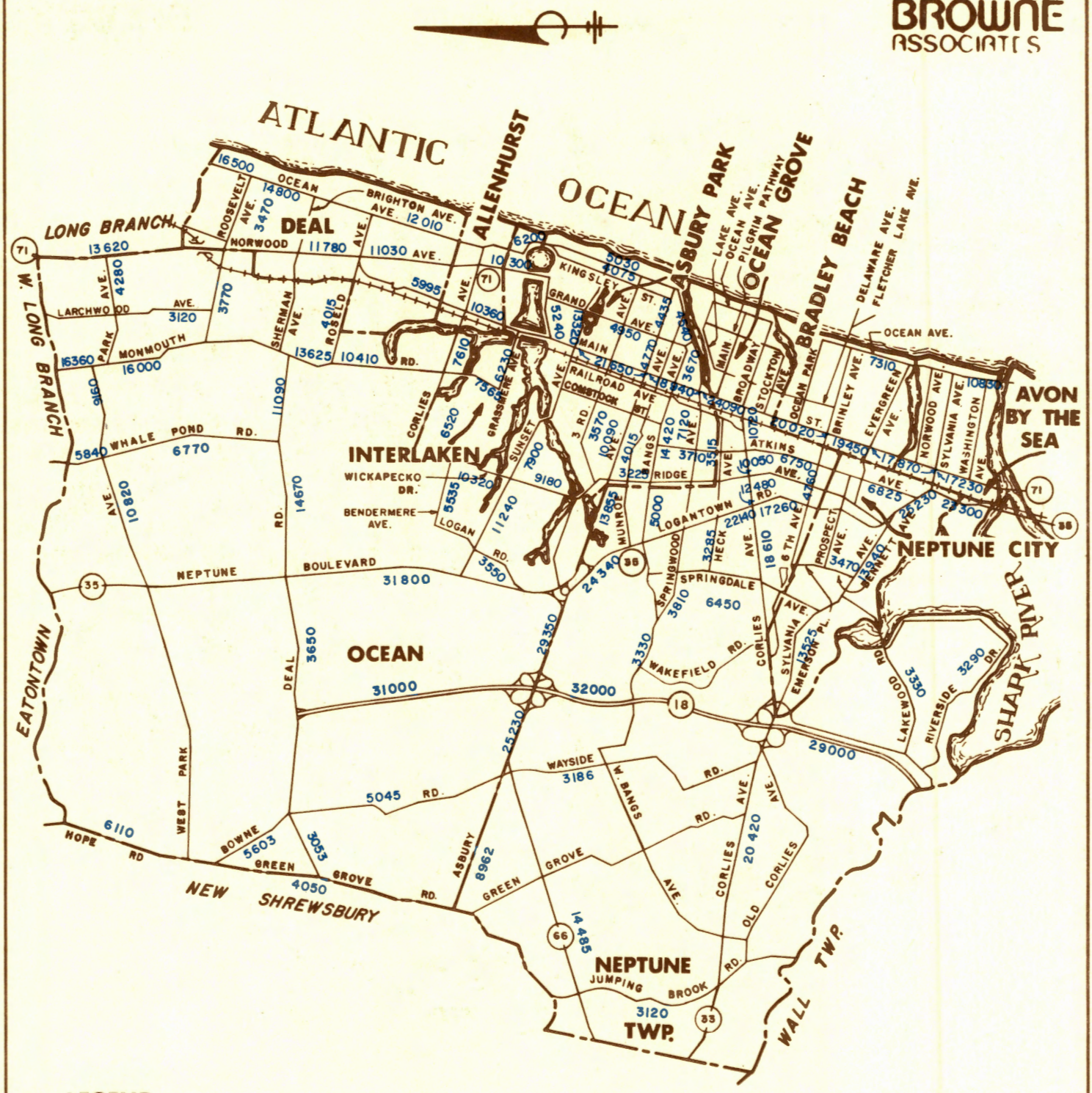
REGION V
1975
TRAFFIC VOLUMES

AVERAGE DAILY TRAFFIC

PLATE 5-6

T-4001 (16)

RICHARD P BROWNE ASSOCIATES



LEGEND

XXXX 1980

REGION V
1980
TRAFFIC VOLUMES

AVERAGE DAILY TRAFFIC

0 2000 4000

PLATE 5-7

T-4001 (16)

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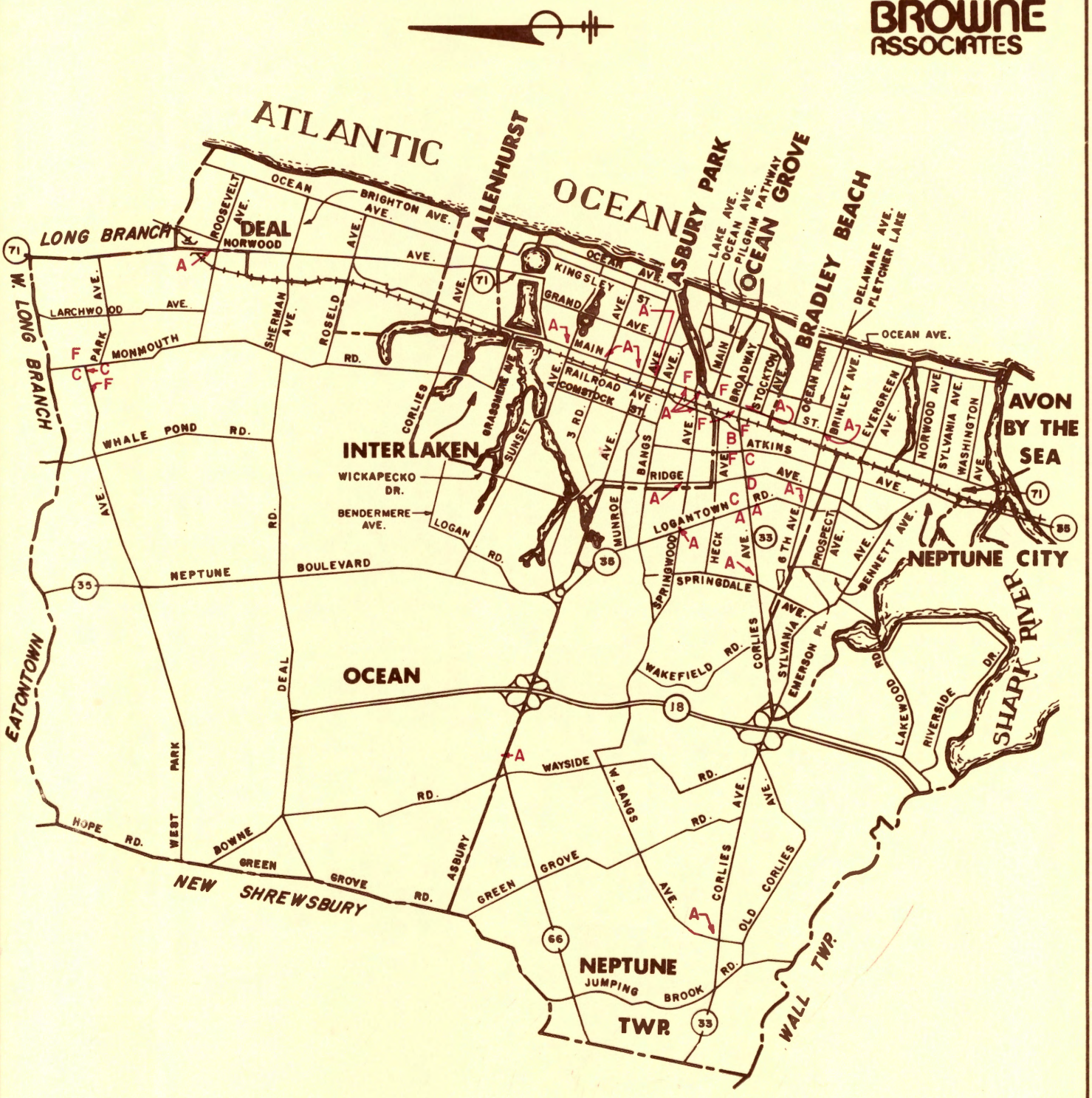

LEGEND

A – REPRESENTS LEVELS OF SERVICE

0 2000 4000

REGION V
LEVEL OF SERVICE

PLATE 5-8

EXISTING AND PROPOSED TRAFFIC SIGNALS

TABLE 5 - 3

LOCATION	MUNICIPALITY	OPERATION	RECOMMEN-DATION	N.J.D.O.T. APPROVED	WARRANT *
N.J. Route 33 and Springdale Ave.	Neptune Township	Semi-Actuated	Retain	Yes	1
Merritt, Sylvania Ave. and N.J. Route 35	Neptune City	Semi-Actuated	Install	Yes	1
N.J. Route 35 and Third Ave.	Neptune City	Semi-Actuated	Retain	Yes	2
N.J. Route 35 and Sixth Ave.	Neptune Township	Semi-Actuated	Retain	Yes	1
Atkins Ave. and N.J. Route 35	Neptune City	Semi-Actuated	Retain	Yes	1
N.J. Route 71 and Lincoln Ave.	Avon-by-the-Sea	Semi-Actuated	Retain	Yes	2
N.J. Route 71 and Sylvania Ave.	Avon-by-the-Sea	Semi-Actuated	Retain	Yes	2
N.J. Route 71 and Evergreen Ave.	Bradley Beach	Semi-Actuated	Retain	Yes	2
N.J. Route 33 and Oxford Way	Neptune Township	Semi-Actuated	Retain	Yes	2
Ridge Ave. and N.J. Route 33	Neptune Township	Flashing	Retain	Yes	-
Ridge Ave. and Springwood Ave.	Asbury Park	Fixed Time/ Semi-Actuated	Modify	No	6
Asbury Ave. and Ridge Ave.	Asbury Park	Fixed Time/ Semi-Actuated	Modify	No	2
Brinkley Ave. and N.J. Route 71	Bradley Beach	Semi-Actuated	Retain	Yes	2
Ocean Park Ave. and N.J. Rt.71	Bradley Beach	Semi-Actuated	Retain	Yes	2
LaReine Ave. and N.J. Route 71	Bradley Beach	Semi-Actuated	Remove	Yes	-
McCabe Ave. and N.J. Route 71	Bradley Beach	Semi-Actuated	Retain	Yes	2
N.J. Route 33 and Jumping Brook Road	Neptune Township	Semi-Actuated	Retain	Yes	2
N.J. Route 33 and West Bangs Avenue	Neptune Township	Semi-Actuated	Retain	Yes	2
Green Grove Road and N.J. Route 33	Neptune Township	Semi-Actuated	Retain	Yes	2
Jumping Brook Rd. and N.J. Route 66	Neptune Township	Flashing	Retain	Yes	2
Green Grove Rd. and N.J. Route 66	Neptune/Ocean Twps.	Semi-Actuated	Retain	Yes	2
N.J. Route 66 and Jughandle west of Route 18	Neptune/Ocean Twps.	Semi-Actuated	Retain	Yes	2

EXISTING AND PROPOSED TRAFFIC SIGNALS (Continued)

TABLE 5 - 3

LOCATION	MUNICIPALITY	OPERATION	RECOMMEN-DATION	N.J.D.O.T. APPROVED	WARRANT*
N.J. Route 66 and Jughandle east of Route 18	Neptune/Ocean Twps.	Semi-Actuated	Retain	Yes	2
N.J. Route 35 and Sunset Avenue	Ocean Township	Semi-Actuated	Retain	Yes	2
Deal Road and N.J. Route 35	Ocean Township	Semi-Actuated	Retain	Yes	2
West Park Ave. and N.J. Rt.35	Ocean Township	Semi-Actuated	Retain	Yes	2
West Park Ave. and Whale Pond Rd.	Ocean Township	Semi-Actuated	Install	No	6
West Park Ave. and Monmouth Rd.	Ocean Township	Semi-Actuated	Retain	Yes	1
West Park Ave. and Larchwood Rd.	Ocean Township	Flashing	Install	No	
Norwood Ave. and Roosevelt Ave.	Deal	Semi-Actuated	Retain	No	2
Norwood Ave. and Roseld Ave.	Deal	Semi-Actuated	Retain	No	2
Main St. and Corlies Ave.	Allenhurst	Fixed Time	Retain	Yes	1
Brighton, Sylvania Ave. and N.J. Route 33	Neptune City	Fixed Time/ Semi-Actuated	Modify	Yes	1
Springdale Ave. and Springwood Avenue	Neptune Township	Flasher	Install	Yes	1
Drummond Ave. and Springwood Avenue	Neptune Township	Flasher	Install	No	
N.J. Route 35 and Munroe Ave.	Neptune Township	Semi-Actuated	Retain	Yes	2
N.J. Route 35 and Springwood Ave Avenue	Neptune Township	Semi-Actuated	Retain	Yes	2
N.J. Route 33 and N.J. Route 35	Neptune Township	Semi-Actuated/ Fully-Actuated	Modify	Yes	1
Corlies Ave. and Monmouth Rd.	Ocean Township	Flashing/Semi-Act.	Modify	Yes	6
Asbury Ave. and Comstock Ave.	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Asbury Ave. and Pine St.	Asbury Park	Fixed Time/ Semi-Actuated	Modify	No	5
N.J. Route 71 and Main Ave.	Ocean Grove	Semi-Actuated	Retain	Yes	2
N.J. Route 71 and Corlies Ave.	Neptune Township	Semi-Actuated	Retain	Yes	1
Atkins Ave. and Corlies Ave.	Neptune Township	Fixed-Time/ Semi-Actuated	Modify	No	1

EXISTING AND PROPOSED TRAFFIC SIGNALS (Continued)

TABLE 5 - 3

LOCATION	MUNICIPALITY	OPERATION	RECOMMEN-DATION	N.J.D.O.T. APPROVED	WARRANT*
Asbury Avenue and Prospect Ave.	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Asbury Avenue and Central Ave.	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Ocean Avenue and Seventh Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Ocean Avenue and Sunset Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Ocean Avenue and Fifth Avenue	Asbury Park	Fixed Time	Remove	No	
Ocean Avenue and Fourth Avenue	Asbury Park	Fixed-Time	Remove	No	
Ocean Avenue and Third Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Ocean Avenue and Second Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Ocean Avenue and First Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Ocean Avenue and Asbury Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Lake Avenue and Kingsley Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Asbury Avenue and Kingsley Ave.	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Kingsley Ave. and First Ave.	Asbury Park	Fixed-Time	Remove	No	
Kingsley Ave. and Second Ave.	Asbury Park	Fixed-Time	Remove	No	
Kingsley Ave. and Third Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Kingsley Ave. and Fourth Ave.	Asbury Park	Fixed-Time	Remove	No	
Kingsley Ave. and Sunset Ave.	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Kingsley Ave. and Sixth Ave.	Asbury Park	Fixed-Time	Remove	No	
Kingsley Ave. and Seventh Ave.	Asbury Park	Fixed-Time	Remove	No	

T-4001 (16)

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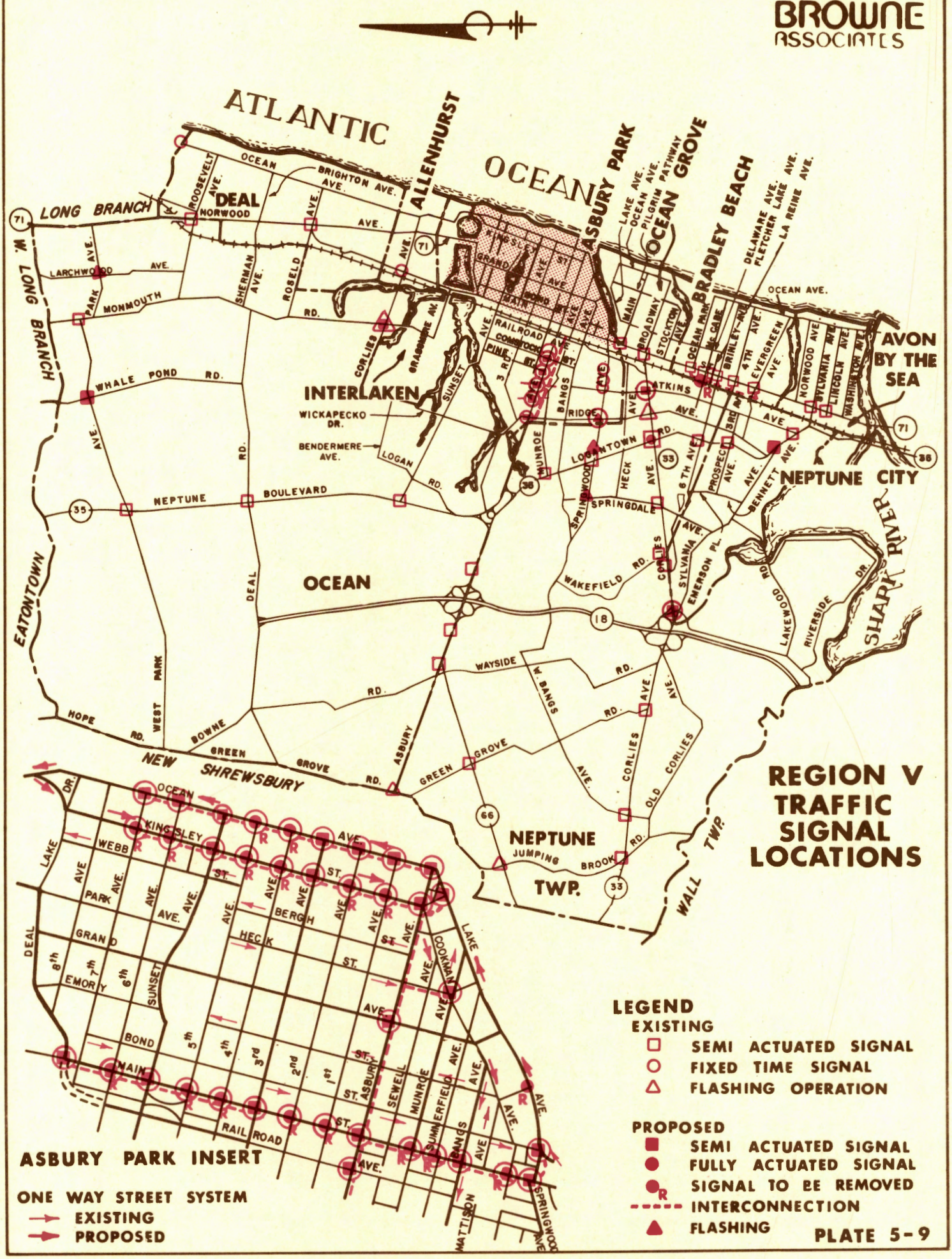


REGION V TRAFFIC SIGNAL LOCATIONS

LEGEND

EXISTING
- SEMI ACTUATED SIGNAL
- FIXED TIME SIGNAL
- FLASHING OPERATION

PROPOSED
- SEMI ACTUATED SIGNAL
- FULLY ACTUATED SIGNAL
- SIGNAL TO BE REMOVED
- INTERCONNECTION
- FLASHING

ONE WAY STREET SYSTEM
- EXISTING
- PROPOSED

PLATE 5-9

EXISTING AND PROPOSED TRAFFIC SIGNALS (Continued)

TABLE 5 - 3

LOCATION	MUNICIPALITY	OPERATION	RECOMMEN-DATION	N.J.D.O.T. APPROVED	WARRANT*
Munroe Ave. and Cookman Ave.	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Grand Ave. and Asbury Ave.	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	5
Main Street and Deal Lake Drive	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	Yes	1
Main Street and Sixth Avenue	Asbury Park	Fixed-Time	Remove	Yes	
Main Street and Sunset Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	Yes	1
Main Street and Fifth Avenue	Asbury Park	Fixed-Time	Remove	Yes	
Main Street and Fourth Avenue	Asbury Park	Fixed-Time	Remove	Yes	
Main Street and Third Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	Yes	1
Main Street and Second Avenue	Asbury Park	Fixed-Time	Remove	Yes	
Main Street and First Avenue	Asbury Park	Fixed-Time	Remove	Yes	
Asbury Avenue and Main Street	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	Yes	1
Asbury Avenue and Railroad Ave.	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	1
Main Street and Munroe Avenue	Asbury Park	Fixed-Time	Remove	Yes	
Main Street and Summerfield Ave.	Asbury Park	Fixed-Time	Remove	Yes	
Main Street and Bangs Avenue	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	Yes	1
Main Street and Cookman Ave.	Asbury Park	Fixed-Time	Remove	Yes	
Main Street and Springwood Ave.	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	Yes	1
Lake Avenue and Boulevard	Asbury Park	Fixed-Time/ Semi-Actuated	Modify	No	1
Kingsley Avenue and Fifth Ave.	Asbury Park	Fixed-Time	Remove	No	

* Numbers shown refer to warrant numbers 1 through 8 as contained in the Manual on Uniform Traffic Control Devices.

The removal of a considerable number of signals is noteworthy. Other improvements, intended to reduce the need for these signals, are recommended in this report. Interconnection of several groups of signals is also recommended in order to produce reliable signal progression where possible.

It should be noted that some of the remianing signals on Ocean Avenue in Asbury Park are primarily warranted by existing or anticipated pedestrian volumes. These pedestrian crossing volumes are due to the fact that Ocean Avenue separates the Broadwalk generators from the parking supply and residential parts of the City. TABLE 5 - 3 lists all signals on the recommended Federal-Aid System along with recommendations and warrants. These warrants are contained in the "Manual on Uniform Traffic Control Devices" as listed below:

Warrant 1: Minimum Vehicular Volume
Warrant 2: Interruption of Continuous Traffic
Warrant 3: Minimum Pedestrian Volume
Warrant 4: School Crossing
Warrant 5: Progressive Movement
Warrant 6: Accident Experience
Warrant 7: Systems Warrant
Warrant 8: Combination of Warrants

Intersection Improvements

Recommended improvements for individual intersections are shown on the following pages of this report. The relative location in the region is indicated on PLATE 5 - 1. TABLE 5 - 4 lists the improvement locations by year of construction and gives cost estimates.

Systems Improvements

One-Way System

Kingsley Avenue and Ocean Avenue in Asbury Park presently operate as a one-way pair during certain months of the year. It is recommended that these two roadways be made one-way for the entire year. This will reduce vehicle conflicts for the entire year and allow for the establishment of dependable consistent traffic control devices. It is further recommended that the Kingsley Avenue one-way be continued along Cookman Avenue and then Bangs Avenue to New Jersey Route 71 (Main Street) and that the Ocean Avenue one-way be extended back along Lake Avenue to New Jersey Route 71 (Main Street). This system improvement will have the effect of creating a high volume feeder system between New Jersey Route 71 (Main Street) and the beachfront commercial area. It will also provide needed capacity between New Jersey Route 71 (Main Street) and the downtown central business district.

Asbury Avenue has insufficient capacity to handle anticipated traffic and that this overflow will have to be accommodated by parallel roadways. It is recom-

mended initially that traffic signals along Springwood Avenue between New Jersey Routes 35 and 71 be timed to provide primarily an inbound traffic progression towards the ocean, at the expense of outbound movement. Similarly it is recommended that Bangs Avenue traffic signals be timed to provide primarly an outbound progression at the expense of inbound movement. This procedure will provide a pair of roadways which will favor traffic flow in opposite directions and still allow local two-way circulation. Anticipated traffic growth indicates that these two roadways will have to be made completely one-way during 1976.

Main Street Improvement

Main Street (New Jersey Route 71) as it passes through Asbury Park is a major north-south roadway and is also a key commercial roadway for business fronting it. The conflict between these two functions presently prevents this roadway from providing good service for either function. It is recommended that a strip improvement be made on Main Street starting at Deal Lake Drive at the north end and terminating just south of Springwood Avenue on the south end. This improvement would provide for a 14 foot raised median running down the center of the roadway with openings for turning movements only at key intersections with cross streets on the functional roadway network. At these locations special left turning lanes with special signals arrangements as required would be provided. Functional cross streets would be Sunset Avenue, Third Avenue, Asbury Avenue, Bangs Avenue, and Springwood Avenue. The raised median would prevent movements across Main Street at any other locations. This recommendation would allow for the removal of nine existing traffic signals thus making signal progression possible.

This plan calls for the removal of parking on both sides of Main Street in the area previously described. Parking replacement will be discussed in the appropriate section of this report. Design recommendations typical of this strip improvement are included at the various point location improvements later in this report.

Functional Roadway Network

The implementation of the median improvement laong Main Street will create the intended functional roadway network for Asbury Park. The establishment of this functional roadway network will allow for the removal of signals on Grand Avenue, Kingsley Avenue and Ocean Avenue. Traffic signal system modifications have been covered in the traffic signal section of this report.

Parking Replacement Program

In general, considerable use of the roadway is made by parked vehicles. These vehicles conflict with moving traffic and at a number of locations some or all parking was removed to facilitate engineering improvements. The implementation of the Main Street strip improvement requires the removal of a sufficient amount of parking replacement in off street facilities. The Main Street strip improvement requires the removal of 343 parking places from Main Street and from the approaches to Main Street. A minimum amount of available land exists on which to place off street parking which has been removed. In order to replace as much of the removed parking as possible two locations were selected and recommended as replacement

IMPROVEMENT PROJECT SEQUENCE AND FINANCIAL PROGRAM

TABLE 5 - 4

REGION V

YEAR	LOCATION	MUNICIPALITY	IMPROVEMENT NUMBER	ESTIMATED COST
1973	Main St. (Rt. 71) and Deal Lake Dr.	Asbury Park	5 - 1A	$175,000.
	Main St. (Rt. 71) and Sunset Ave.	Asbury Park	5 - 1B	40,000.
	Main St. (Rt. 71) and Fifth Ave.	Asbury Park	5 - 1C	13,000.
	Main St. (Rt. 71) and Fourth Ave.	Asbury Park	5 - 1D	14,600.
	Main St. (Rt. 71) and Third Ave.	Asbury Park	5 - 1E	35,500.
	Main St. (Rt. 71) and Second Ave.	Asbury Park	5 - 1F	13,300.
	Main St. (Rt. 71) and First Ave.	Asbury Park	5 - 1G	13,200.
	Main St. (Rt. 71) and Asbury Ave.	Asbury Park	5 - 1H	40,000.
	Main St. (Rt. 71) and Monroe Ave.	Asbury Park	5 - 1I	13,500.
	Main St. (Rt. 71) and Summerfield Ave.	Asbury Park	5 - 1J	13,800.
	Main St. (Rt. 71) and Bangs Ave.	Asbury Park	5 -1K	25,000.
	Main St. (Rt. 71) and Cookman Ave.	Asbury Park	5 - 1L	15,000.
	Main St. (Rt. 71) Lake Ave., and Springwood Ave.	Asbury Park	5 - 1M	37,500.
	Corlies Ave. (Rt. 33) and Route 35	Neptune Township	5 - 2	40,000.
	Atkins Ave. and Corlies Ave. (Rt. 33)	Neptune Township	5 - 3	35,000.
	Springdale Ave. and Springwood Ave.	Neptune Township	5 - 4	34,000.
	Springwood Ave. and Drummond Ave.	Neptune Township	5 - 5	10,000.
	Route 35 and Sylvania Ave.	Neptune City	5 - 6	59,000.
	Corlies Ave. (Rt. 33) and Monmouth Road	Ocean Township	5 - 7	25,000.
	Kingsley Ave. and Fourth Ave.	Asbury Park	5 - 8	10,000.
	Ocean Ave. and Fourth Ave.	Asbury Park	5 - 9	10,000.
	First Ave. and Kingsley Ave.	Asbury Park	5 - 10	10,000.
	Corlies Avenue and N.Y. & L.B. Railroad Crossing	Neptune	5 - 29	85,000.
1974	Route 35 and Springwood Ave.	Neptune Township	5 - 11	20,000.
	Main St. (Rt. 71), Main St. and Boulevard	Neptune Twp./ Ocean Grove	5 - 12	38,500.
	Heck Ave. and Route 35	Neptune Township	5 - 13	5,000.
	Corlies Ave. (Rt.33) and Springdale Ave.	Neptune Township	5 - 14	35,500.
	Corlies Ave. (Rt. 33) and Ridge Ave.	Neptune Township	5 - 15	20,000.
	Asbury Ave. and Route 66	Neptune Township	5 - 16	25,000.
	Brinley Ave. and Main St. (Rt. 71)	Bradley Beach	5 - 17	20,000.
	Norwood Ave. (Rt. 71) and Roosevelt Ave.	Deal	5 - 18	35,000.
	Ridge Ave. and Springwood Ave.	Asbury Park	5 - 19	20,000.

IMPROVEMENT PROJECT SEQUENCE AND FINANCIAL PROGRAM

TABLE 5 - 4

REGION V (Continued)

YEAR	LOCATION	MUNICIPALITY	IMPROVEMENT NUMBER	ESTIMATED COST
1975	Route 35 and Sixth Avenue	Neptune Township	5 - 20	$30,000.
	Springwood Avenue and Fischer Avenue	Neptune Township	5 - 21	3,000.
	Sylvania Avenue and Oxford Way	Neptune City	5 - 22	20,000.
	Corlies Avenue (Rt.33) and West Bangs Avenue	Neptune Township	5 - 23	42,000.
	Larchwood Avenue and Park Avenue	Ocean Township	5 - 24	10,000.
	Myrtle Avenue and Springwood Avenue	Neptune Township	5 - 25	5,000.
	Corlies Avenue (Rt.33) and Fortunado Drive	Neptune Township	5 - 26	15,000.
	West Park Avenue and Whalepond Road	Ocean Township	5 - 27	20,000.
	Monmouth Road and West Park Avenue	Ocean Township	5 - 28	25,000.

locations. At present a vacant area is located between Fifth Avenue and Sunset Avenue on the west side of Main Street. This location would accommodate approximately 150 vehicles and is recommended as the off street parking replacement location for all parking removed in connection with the Main Street strip improvement north of Second Avenue. A parking lot presently exists between Cookman Avenue and Bangs Avenue on the west side of Main Street. It is recommended that this parking lot be expanded by construction of a second deck to provide off street parking places for those parking places removed in connection with the Main Street strip improvement from Second Avenue south to the Asbury Park line. It is recognized that these proposals will provide for an additional 84 spaces above those required to replace curb parking which is to be removed. TOPICS funds should be utilized to construct only the 246 spaces actually being removed with the money for the 84 spaces provided by other sources.

Maintenance

The maintenance of traffic control devices, in good operating condition and appearance is most important if they are to command the respect that is necessary to insure good driving habits. Signal maintenance becomes a difficult problem when a particular municipality is too small to support a separate maintenance unit. Since most of the traffic signals in the region are on roadways under state jurisdiction, the state maintains them. It is suggested that the remaining signals in operation in the region, be maintained by the county or on a contract or agreement basis with an outside contractor. Signs and pavement markings should also be maintained in a similar manner.

At all improvement locations, recommendations for traffic signs and pavement markings are in accordance with the requirements as defined in the current Manual on Uniform Traffic Control Devices.

Evaluation

In order to identify locations where traffic operational improvements are required, use was made of accident experience, average travel speeds on routes, congestion and delay at intersections, and the level of service provided. To measure the success of this program requires an in depth analysis of traffic conditions before and after implementation. This study provides the necessary data to evaluate a location as it now exists before the operational improvements have been implemented. Some additional speed and delay runs can be conducted to increase the reliability of our sample but other than this the necessary information has been inventoried.

After a reasonable period of time has elapsed, similar studies regarding accident experience, speed and delay runs and locations of congestion and delay can be conducted along selected routes where early implementation projects have been completed. Comparison of traffic conditions before and after improvement should be made to insure that the desired benefits are being achieved.

REGION 5 INTERSECTION IMPROVEMENTS

Improvement Number	Location	Municipality	Page No.
5-1A	Railroad Avenue Extension to Main Street (N.J. Route 71) and Deal Lake Drive	Asbury Park	5 - 26
5-1B	Main Street (N.J. Route 71) and Sunset Avenue	Asbury Park	5 - 28
5-1C	Main Avenue (N.J. Route 71) and Fifth Avenue	Asbury Park	5 - 30
5-1D	Main Street (N.J. Route 71) and Fourth Avenue	Asbury Park	5 - 32
5-1E	Main Street (N.J. Route 71) and Third Avenue	Asbury Park	5 - 34
5-1F	Main Street (N.J. Route 71) and Second Avenue	Asbury Park	5 - 36
5-1G	Main Street (N.J. Route 71) and First Avenue	Asbury Park	5 - 38
5-1H	Main Street (N.J. Route 71) and Asbury Avenue	Asbury Park	5 - 40
5-1I	Main Street (N.J. Route 71) and Munroe Avenue	Asbury Park	5 - 42
5-1J	Main Street (N.J. Route 71) and Summerfield Avenue	Asbury Park	5 - 44
5-1K	Main Street (N.J. Route 71) and Bangs Avenue	Asbury Park	5 - 46
5-1L	Main Street (N.J. Route 71) and Cookman Avenue	Asbury Park	5 - 48
5-1M	Main Street (N.J. Route 71) and Springwood Avenue and Lake Avenue	Asbury Park	5 - 50
5-2	N.J. Route 33 (Corlies Avenue and N.J. Route 35	Neptune	5 - 52
5-3	Atkins Avenue and Corlies Avenue (N.J. Route 33)	Neptune	5 - 54
5-4	Springdale Avenue and Springwood Avenue	Neptune	5 - 56
5-5	Springwood Avenue and Drummond Avenue	Neptune	5 - 58
5-6	N.J. Route 35 and Sylvania Avenue at Merritt Avenue	Neptune City	5 - 60
5-7	Monmouth Road and Corlies Avenue	Ocean	5 - 62

Region 5 Intersection Improvements
Continued

Improvement Number	Location	Municipality	Page No.
5-8	Fourth Avenue and Kingsley Avenue	Asbury Park	5 - 64
5-9	Ocean Avenue and Fourth Avenue	Asbury Park	5 - 66
5-10	First Avenue and Kingsley Avenue	Asbury Park	5 - 68
5-11	N.J. Route 35 and Springwood Avenue	Neptune	5 - 70
5-12	N.J. Route 71 (Main Street) and Main Avenue	Neptune/ Ocean Grove	5 - 72
5-13	N.J. Route 35 and Heck Avenue	Neptune	5 - 74
5-14	Corlies Avenue (N.J. Route 33) and Springdale Avenue	Neptune	5 - 76
5-15	N.J. Route 33 and Ridge Avenue	Neptune	5 - 78
5-16	N.J. Route 66 and Asbury Avenue	Neptune	5 - 80
5-17	Main Street (N.J. Route 71) and Brinley Avenue	Bradley Beach	5 - 82
5-18	Norwood Avenue (N.J. Route 71) and Roosevelt Avenue	Deal	5 - 84
5-19	Springwood Avenue and Ridge Road	Asbury Park	5 - 86
5-20	N.J. Route 35 and Sixth Avenue	Neptune	5 - 88
5-21	Springwood Avenue and Fischer Avenue	Neptune	5 - 90
5-22	Sylvania Avenue at Lawrence Drive and Oxford Way	Neptune	5 - 92
5-23	N.J. Route 33 and West Bangs Avenue	Neptune	5 - 94
5-24	Larchwood Avenue and Park Avenue	Ocean	5 - 96
5-25	Springwood Avenue and Myrtle Avenue	Neptune	5 - 98
5-26	N.J. Route 33 and Fortunado Avenue	Neptune	5 - 100
5-27	Whalepond Road and West Park Avenue	Ocean	5 - 102
5-28	Monmouth Road and West Park Avenue	Ocean	5 - 104

LEGEND FOR IMPROVEMENTS



EXISTING SIGNAL HEAD



PROPOSED SIGNAL HEAD



EXISTING STANCHION, PROPOSED SIGNAL HEAD

THUS: ONLY OPEN SIGNAL HEADS OR STANCHIONS INDICATE AN EXISTING CONDITION. SOLID SIGNAL HEADS OR STANCHIONS INDICATE A PROPOSED CONDITION.



ROADWAY WIDENING

RIGHT OF WAY



BUILDING LINE

SIGN POST

GUARD RAIL



SIGNAL DETECTOR



PEDESTRIAN HEAD

NOTE: DARK LINES INDICATE PROPOSED CONDITIONS. SCREENED OR LIGHT LINES INDICATE EXISTING CONDITIONS.

5 - 1A RAILROAD AVENUE EXTENSION TO MAIN STREET (N.J. ROUTE 71) AND DEAL LAKE DRIVE ASBURY PARK

Main Street experiences very high traffic volumes and acute congestion throughout the day. Railraod Avenue parallels Main Street and has the potential to function as a relief route for Main Street. However, it does not have a direct connection with Main Street at its northern terminal. Traffic is forced to jog via Drury Lane to get to Main Street and Route 71.

Problems

Main Street has insufficient roadway widths to handle anticipated future traffic demands. There is no direct connection from the northern terminus of Railroad Avenue to Main Street consequently, traffic must use Drury Lane. If Railroad Avenue is to expect to function as a relief route for Main Street then an adequate connection must be made with Main Street.

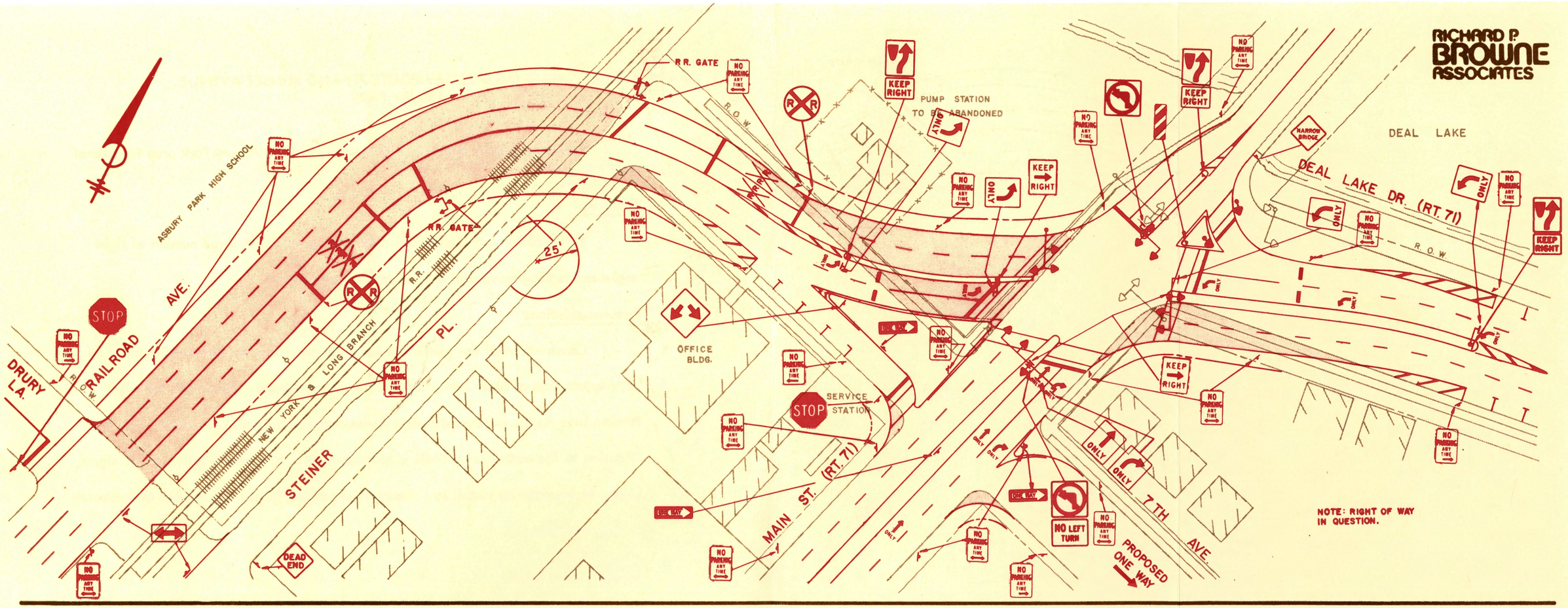
Recommendations

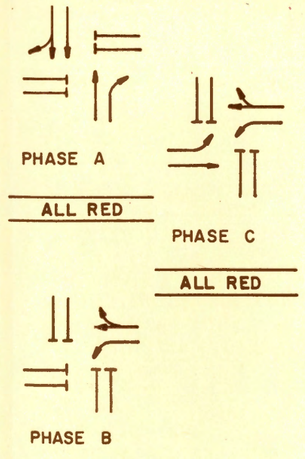
Construction of the connection between Main Street and Railroad Avenue at Drury Lane is recommended to provide for a connecting roadway to divert traffic from Main Street to Railroad Avenue. Modification of the intersection layout of Main Street and Deal Lake Drive is also recommended, as indicated on the concept plan. It is also recommended that Drury Lane be closed to traffic between Railroad Avenue and Steiner Place and that Steiner Place be made a dead end street.

Benefits

The presence of this connection at the northern terminus of Railroad Avenue will allow for through movements on Main Street to bypass Main Street in Asbury Park and avoid present congestion and anticipated future delays due to the commercial development along Main Street in Asbury Park. Main Street will be allowed to function as the major access roadway for destinations within Asbury Park.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.





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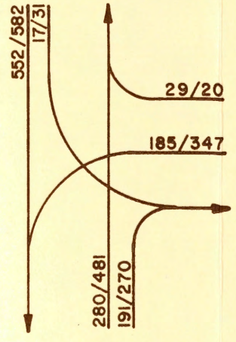


PEAK HOUR VOLUME
8:30 - 9:30 A.M. / 4:30 - 5:30 P.M.

NO DIAGRAM

8 ACCIDENTS - 3 YR. PERIOD
DEAL LAKE DR. & ROUTE 71

0 60 120
Scale: 1" = 60'

PROPOSED IMPROVEMENT 5-1-A

5 - 1B MAIN STREET (NEW JERSEY ROUTE 71) AND SUNSET AVENUE ASBURY PARK

Sunset Avenue is a major street on the proposed Asbury Park area functional roadway system.

Problems

This location has inadequate curb turning radii. A large number of right angle and turning movement accidents are experienced.

Recommendations

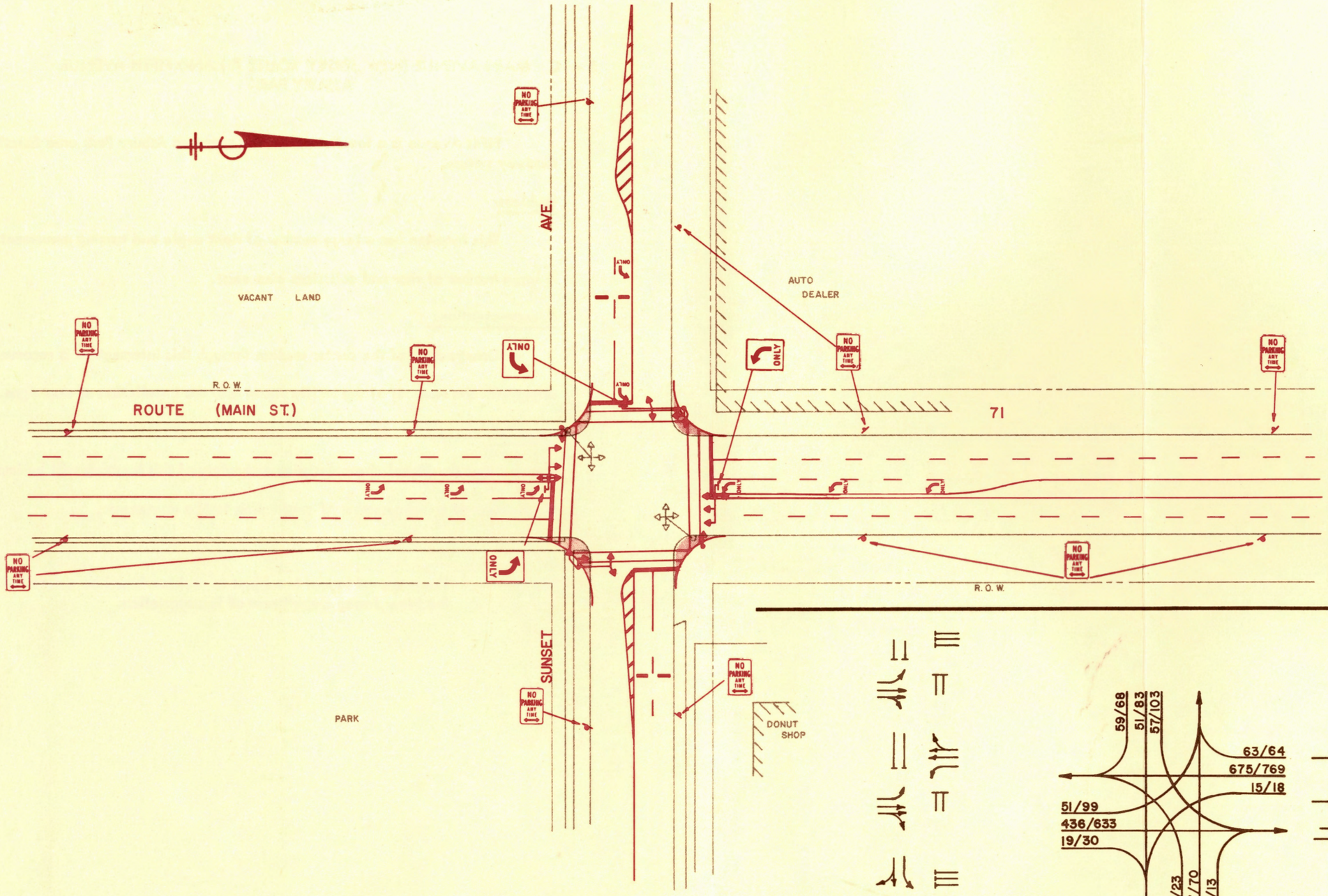
Construction of the center median with provisions for left turning lanes on both approaches of New Jersey Route 71 is recommended. Provisions for a left turning lane on the eastbound Sunset Avenue approach is also recommended. Modification to the curb turning radii is recommended. Also modification to the signal layout to increase its visibility. Removal of parking on the approaches as indicated is also recommended.

Benefits

The capacity, safety and operational characteristics of this location will be improved by these recommendations. Capacity improvements will provide for anticipated traffic volume growth.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES



PROPOSED SIGNAL SEQUENCE

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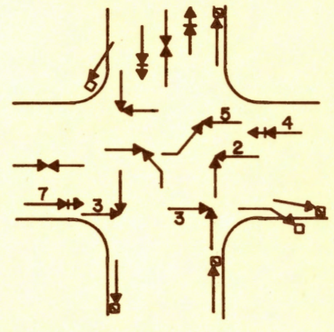


ACCIDENT SUMMARY - 3 YR. PERIOD
12 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-1-B

5 - 1C MAIN AVENUE (NEW JERSEY ROUTE 71) AND FIFTH AVENUE ASBURY PARK

Fifth Avenue is a local street on the proposed Asbury Park area functional roadway system.

Problems

This location has a large number of right angle and turning movement accidents. A large number of rear end collisions also exist.

Recommendations

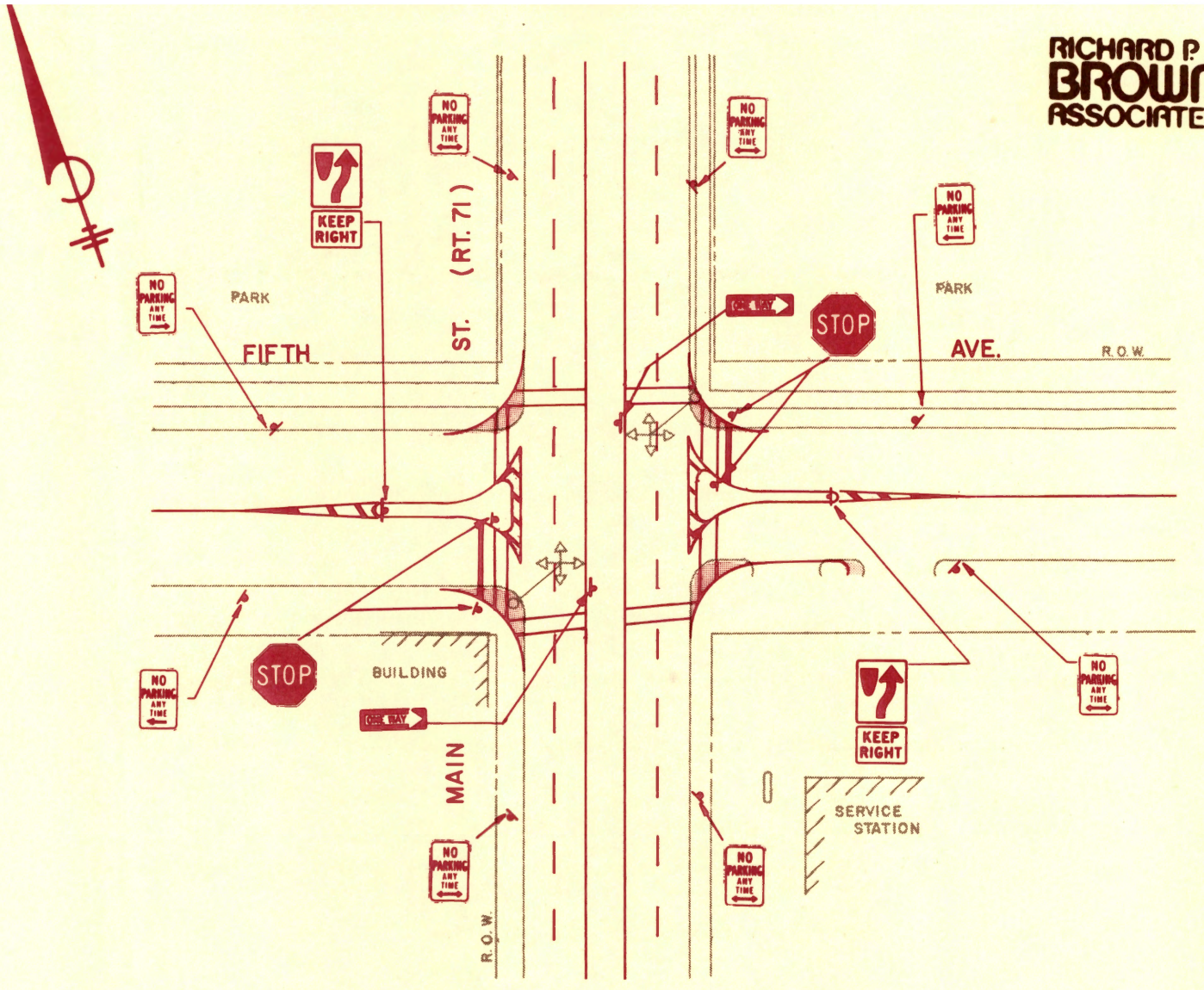
Construction of the center median through this intersection is recommended along with the removal of the traffic signal and the installation of stop signs.

Benefits

The operational characteristics and safety of this location will be improved by the removal of a large number of conflicting traffic movements.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES



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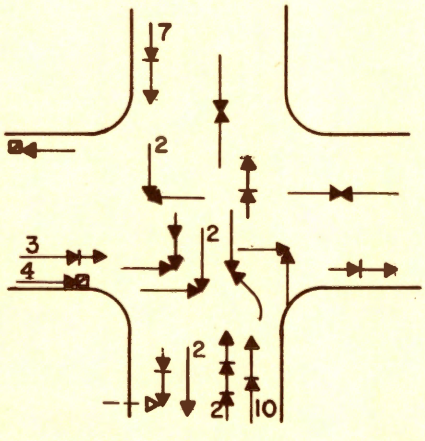


ACCIDENT SUMMARY - 3 YR. PERIOD
9 NOT SHOWN

0 60 120

Scale: 1"- 60'

PROPOSED IMPROVEMENT 5-1-C

5 - 1D MAIN STREET (NEW JERSEY ROUTE 71) AND FOURTH AVENUE ASBURY PARK

Fourth Avenue is a local street on the proposed Asbury Park area functional roadway system.

Problems

This location has a considerable number of right angle and turning movement accidents along with a considerable number of rear end collisions.

Recommendations

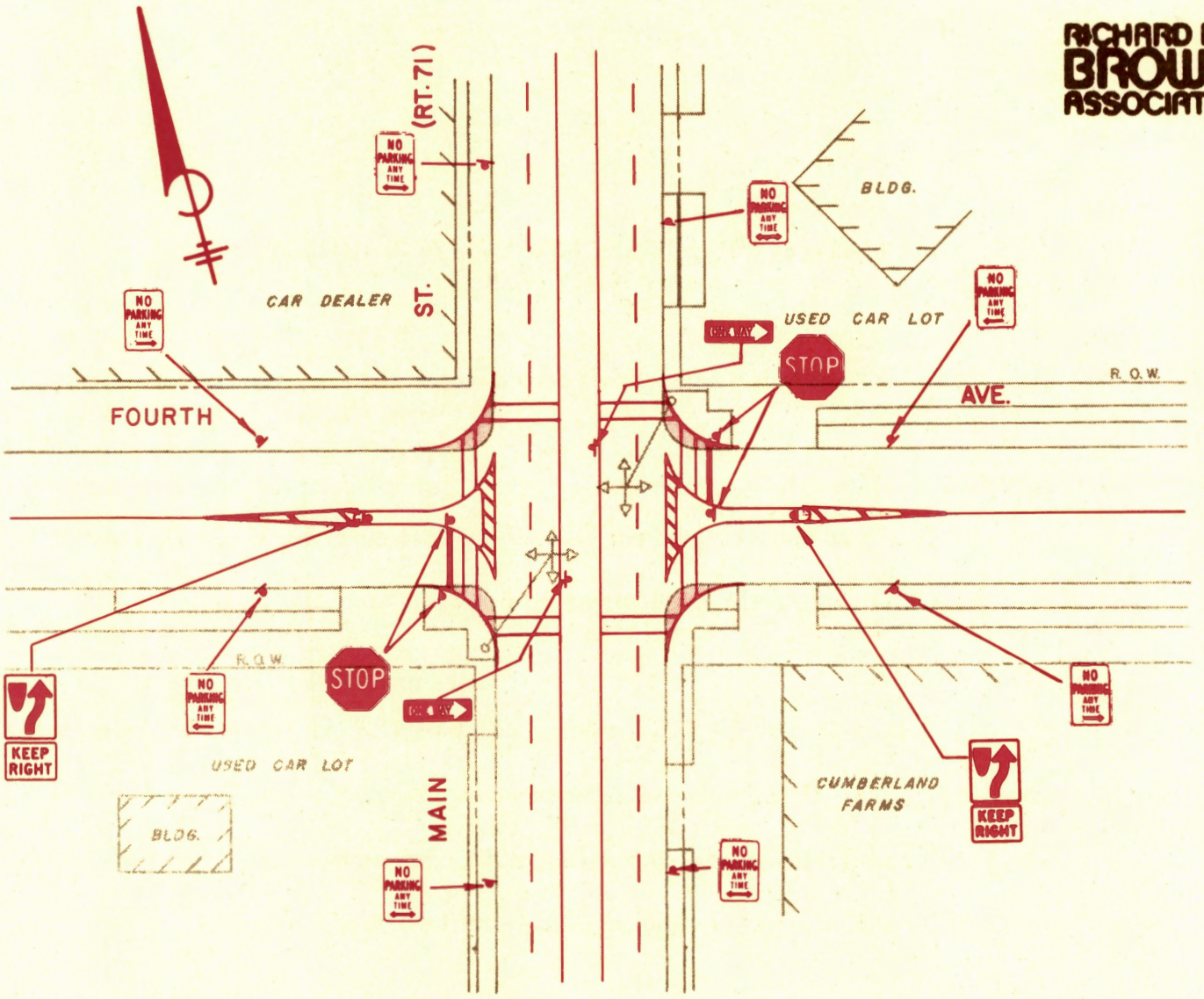
Construction of the center median through this intersection is recommended along with removal of the signal and installation of stop sign control. Removal of parking on the approaches as indicated is also recommended.

Benefits

The safety and operational characteristics of this location will be improved by the removal of a large number of vehicle conflicts.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES



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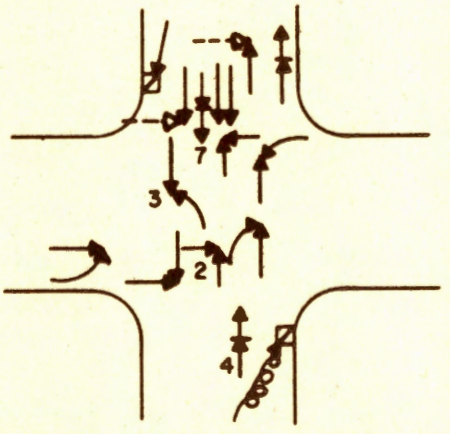


ACCIDENT SUMMARY – 3 YR. PERIOD
4 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 5-1-D

5 - 1E MAIN STREET (NEW JERSEY ROUTE 71) AND THIRD AVENUE ASBURY PARK

Third Avenue is a major street on the proposed Asbury Park area functional roadway system.

Problems

This location has a high anticipated traffic demand and a considerable number of right angle and turning movement accidents are experienced.

Recommendations

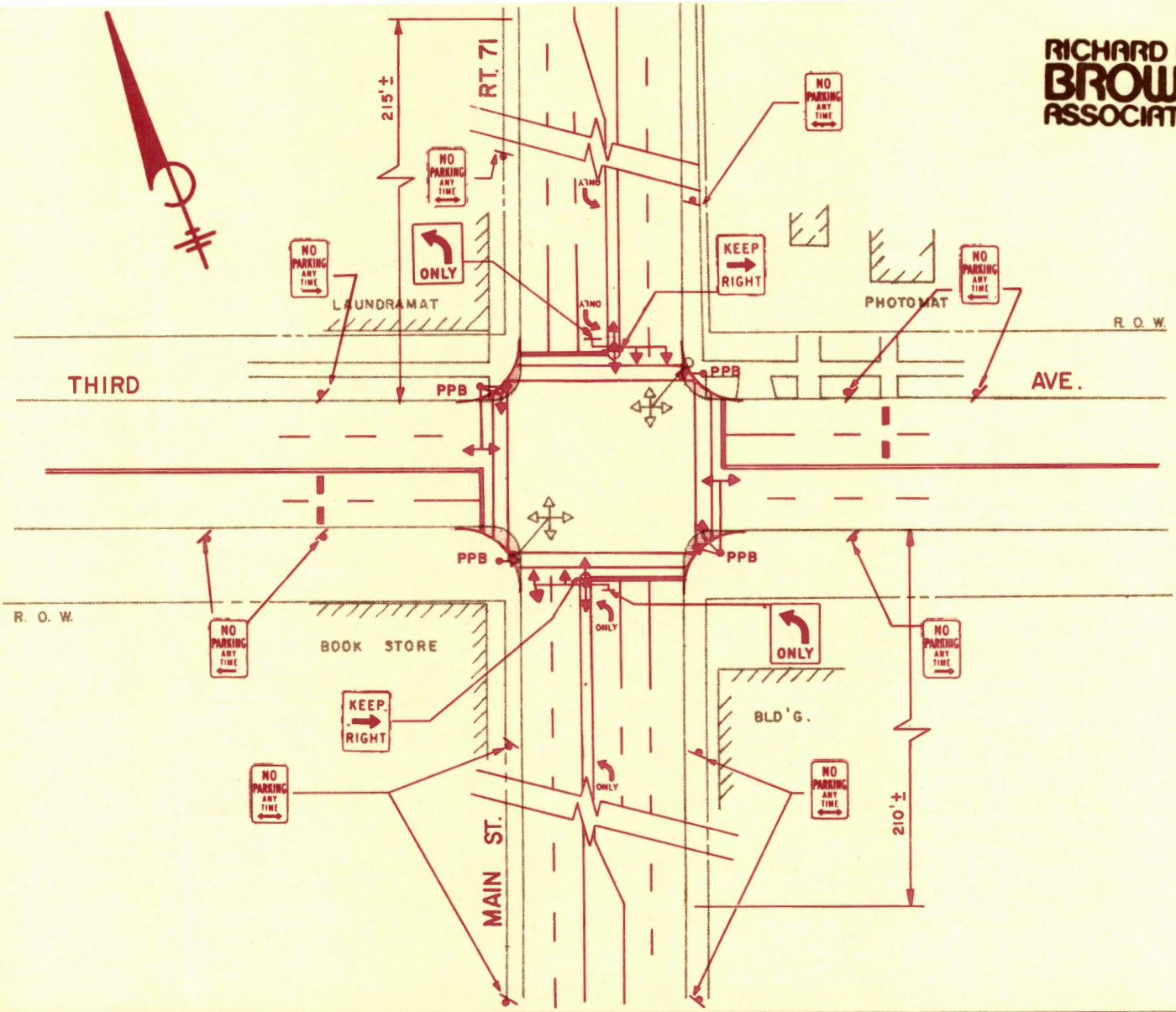
Construction of the center median with provisions for left turning lanes on the New Jersey Route 71 approaches is recommended. Removal of parking is also recommended along with modification of the curb turning radii. Revise the signal layout to increase its visibility and convert the signal to a semi-traffic-actuated operation.

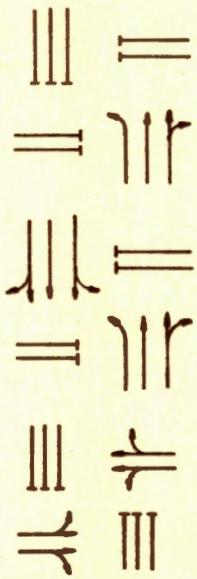
Benefits

The safety and operational characteristics of this location will be improved by the removal of a large number of vehicle conflicts.

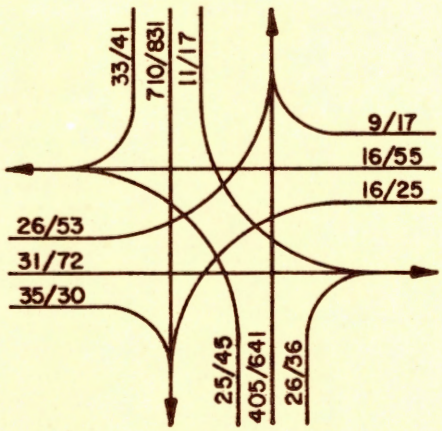
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

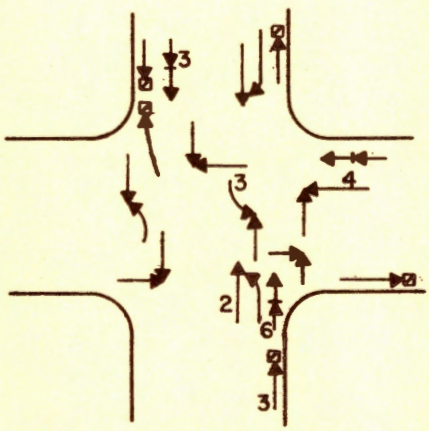




PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
8:15–9:15 A.M./4:30–5:30 P.M.



ACCIDENT SUMMARY - 3 YEAR PERIOD
5 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-1-E

5 - 1F MAIN STREET (NEW JERSEY ROUTE 71) AND SECOND AVENUE ASBURY PARK

Second Avenue is a local street on the proposed Asbury Park area functional roadway system.

Problems

This location has a considerable number of right angle and turning movement accidents.

Recommendations

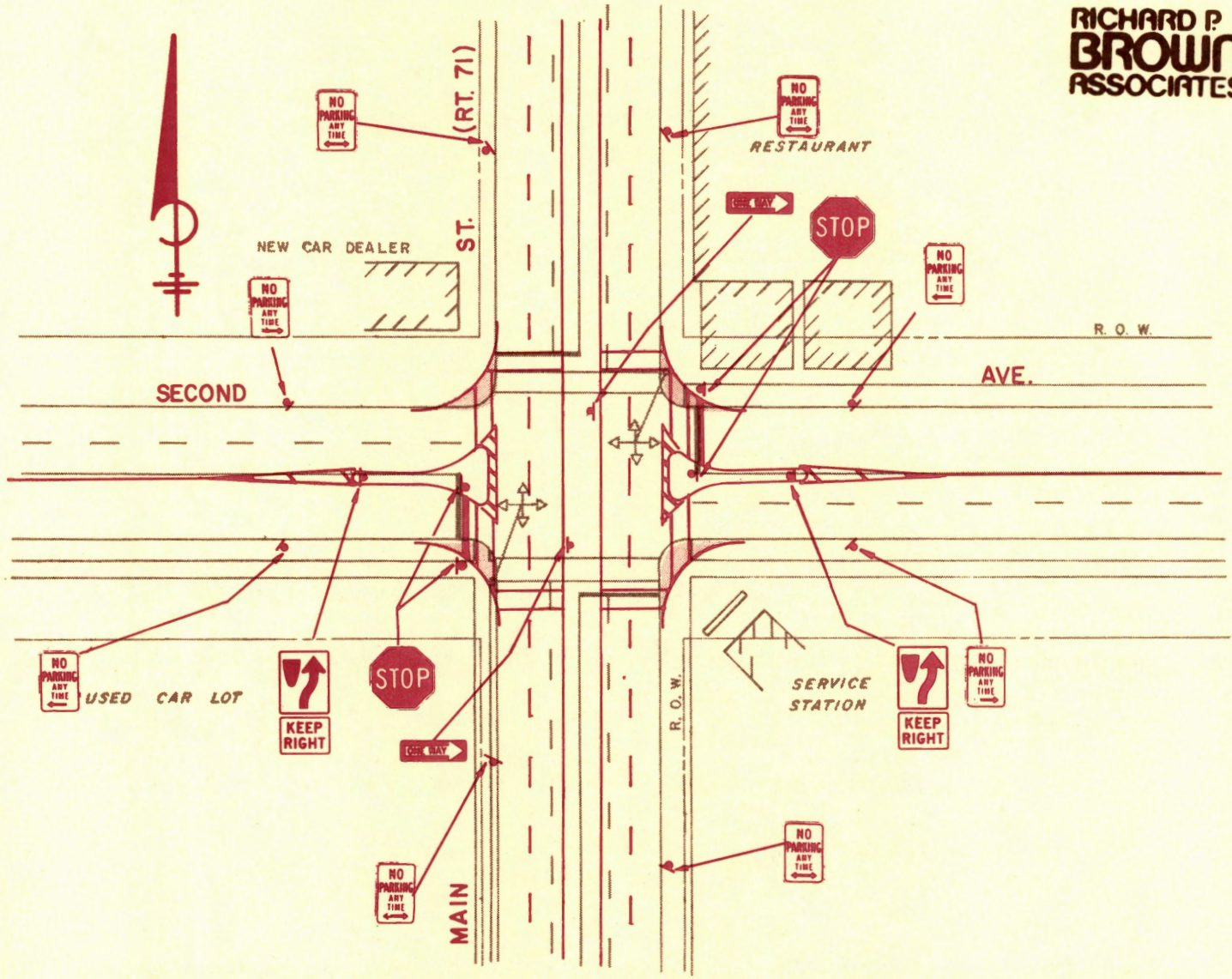
Construction of the center median through this intersection is recommended along with removal of the traffic signal and the installation of stop sign control. Removal of parking on the approaches is also recommended.

Benefits

The safety and operational characteristics of this location will be improved by the removal of conflicting traffic movements.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES



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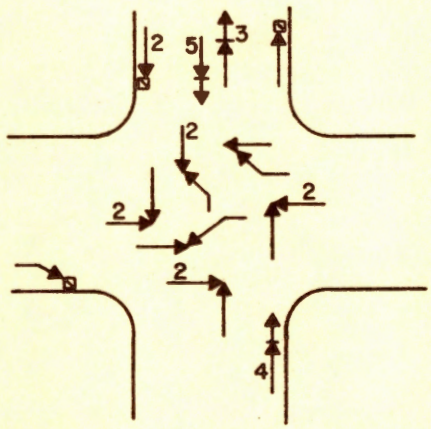


ACCIDENT SUMMARY - 3 YR. PERIOD

II NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-1-F

5 - 1G MAIN STREET (NEW JERSEY ROUTE 71) AND FIRST AVENUE ASBURY PARK

First Avenue is a local street on the proposed Asbury Park area functional roadway system.

Problems

This location has a considerable number of right angle, turning movement and rear end collisions.

Recommendations

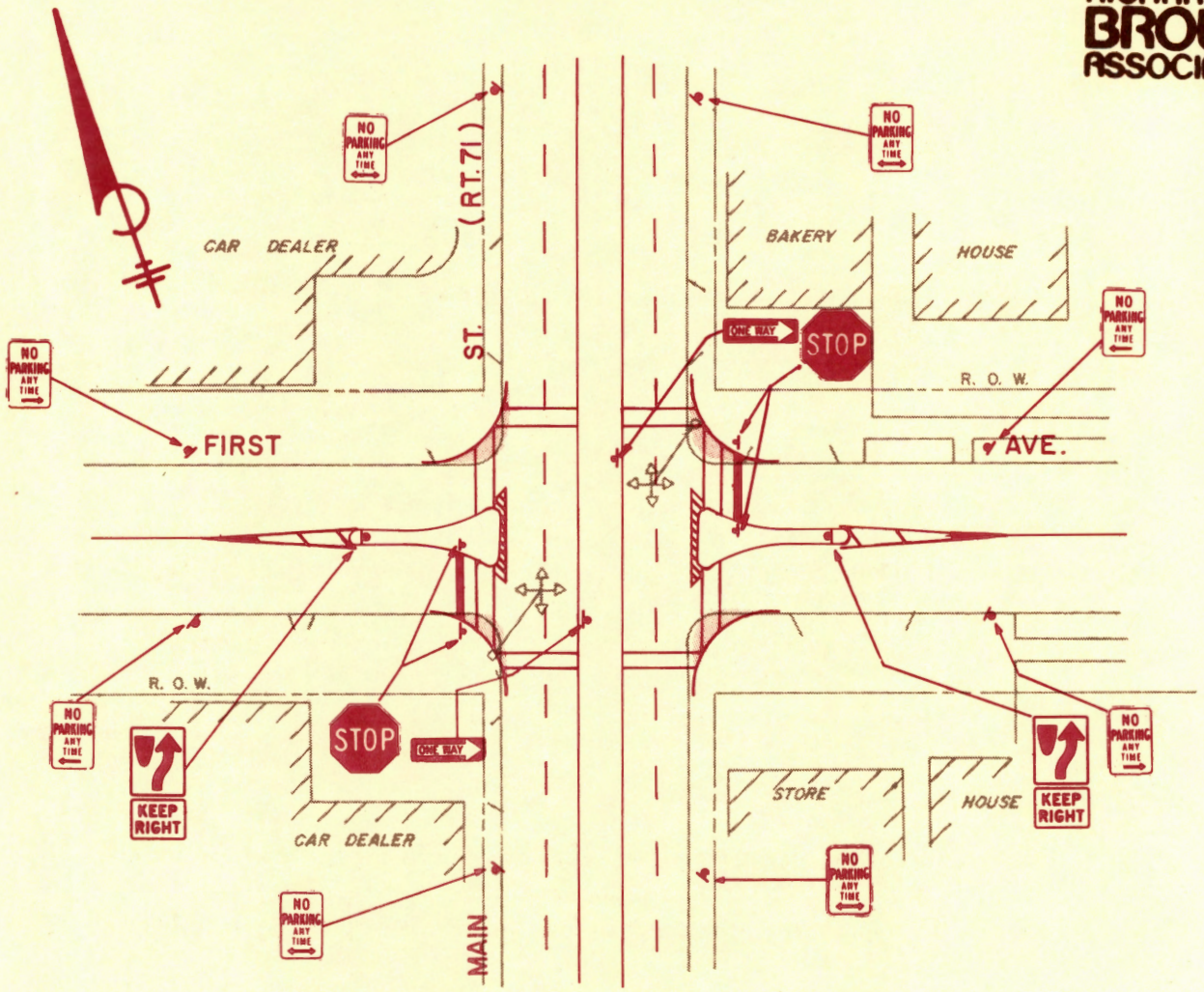
Construction of the center median through this intersection is recommended along with removal of the traffic signal and the installation of stop sign control.

Benefits

The safety and operational characteristics of this location will be improved by the removal of conflicting traffic movements.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES



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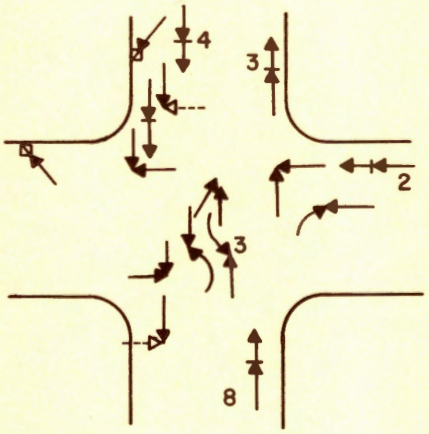


ACCIDENT SUMMARY—3 YR. PERIOD
4 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-1-G

5 - 1H MAIN STREET (NEW JERSEY ROUTE 71) AND ASBURY AVENUE ASBURY PARK

Asbury Avenue is a major street on the proposed Asbury Park area functional roadway system. A major fire house is located on the northeast corner and a railroad grade crossing is located immediately to the west.

Problems

This location should experience high traffic volumes with considerable left turning movements on Main Street when the center median is constructed. A considerable number of right angle, turning movement and rear end collisions are presently experienced.

Recommendations

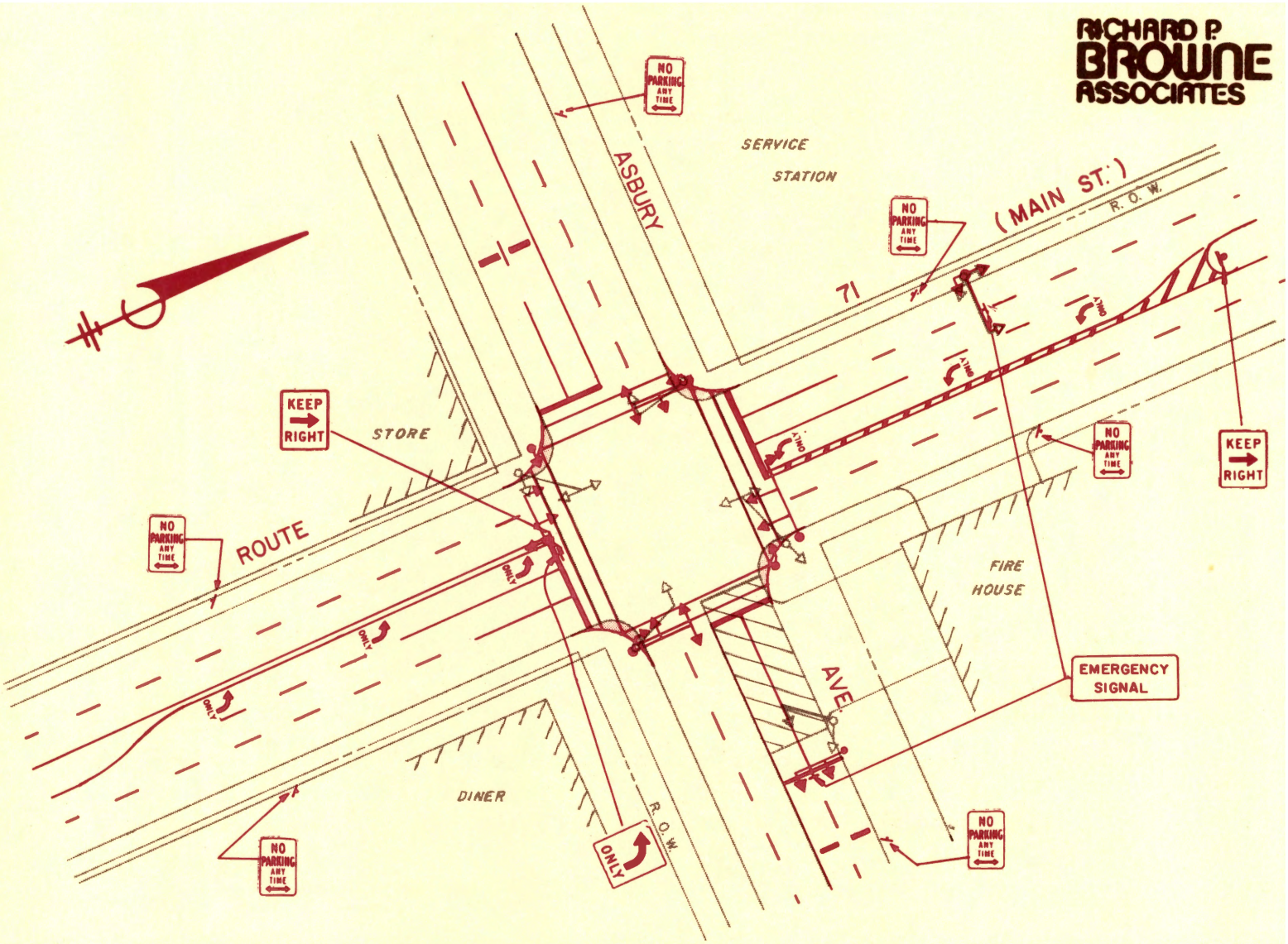
Construction of the center median, with provisions for left turning lanes on the New Jersey Route 71 approaches is recommended. Removal of parking on all approaches is recommended. Modification of the signal layout to increase its visibility is also recommended. A fire sequence to preempt normal traffic flow is also recommended.

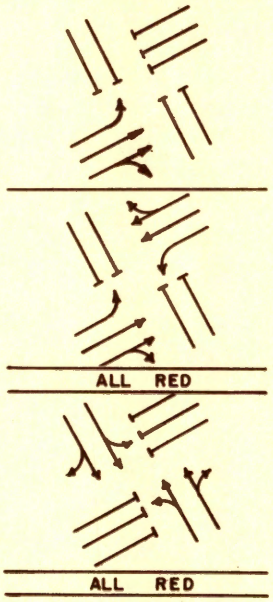
Benefits

The capacity of this location will be improved by these recommendations in order to meet anticipated traffic demand. The safety and operational characteristics will also be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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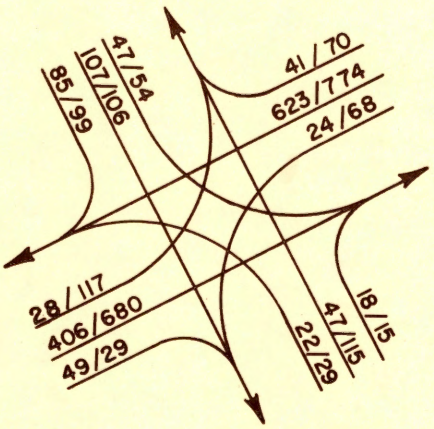
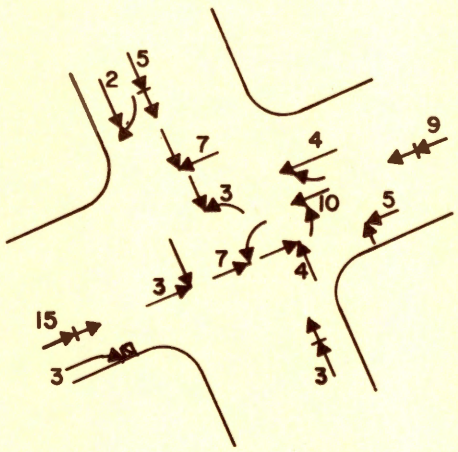


PEAK HOUR VOLUME
8:00-9:00 A.M./4:30-5:30 P.M.



ACCIDENT SUMMARY – 3 YR. PERIOD
52 NOT SHOWN

0 60 120
Scale : 1"- 60'

PROPOSED IMPROVEMENT 5-1-H

5 - 11 MAIN STREET (NEW JERSEY ROUTE 71) AND MUNROE AVENUE ASBURY PARK

Munroe Avenue is a local street on the proposed Asbury Park area functional roadway system.

Problems

This location has a considerable number of turning movements and right angle and rear end accidents.

Recommendations

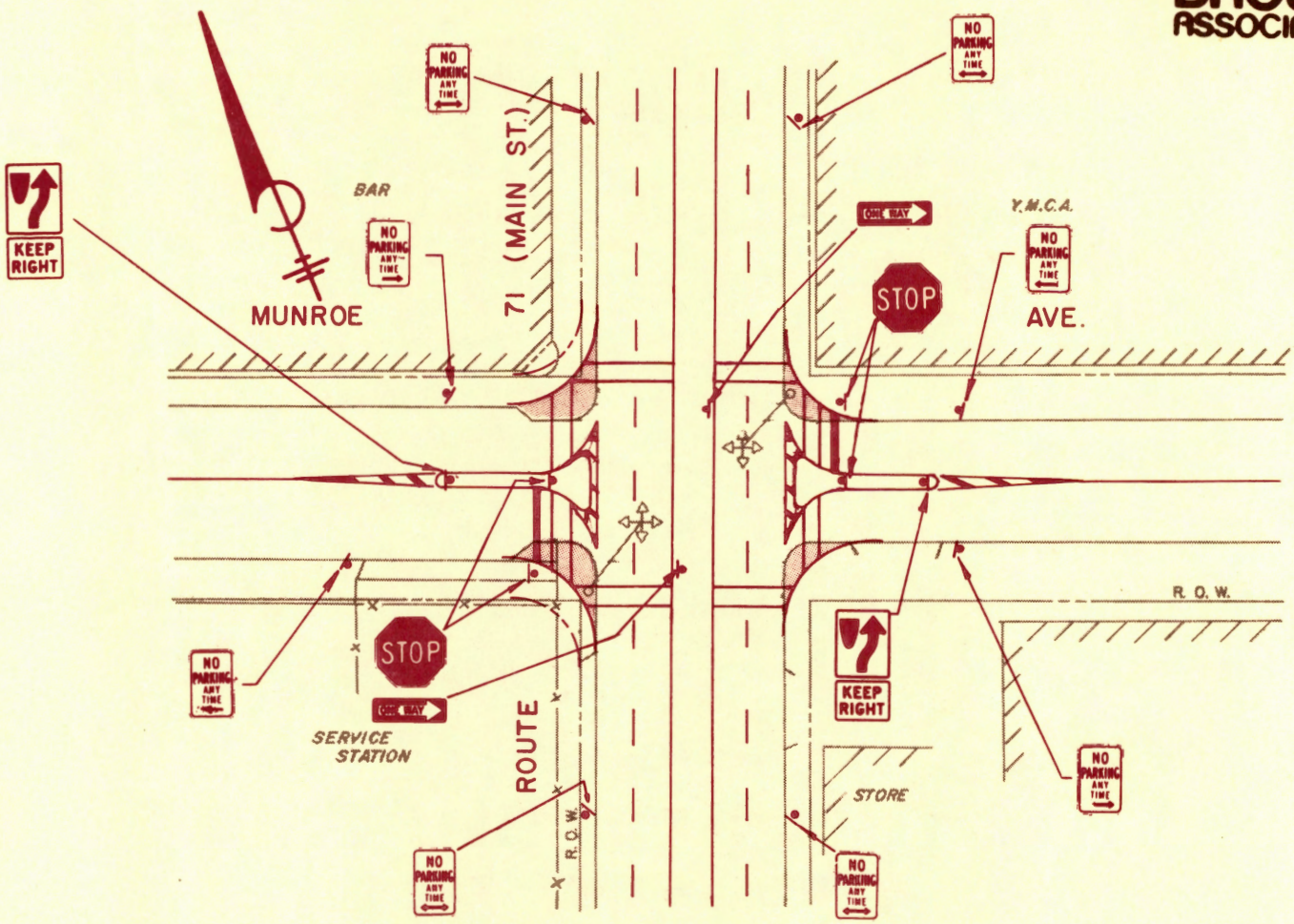
Construction of the center median through this intersection is recommended along with removal of the traffic signal and the installation of stop sign control.

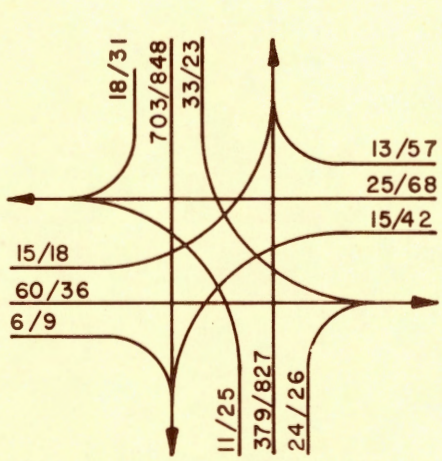
Benefits

The safety and operational characteristics of this location will be improved by the removal of conflicting traffic movements.

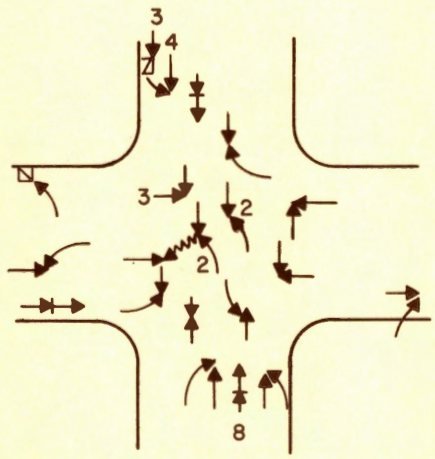
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
8:15 - 9:15 A.M./4:15 - 5:15



ACCIDENT SUMMARY - 3 YR. PERIOD
6 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-1-1

5 - 1J MAIN STREET (NEW JERSEY ROUTE 71) AND SUMMERFIELD AVENUE ASBURY PARK

Summerfield Avenue is a local street on the proposed Asbury Park area functional roadway system.

Problems

This location has a considerable number of right angle and turning movement accidents. A large number of rear end collisions are also experienced.

Recommendations

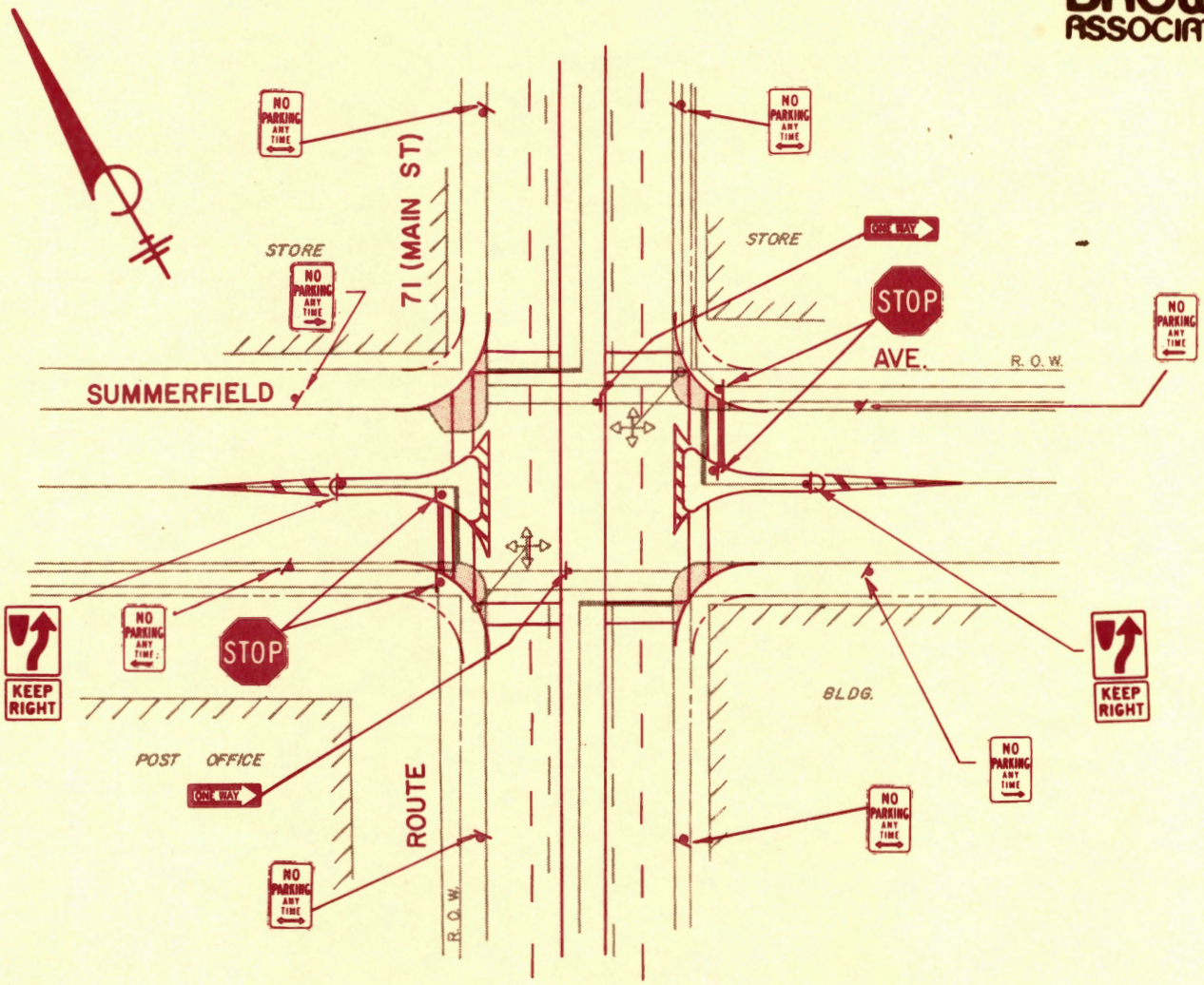
Construction of the center median through this intersection is recommended along with the removal of the traffic signal and the installation of stop sign control.

Benefits

The safety and operational characteristics of this location will be improved by the removal of conflicting traffic movements.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES



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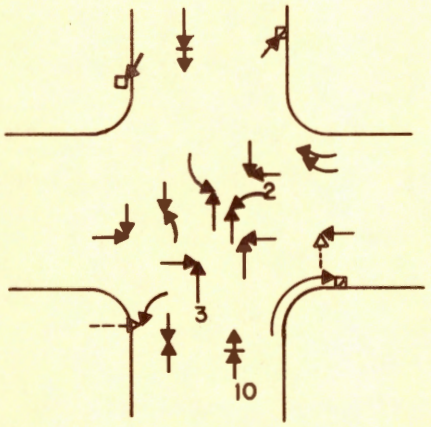


ACCIDENT SUMMARY-3 YR. PERIOD

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-1-J

5 - 1K MAIN STREET (NEW JERSEY ROUTE 71) AND BANGS AVENUE ASBURY PARK

Bangs Avenue is a major street on the proposed Asbury Park area functional roadway system. Bangs Avenue east of this location is part of the proposed one-way system which connects to Kingsley Avenue and Ocean Avenue at the coastline.

Problems

High traffic volumes are anticipated at this location. A large number of right angle, turning movement, and rear end collisions are experienced.

Recommendations

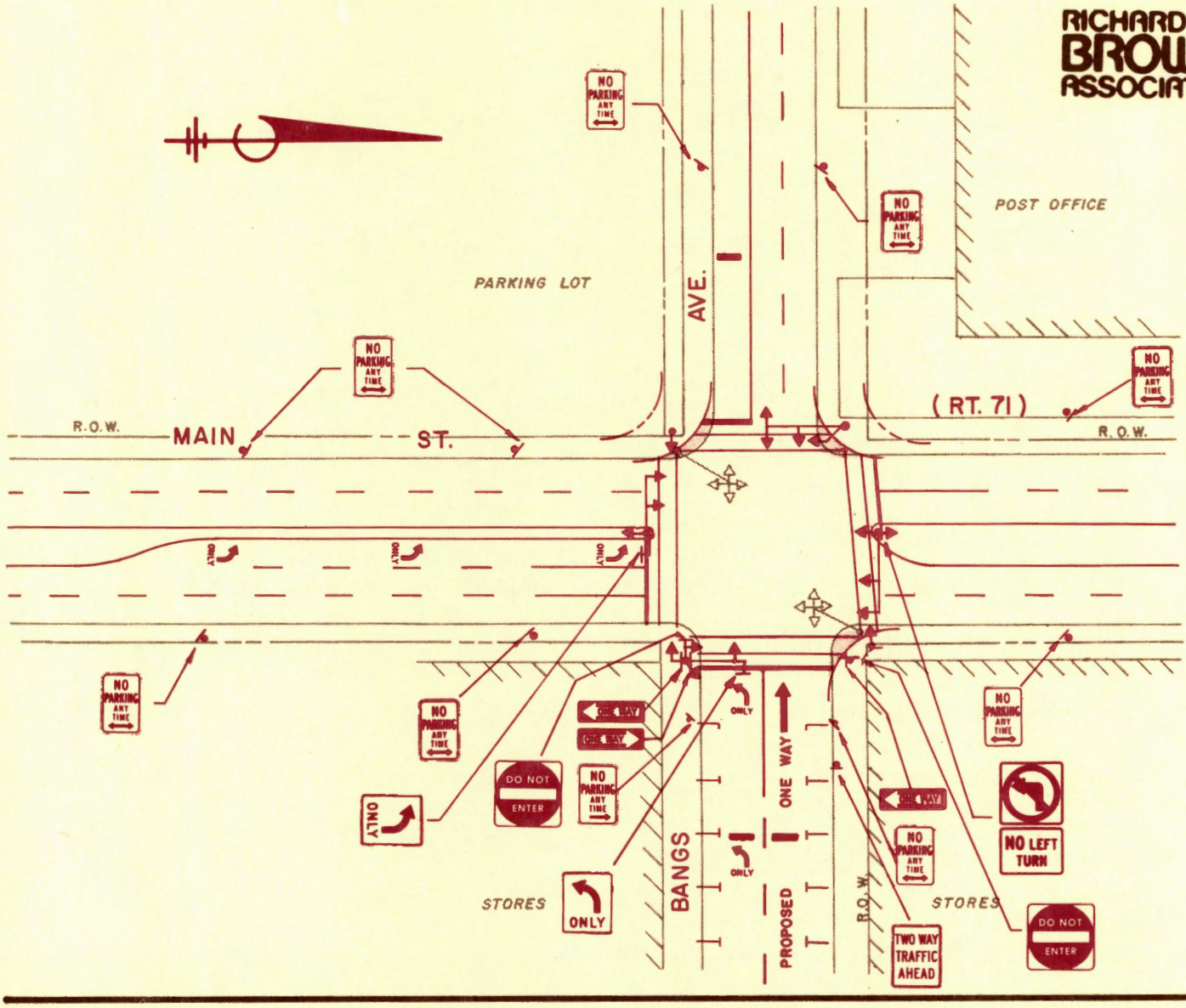
Construction of the center median as indicated is recommended with provisions for a left turning lane on the northbound approach. Adoption of Bangs Avenue as a one-way street as part of an Asbury Park system improvement is also recommended. Modification of the signal layout is recommended to increase its visibility.

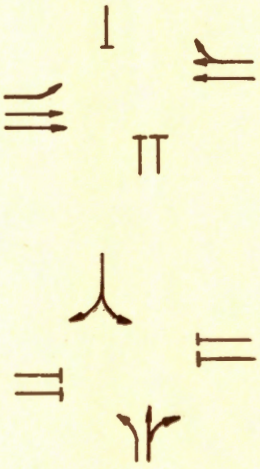
Benefits

The capacity of this location will be improved by these recommendations to meet anticipated traffic demand. The safety and operational characteristics of this location will be improved by the reduction in vehicle conflict due to the one-way operation on the east approach and the modification of the signal system.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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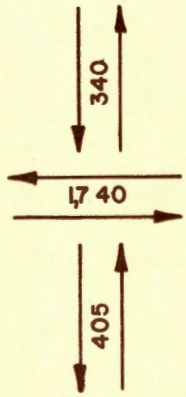
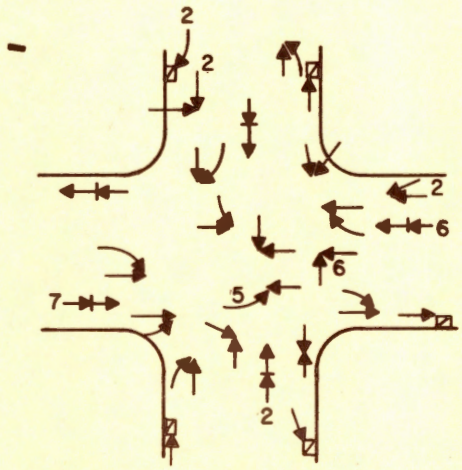


AVERAGE PEAK HOUR TRAFFIC



ACCIDENT SUMMARY - 3 YR. PERIOD
5 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-1-K

5 - 1L MAIN STREET (NEW JERSEY ROUTE 71) AND COOKMAN AVENUE ASBURY PARK

Cookman Avenue is a local street on the proposed Asbury Park area functional roadway system.

Problems

This location has a high number of right angle and turning movement accidents. A high number of rear end collisions are also experienced.

Recommendations

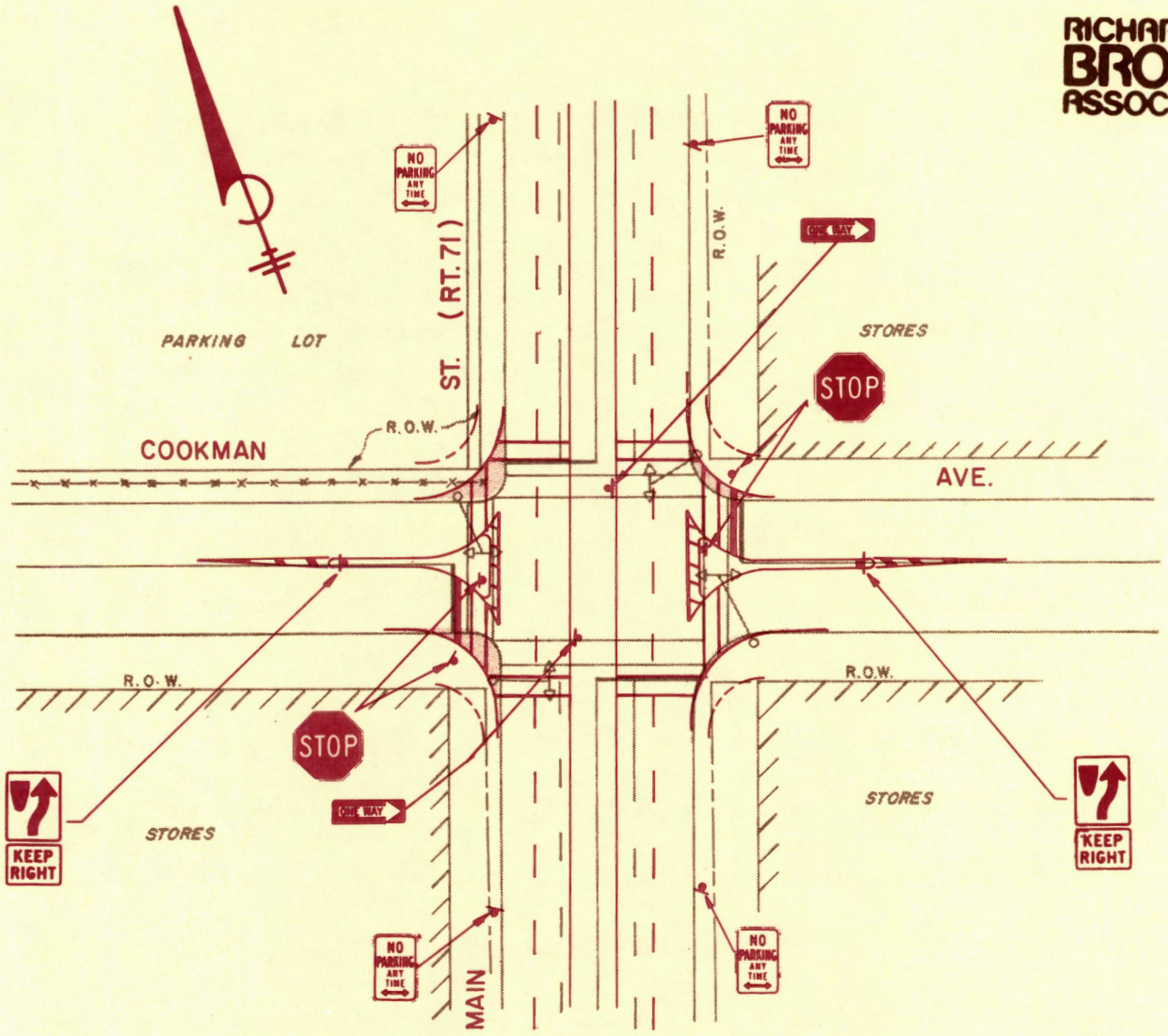
Construction of a center median through this intersection is recommended along with removal of the traffic signal and the installation of stop sign control. Removal of parking on the approaches is also recommended.

Benefits

The safety and operational characteristics of this location will be improved by the removal of conflicting traffic movements.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES



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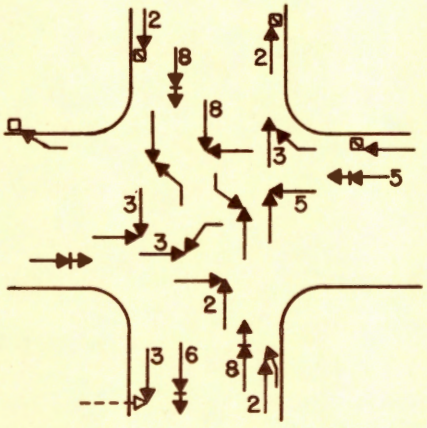


ACCIDENT SUMMARY - 3 YR. PERIOD
13 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-1-L

5 - 1M MAIN STREET (NEW JERSEY ROUTE 71) AT SPRINGWOOD AVENUE AND LAKE AVENUE ASBURY PARK

Springwood Avenue and Lake Avenue are major streets on the proposed Asbury Park area functional roadway system. Lake Avenue is part of the Asbury Park one-way system which connects Ocean Avenue and Kingsley Avenue.

Problems

This location has high anticipated traffic demands, inadequate approach widths, and turning radii width. A large number of right angle and turning movement accidents are experienced along with a large number of rear end collisions on both New Jersey Route 71 approaches.

Recommendations

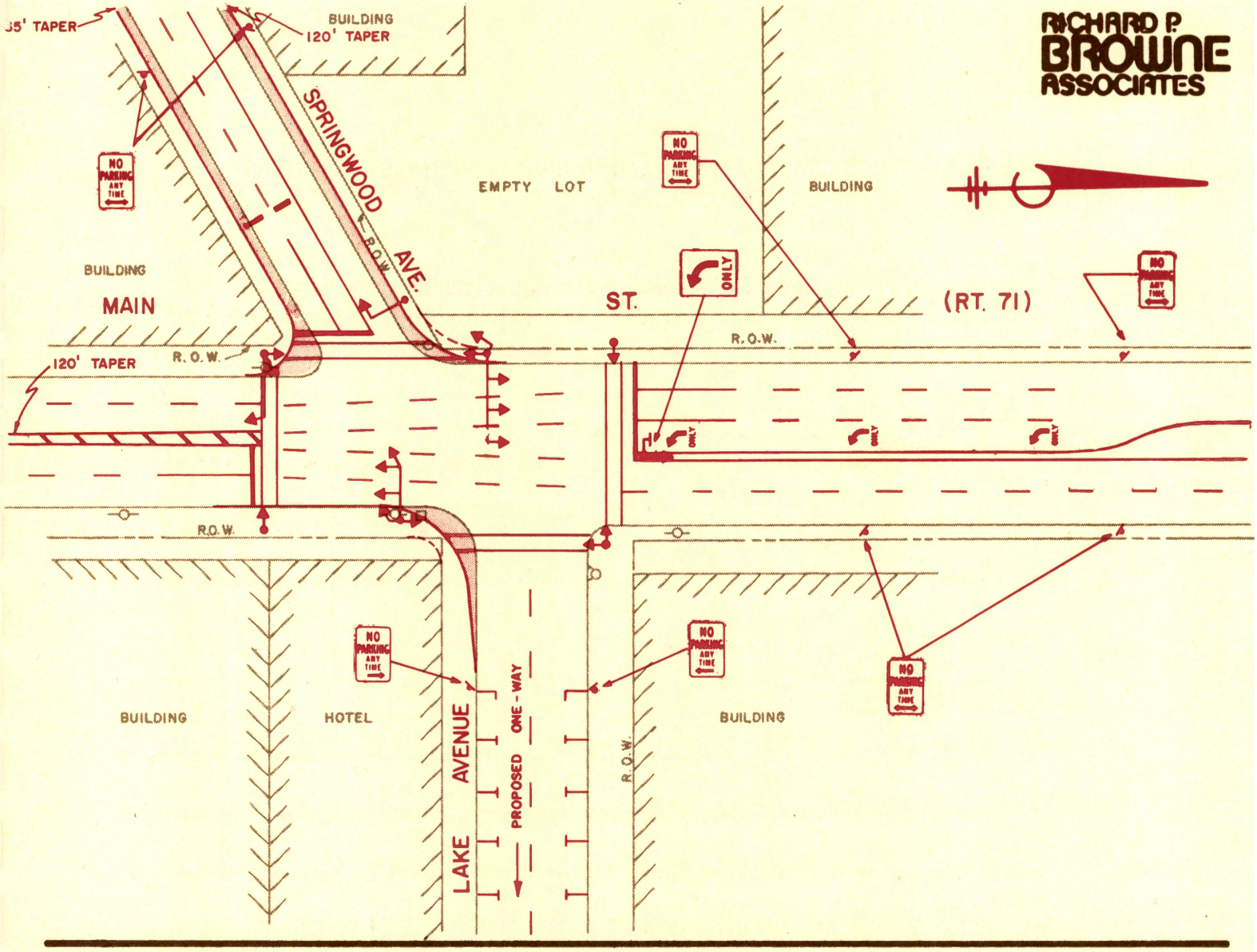
Construction of the center median of New Jersey Route 71 southbound approach with the provision for a left turn lane is recommended. Widening of the Springwood Avenue approach and receiving lane is recommended to provide for the approach lanes as indicated. Modification to the curb turning radii on the southeast corner is recommended to provide for movements from Springwood Avenue into Lake Avenue from New Jersey Route 71 northbound to Lake Avenue. Adoption of Lake Avenue as a one-way street in connection with the Asbury Park one-way system improvement is also recommended. The removal of parking on the approaches is recommended.

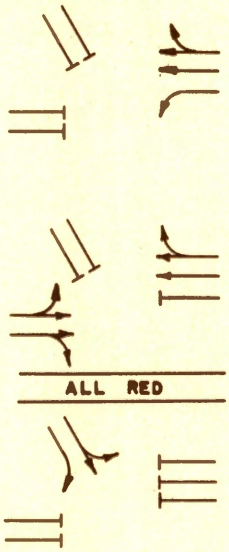
Benefits

The capacity, safety and operational characteristics of this location will be improved in order to meet anticipated traffic demands. The adoption of Lake Avenue as a one-way street will reduce the number of vehicle conflicts at this location.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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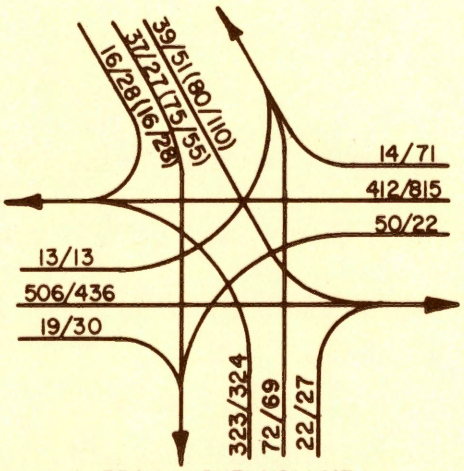
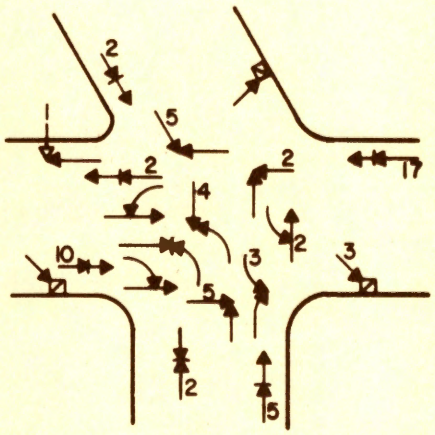


PEAK HOUR VOLUME
8:15-9:15 A.M. / 4:15-5:15 P.M.
( ) ASSIGNED VOLUME



ACCIDENT SUMMARY-3 YR. PERIOD

0 60 120

Scale : 1"-60'

PROPOSED IMPROVEMENT 5-1-M

NEW JERSEY ROUTE 33 (CORLIES AVENUE) AND NEW JERSEY ROUTE 35
5 - 2 NEPTUNE TOWNSHIP

New Jersey Route 33 is a major roadway connecting the coastline with points to the west. New Jersey Route 35 is a major north-south highway in the region. The intersection is controlled by a semi-actuated traffic signal.

Problems

This location has high traffic volumes on all approaches with considerable turning movement volumes on New Jersey Route 33. Approach lane widths are inadequate. A considerable number of right angle turning movement accidents are experienced.

Recommendations

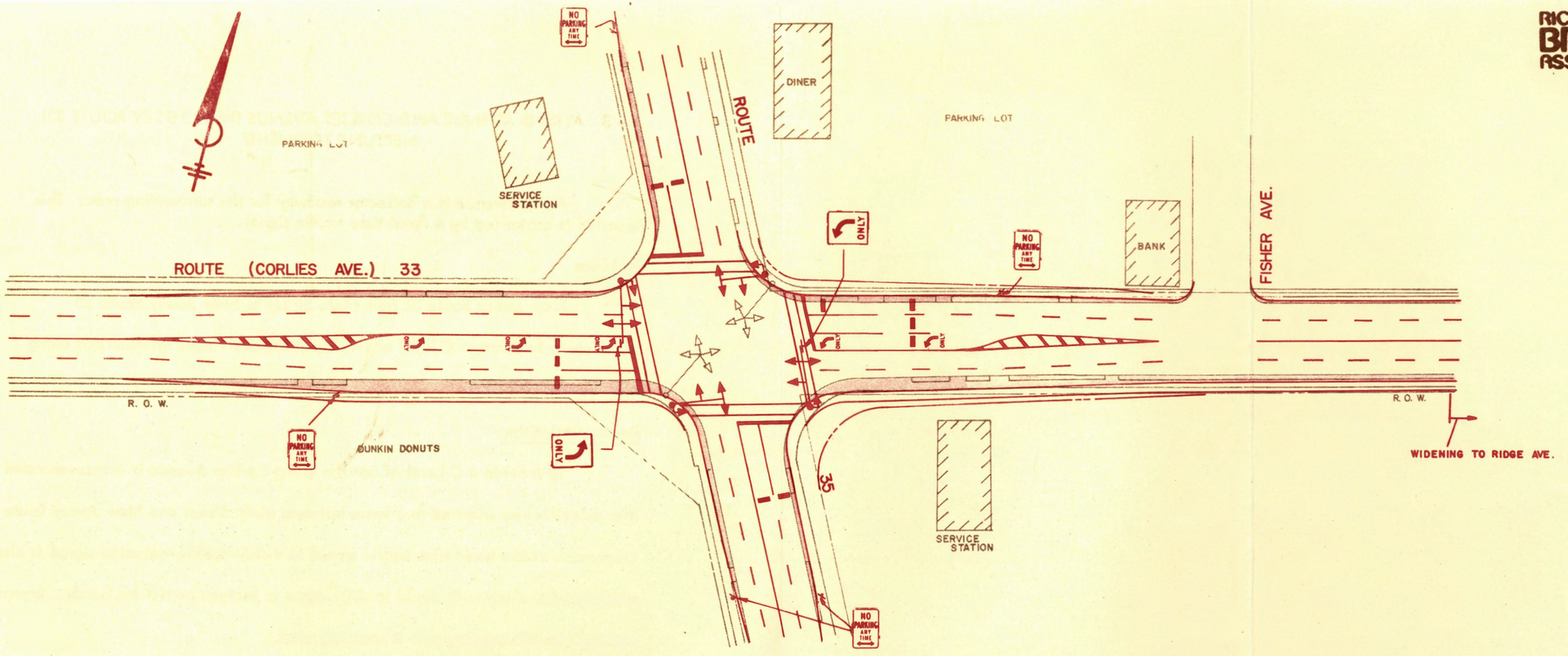
Widening of the New Jersey Route 35 approaches is recommended to provide for two full size approach lanes and receiving lanes for each direction. Widening of the approaches and receiving lanes for New Jersey Route 33 is recommended to provide for two through lanes in each direction and special left turning lanes in each direction. Conversion of the semi-actuated traffic signal to a full traffic actuation is recommended. Modification of the signal layout is recommended to improve its visibility.

Benefits

This widening and the provision for special turning lanes will increase the capacity and operational characteristics of this intersection and combined with the signal modification will increase the safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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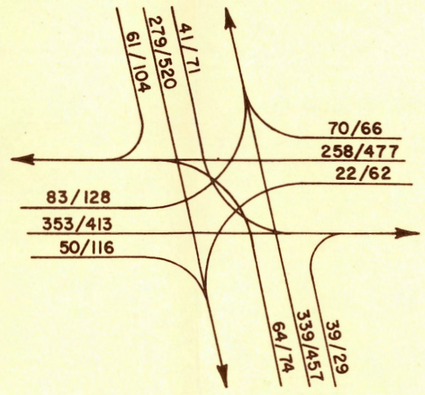

PEAK HOUR VOLUME
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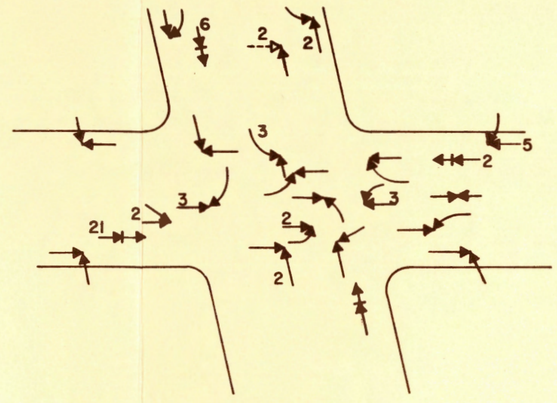
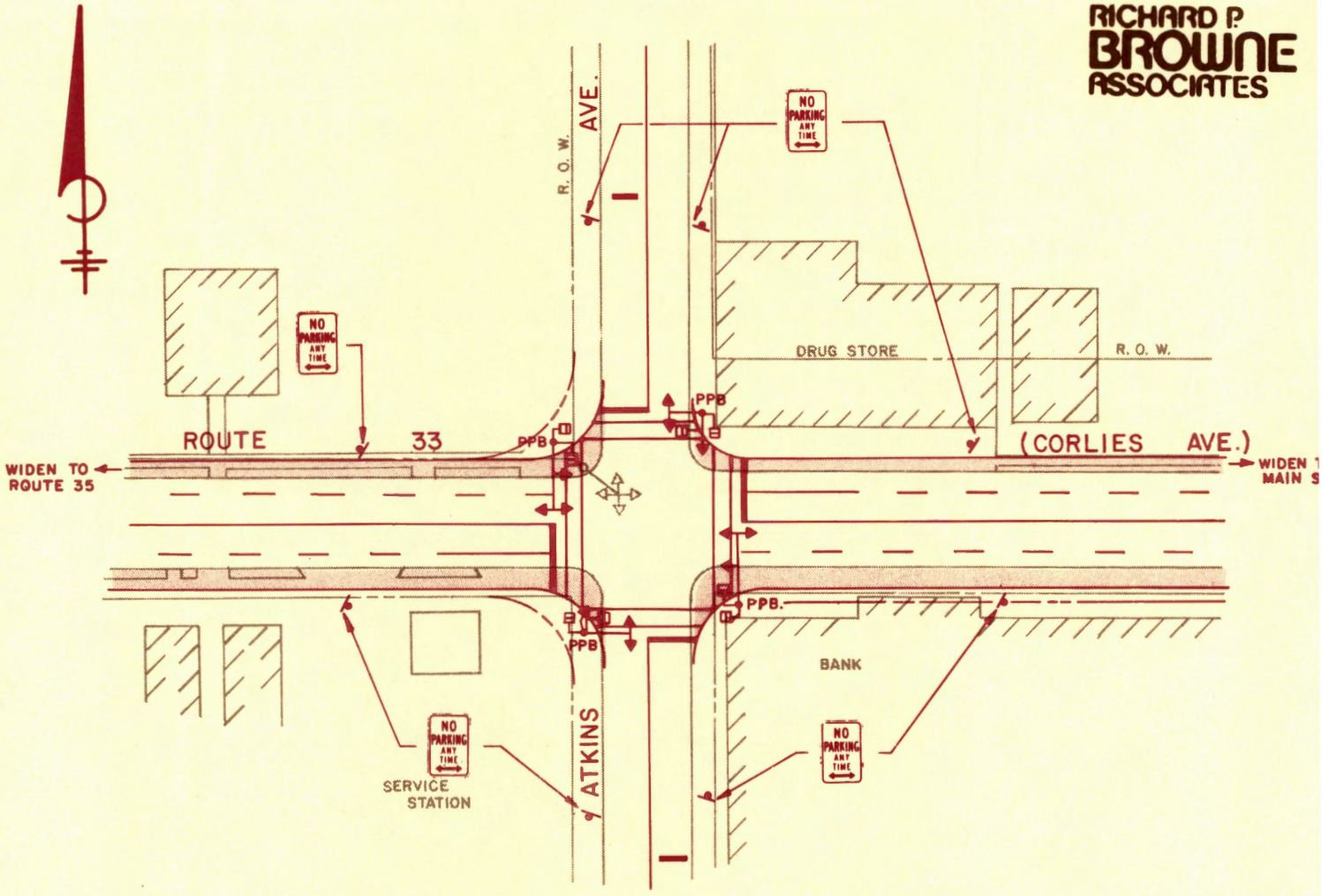


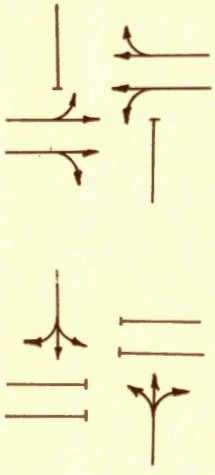
ACCIDENT SUMMARY - 3YR. PERIOD
20. NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-2

RICHARD P. BROWNE ASSOCIATES





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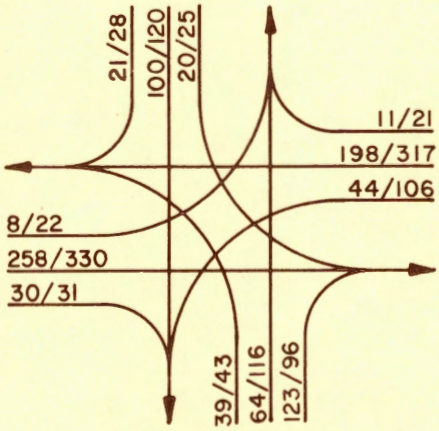

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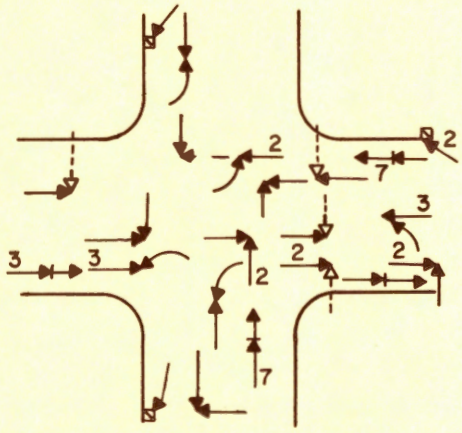


ACCIDENT SUMMARY-3 YR. PERIOD
3 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-3

5 - 4 SPRINGDALE AVENUE AND SPRINGWOOD AVENUE NEPTUNE TOWNSHIP

This location is the intersection of two connecting roadways for the surrounding area. School facilities exist on the block north of this intersection and on the block south of this intersection. The intersection is controlled by stop signs.

Problems

This location has a considerable amount of traffic volume which is influenced by two adjacent school facilities. A considerable number of right angle accidents are experienced.

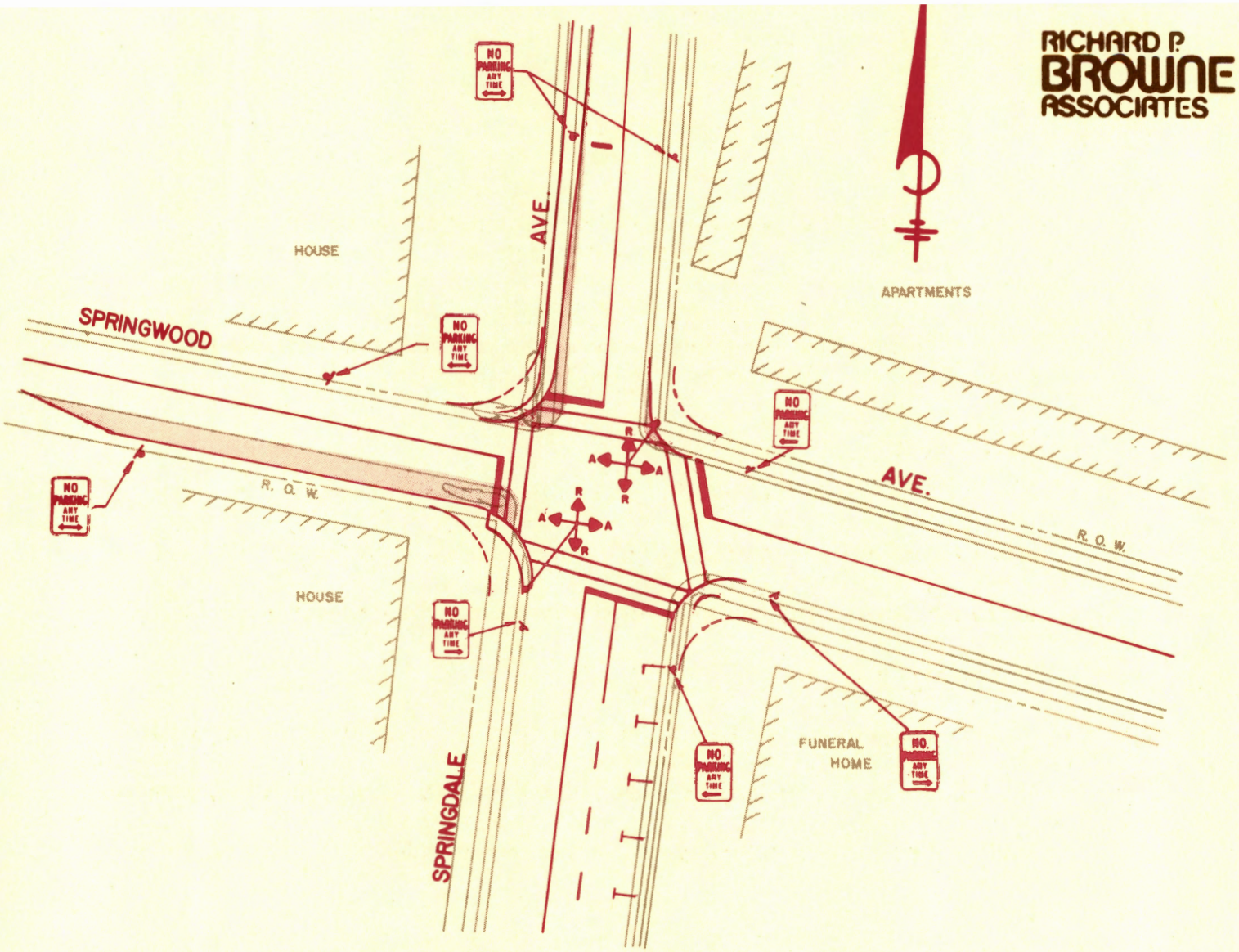
Recommendations

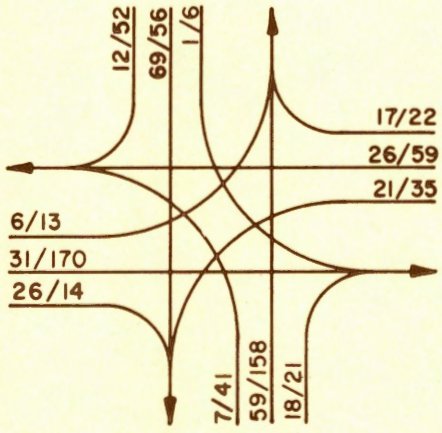
Modification to the approach lane for eastbound movements is recommended along with modifications to the curb turning radii. Installation of a flashing signal is recommended.

Benefits

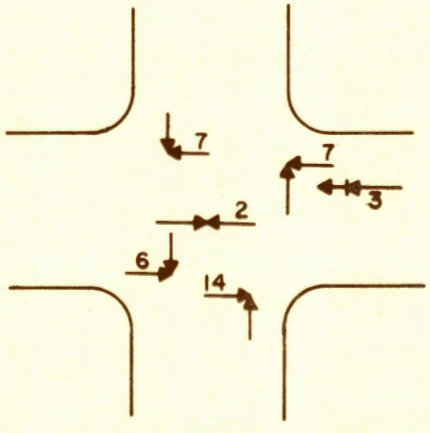
The safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
8:00-9:00 A.M./4:30-5:30 P.M.



ACCIDENT SUMMARY—3 YR. PERIOD
10 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-4

5 - 5 SPRINGWOOD AVENUE AND DRUMMOND AVENUE NEPTUNE TOWNSHIP

This location is the intersection of two connecting roadways for the surrounding area. The location is controlled by stop signs.

Problems

This location has insufficient curb turning radii. Because of buildings located close to the roadway poor sight distance exists across the southeast and southwest corners. Parking is permitted very close to the intersection.

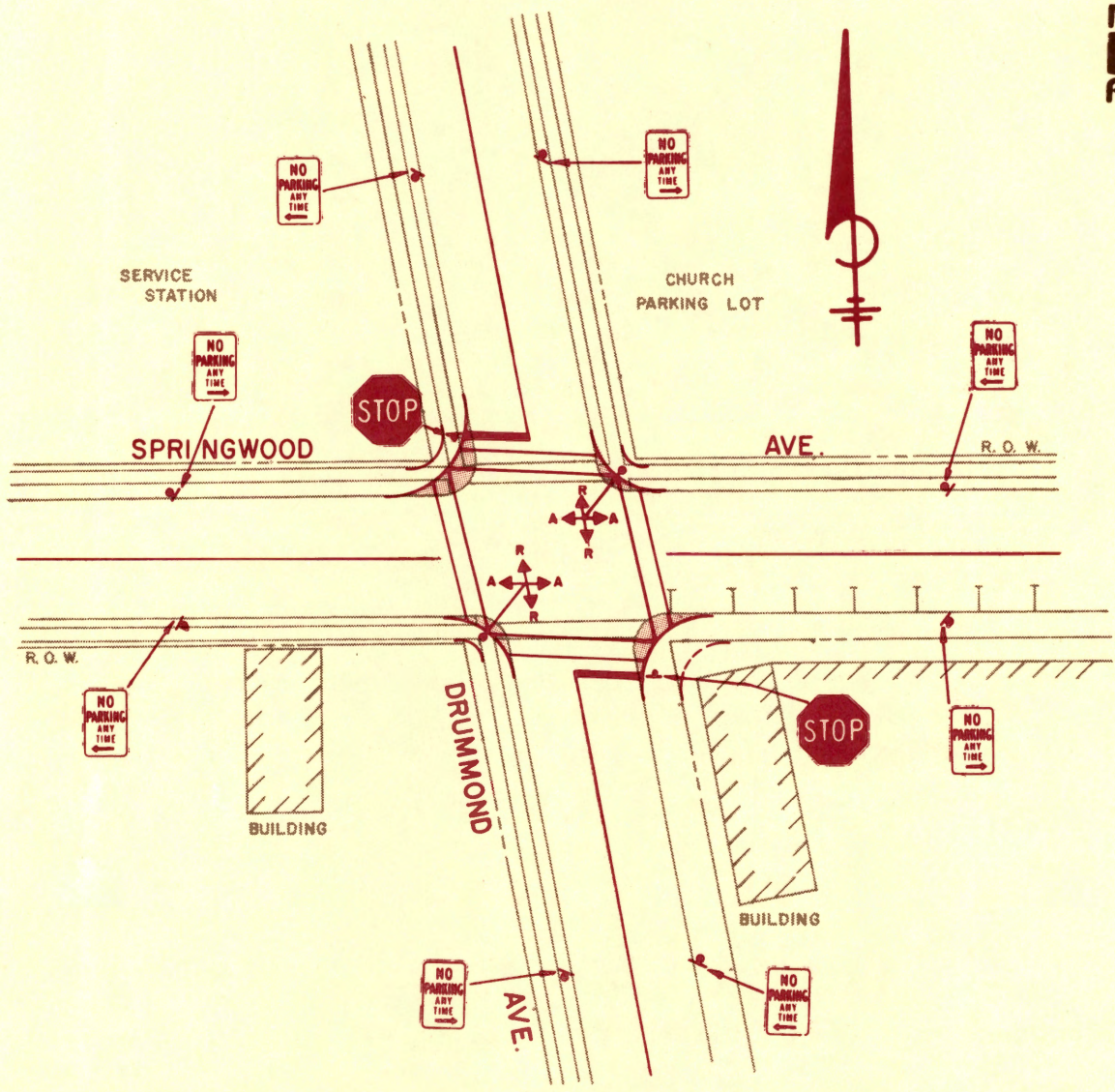
Recommendations

Prohibition of parking in the vicinity of the intersection is recommended. The installation of oversized stop signs and a flashing traffic signal is recommended. Modification to the curb turning radii is also recommended.

Benefits

The safety and operational characterisitics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES



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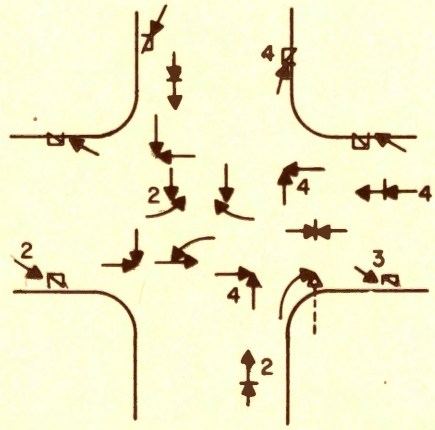


ACCIDENT SUMMARY - 3 YR. PERIOD
8 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-5

5 - 6 N. J. ROUTE 35 AND SYLVANIA AVENUE AT MERRITT AVENUE NEPTUNE CITY

The section of New Jersey Route 35 immediately south of this location has been widened and improved south to the Shark River Bridge. Increased traffic volume is anticipated because of this new facility.

Problems

This location has a high volume of conflicting traffic controlled by stop signs. Insufficient approach widths and interference from minor side streets also exists.

Recommendations

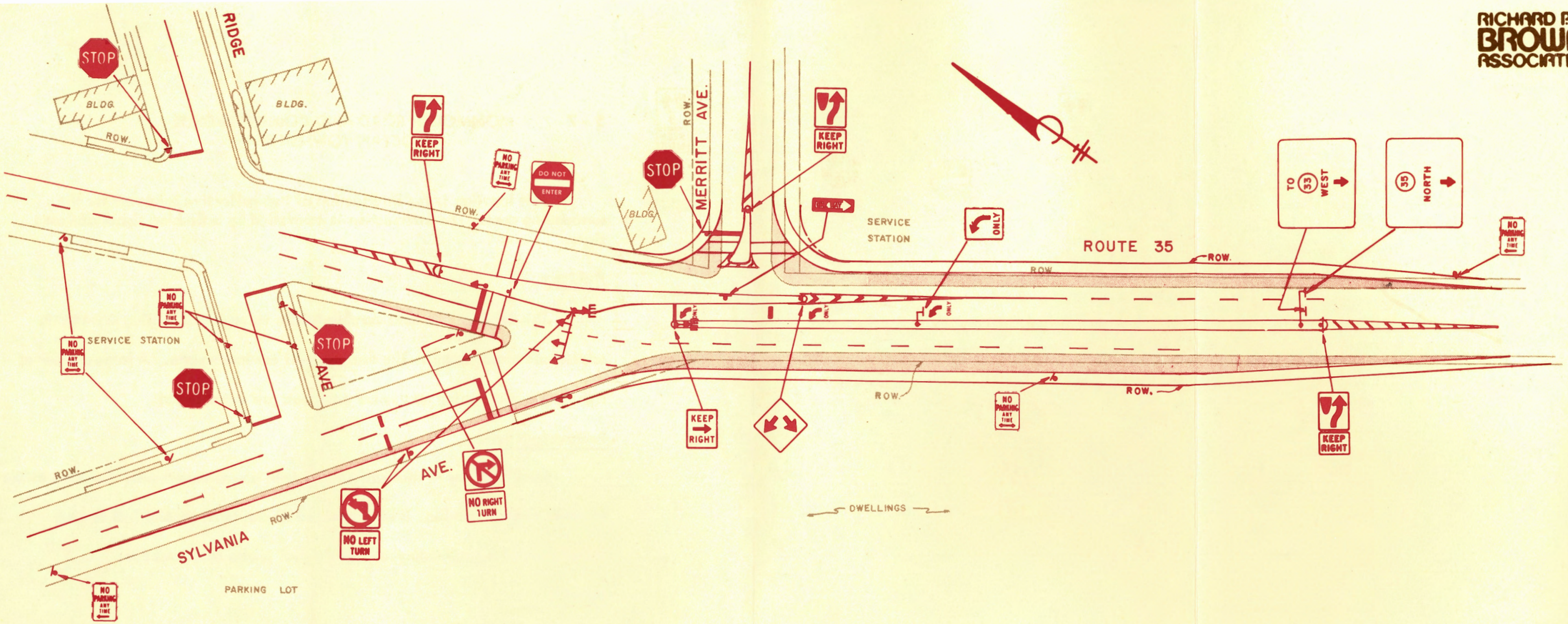
Widening of the approach lanes and construction of channelization islands is recommended along with signalization and improvement of the control on the side streets.

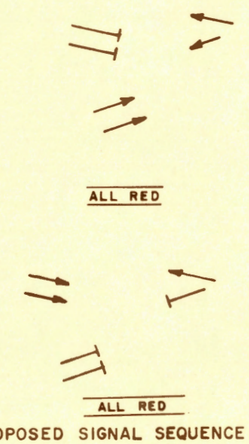
Benefits

The widening and channelization will allow for segregation of traffic into lanes according to destination. Signalization will provide positive right-of-way assignment. Restrictions of turning movements at Merritt Avenue will reduce minor street interference with major traffic flow while improving safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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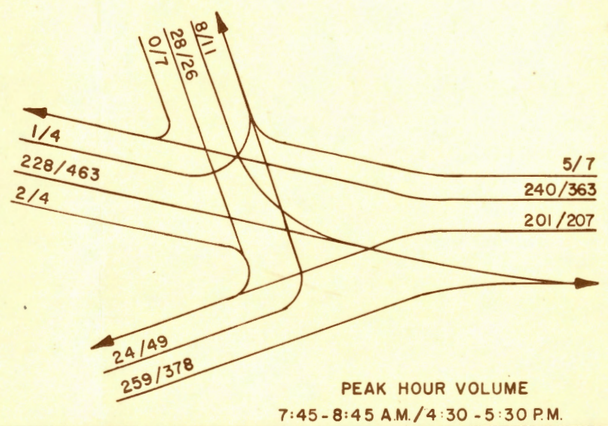
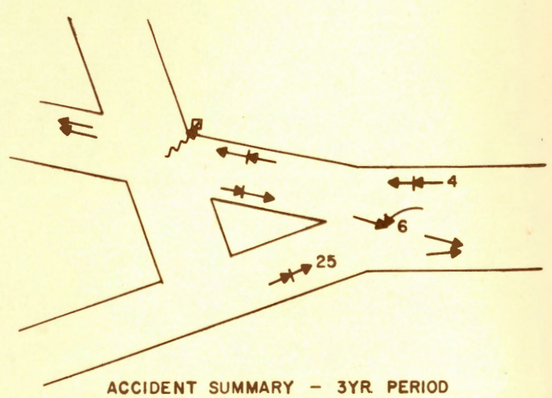


PEAK HOUR VOLUME
7:45-8:45 A.M./4:30-5:30 P.M.



ACCIDENT SUMMARY – 3YR. PERIOD
3 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-6

5 - 7 MONMOUTH ROAD AND CORLIES AVENUE OCEAN TOWNSHIP

This location is the intersection of two collective roadways for the surrounding area. The intersection is controlled by a flashing signal and stop signs.

Problems

This location has considerable traffic volumes and turning movements southbound to eastbound. The turning radii are inadequate. A large number of right angle and turning movement accidents are experienced.

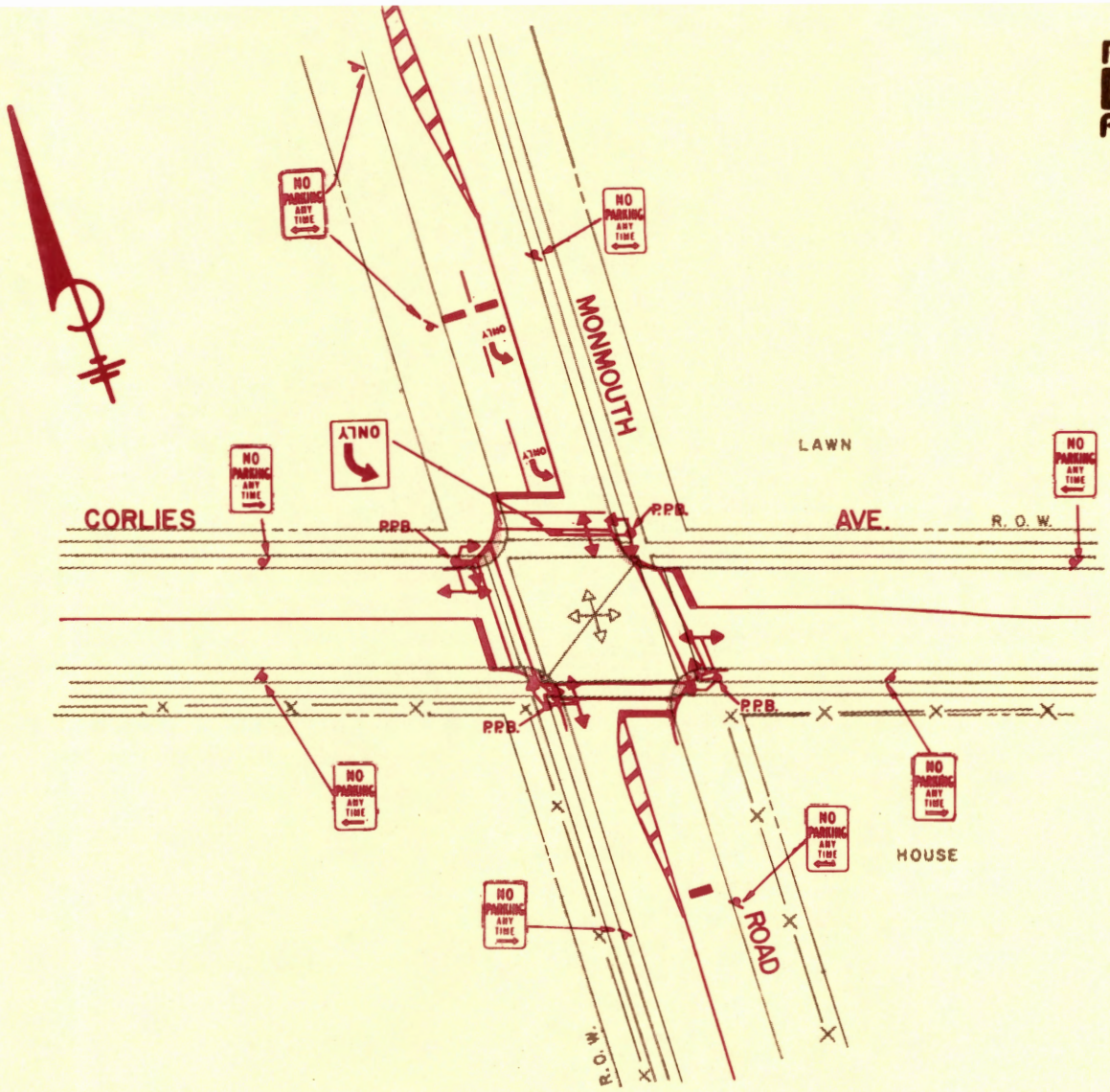
Recommendations

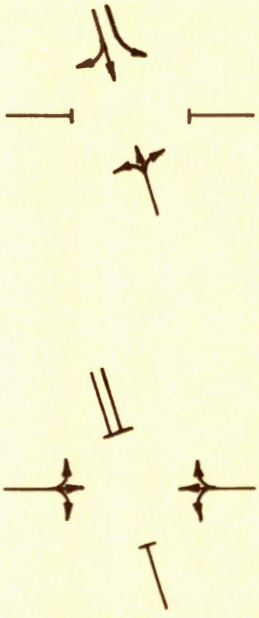
Modifications to the curb turning radii are recommended. Revision to the southbound approach lane is recommended to provide a special left turning lane. Installation of a semi-actuated traffic signal is also recommended.

Benefits

The safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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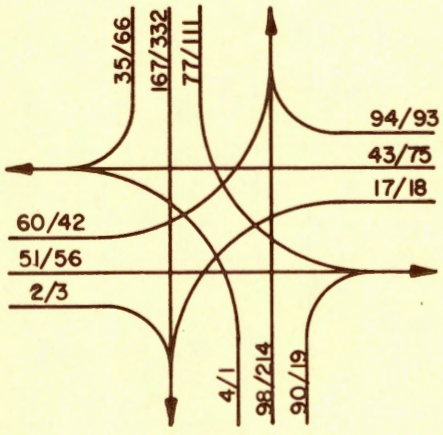
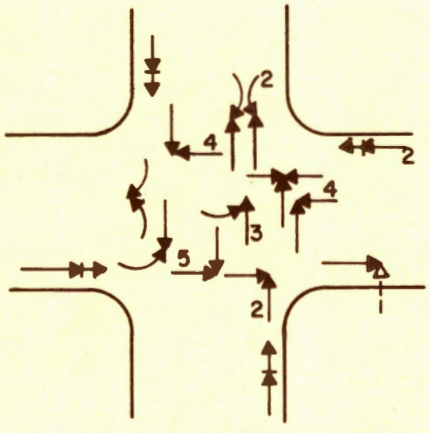


PEAK HOUR VOLUME
8:00-9:00 A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY- 3 YR. PERIOD
3 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-7

5 - 8 FOURTH AVENUE AND KINGSLEY AVENUE ASBURY PARK

Kingsley Avenue is part of the proposed Asbury Park one-way street system. Fourth Avenue is a local street on the proposed Asbury Park area functional roadway system. The side street approaches of this intersection provide parking for the commercial and recreational demands of the beaches and pavilions one block to the east. The location is controlled by a single four-way head fixed time traffic signal.

Problems

This location has a number of right angle accidents and a considerable number of rear end collisions. Kingsley Avenue presently operated one-way south bound only during the summer months, and two-way during the other times.

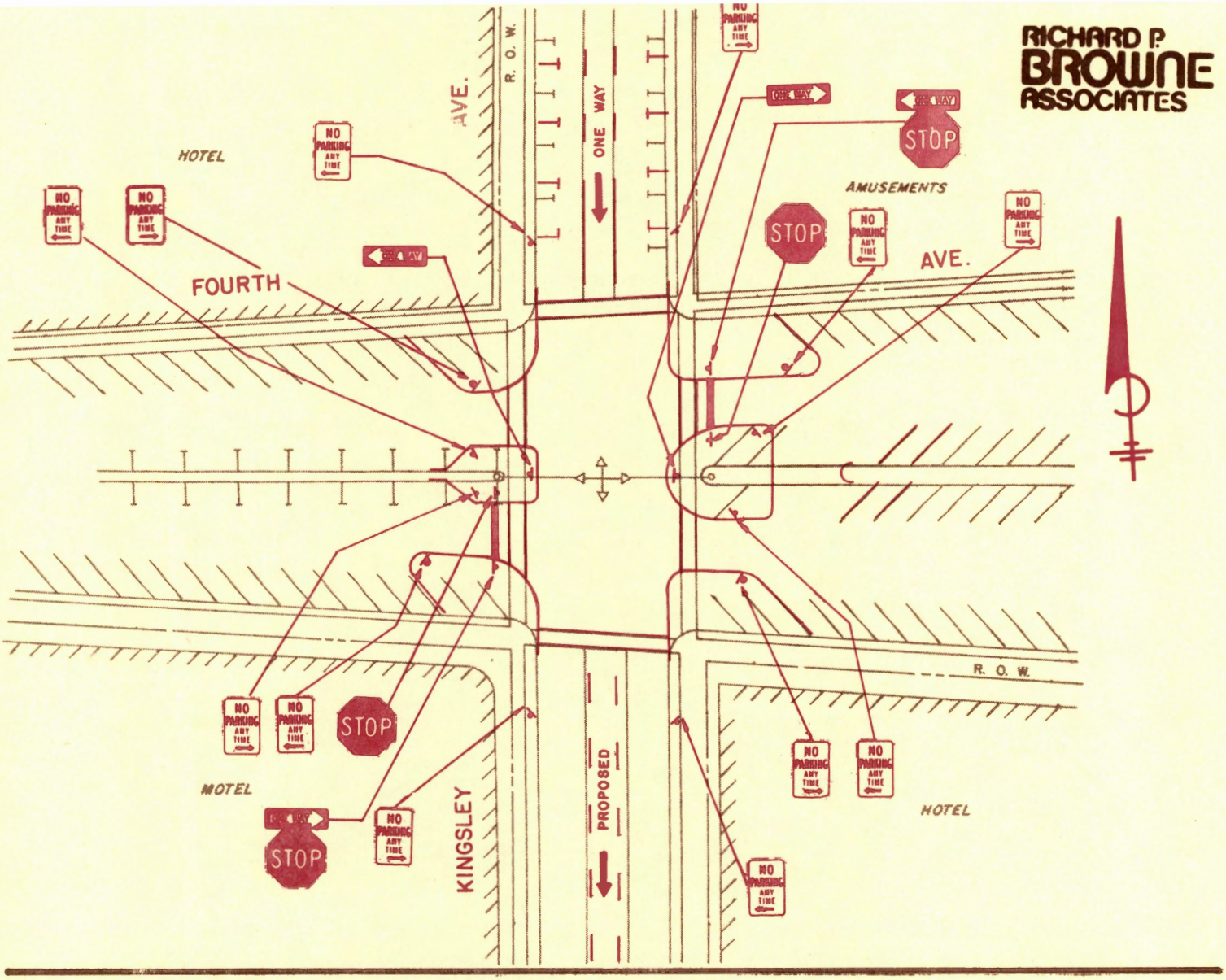
Recommendations

Adoption of the one-way system to provide for Kingsley Avenue one-way southbound all year round is recommended. Removal of the existing traffic signal is recommended along with installation of stop sign control. Construction of the indicated traffic islands is recommended to reduce the area of conflict between main street traffic and side street movements.

Benefits

The capacity, safety and operational characteristics of this location and the adjacent northbound part of the one-way system will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES



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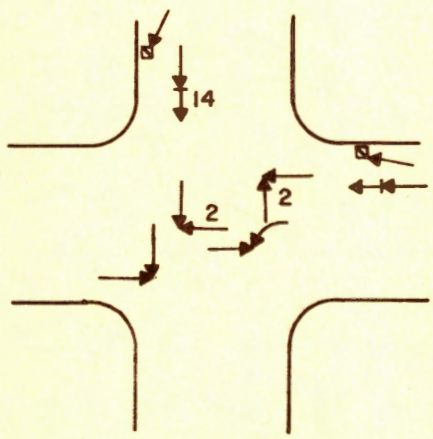


ACCIDENT SUMMARY–3 YR. PERIOD
6 NOT SHOWN

0 60 120
Scale : 1"=60'

PROPOSED IMPROVEMENT 5-8

5 - 9 OCEAN AVENUE AND FOURTH AVENUE ASBURY PARK

Ocean Avenue is part of the Asbury Park one-way system. Fourth Avenue is a local street and is on the Asbury Park functional roadway system. This intersection is immediately adjacent to the broadwalk area.

Problems

Ocean Avenue presently operates one-way northbound during the summer season only. A considerable number of pedestrian movements are generated by available parking west of the intersection.

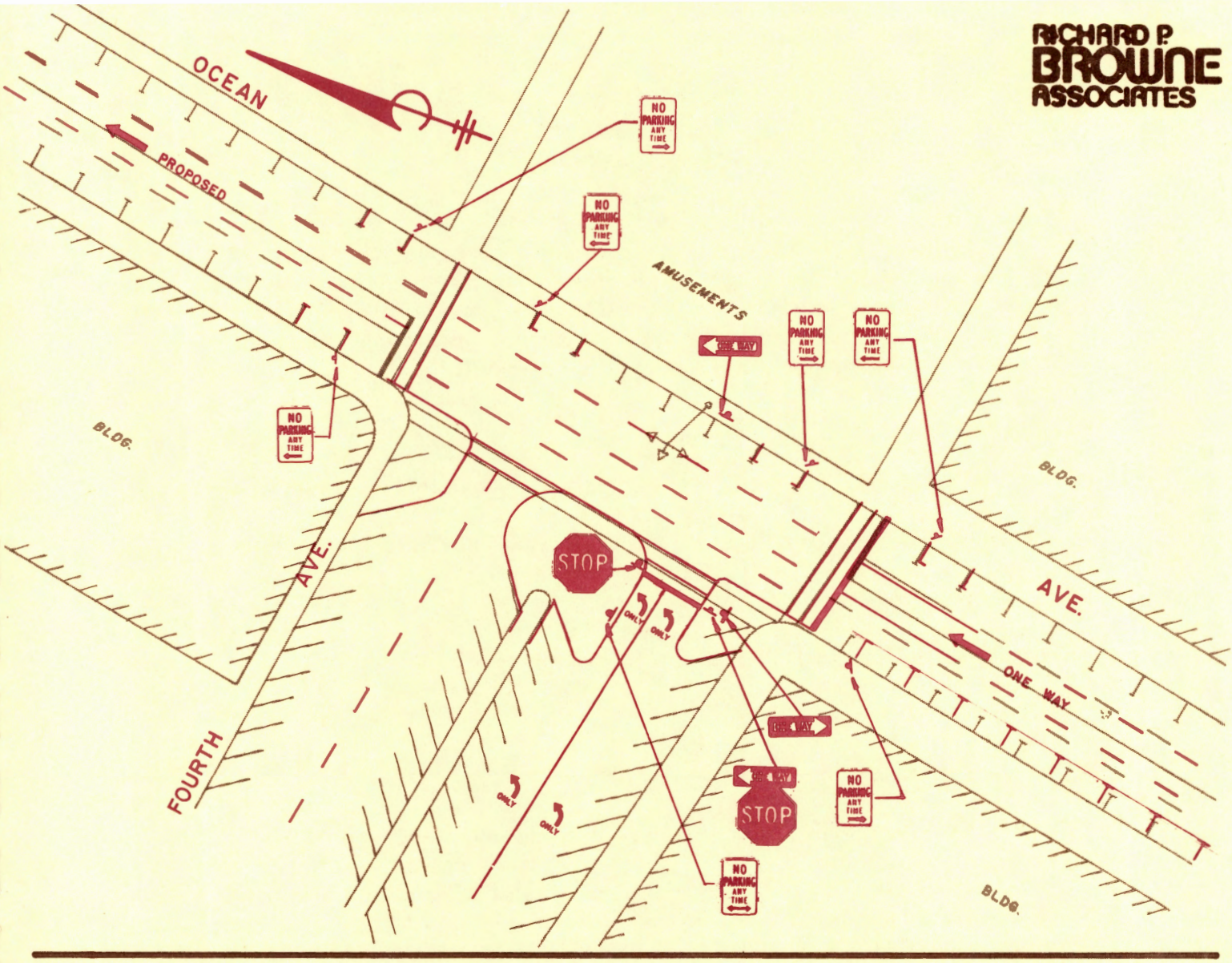
Recommendations

The establishment of Ocean Avenue as a one-way street all year round is recommended. The construction of pedestrian and channelization islands are also recommended. Removal of the traffic signal and installation of stop signs are recommended.

Benefits

The establishment of Ocean Avenue as a one-way street all year round will allow for proper signing and pavement markings and will eliminate the need for local drivers to adjust from one-way to two-way operation. Construction of the channelizing or raised island will reduce the exposure for pedestrians from moving traffic. Traffic signals on Ocean Avenue south of the location will generate sufficient gaps to allow for pedestrian movement without signalization.

RICHARD P. BROWNE ASSOCIATES



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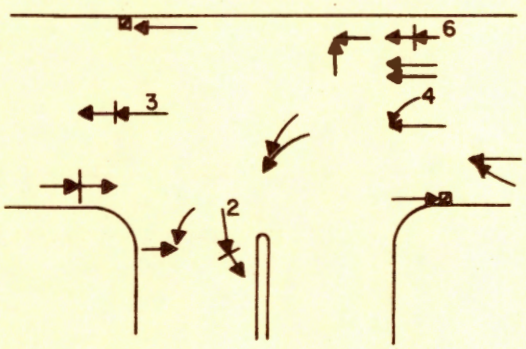


ACCIDENT SUMMARY— 3 YR. PERIOD
4 NOT SHOWN

0 60 120

Scale : 1"- 60'

PROPOSED IMPROVEMENT 5-9

5 - 10 FIRST AVENUE AND KINGSLEY AVENUE ASBURY PARK

Kingsley Avenue is part of the proposed Asbury Park one-way system. First Avenue is a local street on the proposed Asbury Park area functional roadway system. The approaches of the side street provide for parking generated by commercial development in the area and along the boardwalk one block to the east. The location is controlled by a fixed time traffic signal.

Problems

This location has a considerable number of right angle and turning movement accidents. Rear end collisions are also experienced at this location. Kingsley Avenue operates one-way southbound during the summer months only. Considerable circulation traffic occurs through this intersection due to the on and off street parking facilities.

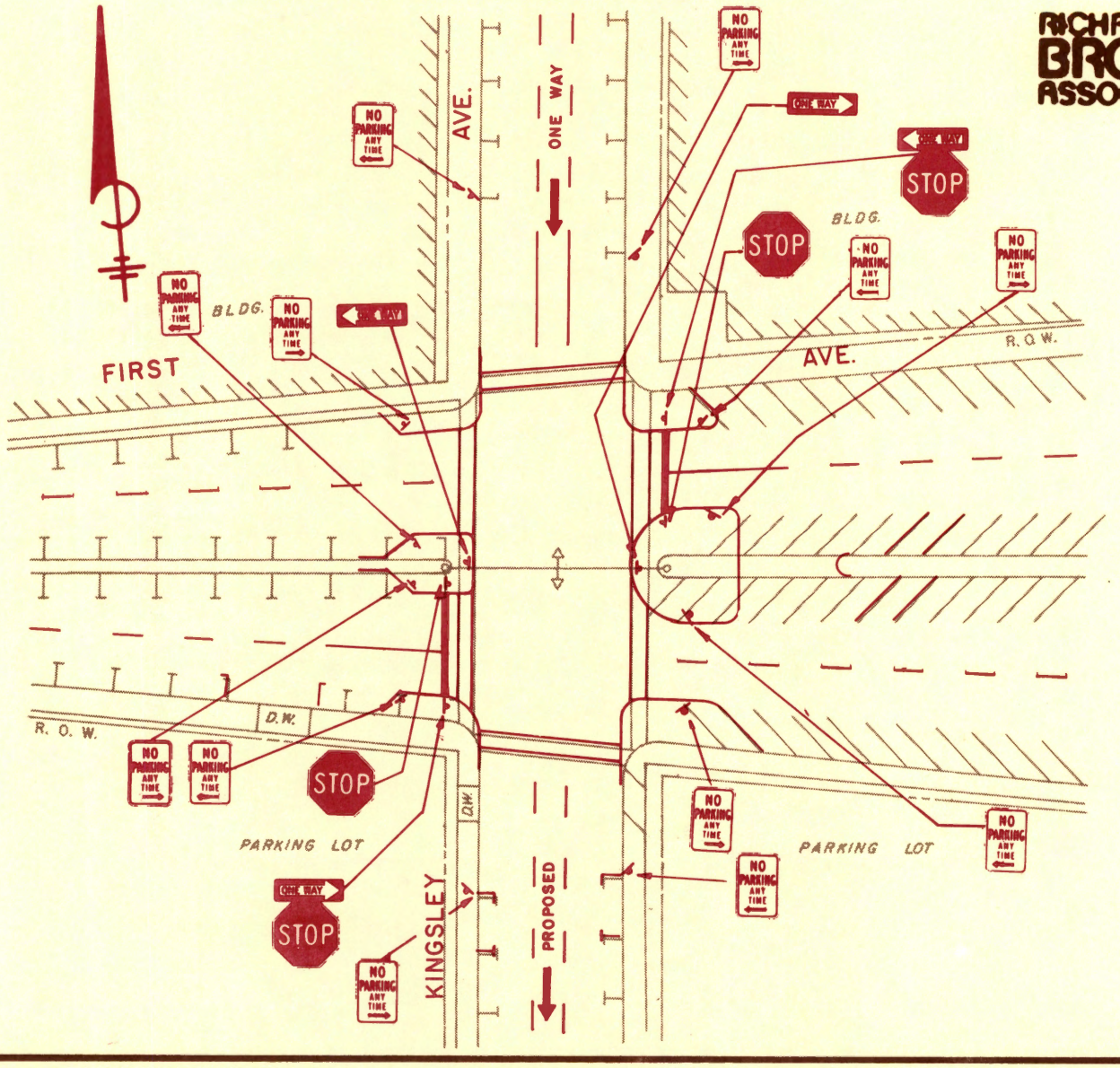
Recommendations

The adoption of Kingsley Avenue as a one-way street southbound for the entire year is recommended. Construction of the islands on the side street approach are recommended to reduce the area of main street and side street conflicts. Removal of the traffic signal is recommended and should be replaced with the installation of stop sign control.

Benefits

Capacity, safety and operational characteristics of this location and the adjacent northbound roadway will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES



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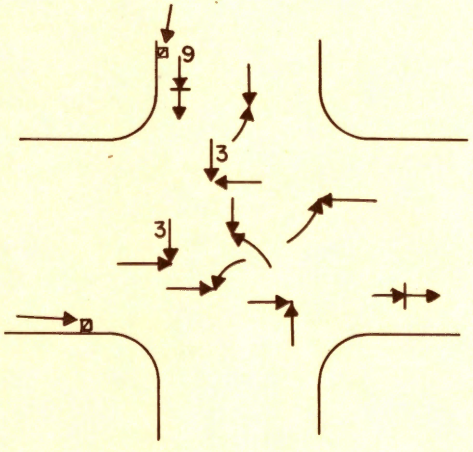


ACCIDENT SUMMARY— 3 YR. PERIOD
4 NOT SHOWN

0 60 120

Scale : 1" = 60'

PROPOSED IMPROVEMENT 5-10

5 - 11 NEW JERSEY ROUTE 35 AND SPRINGWOOD AVENUE NEPTUNE TOWNSHIP

Springwood Avenue is part of the Asbury Park proposed area functional roadway system. The intersection is controlled by a semi-actuated traffic signal.

Problems

This location has high traffic volumes on New Jersey Route 35. Traffic volumes on Springwood Avenue are expected to increase as a result of the New Jersey Route 71 (Main Street) median improvement. Curb turning radii are inadequate. A considerable number of right angle and turning movement accidents are experienced.

Recommendations

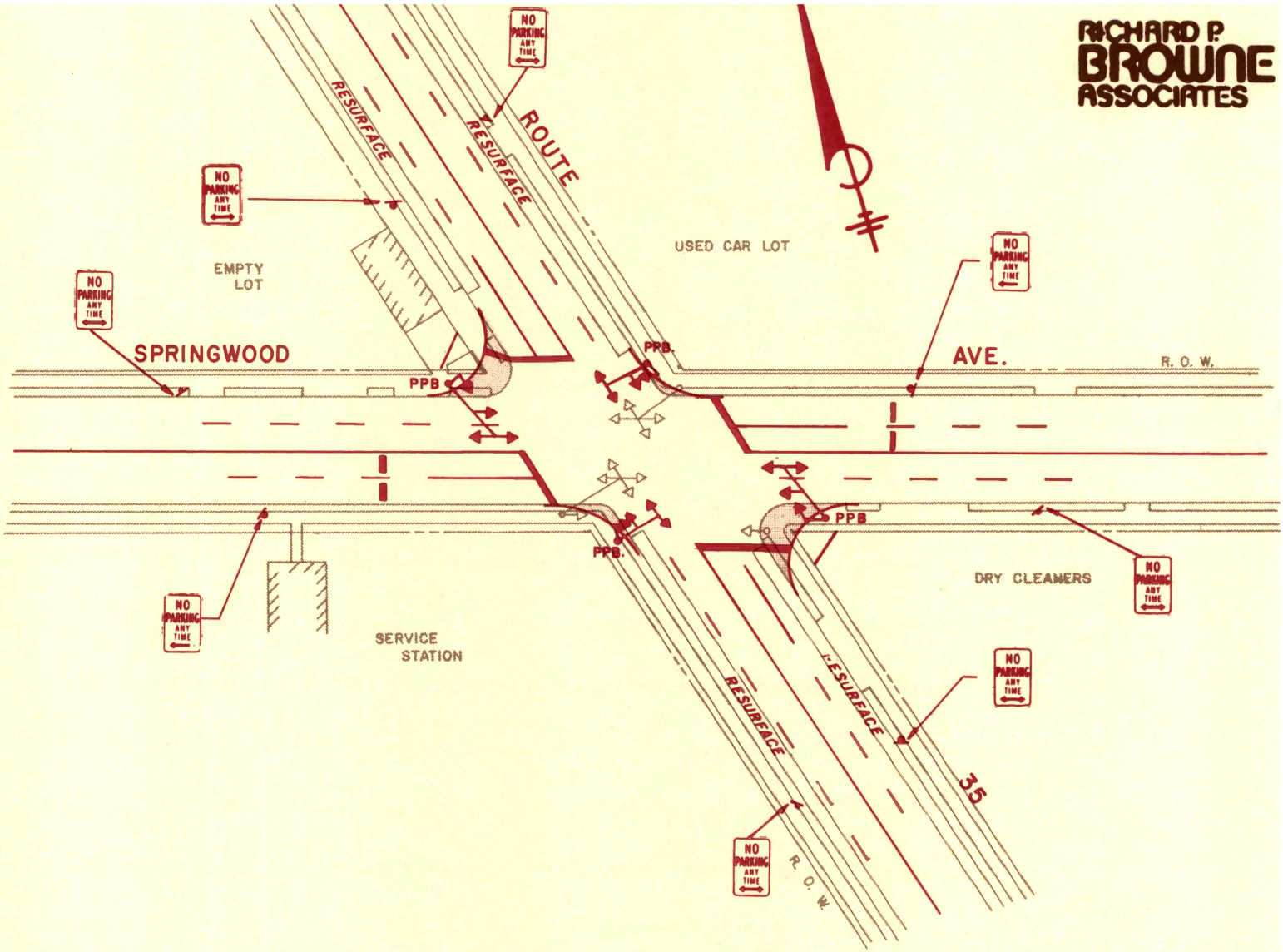
Turning radii are to be modified on all corners. New Jersey Route 35 should be resurfaced as to widen its approaches. Modification to the traffic signal layout is recommended to increase its visibility.

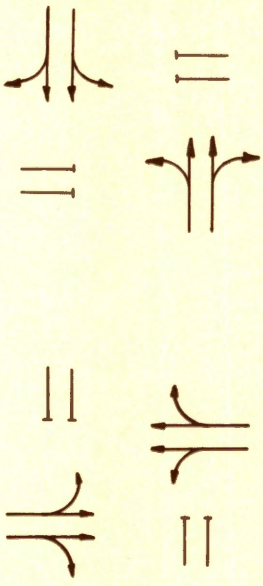
Benefits

The safety and operational characteristics of this location should be improved by these recommendations. The capacity of this location will also be improved by the widening of New Jersey Route 35.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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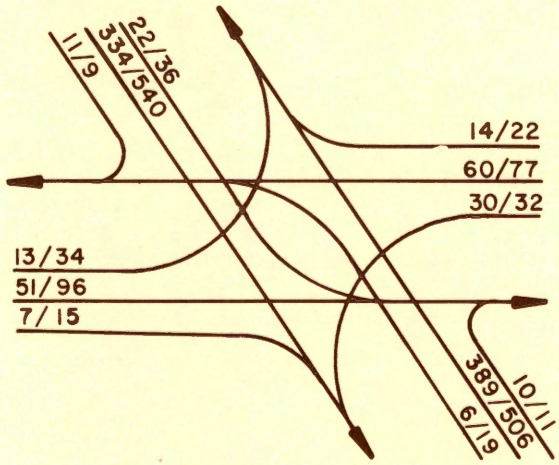
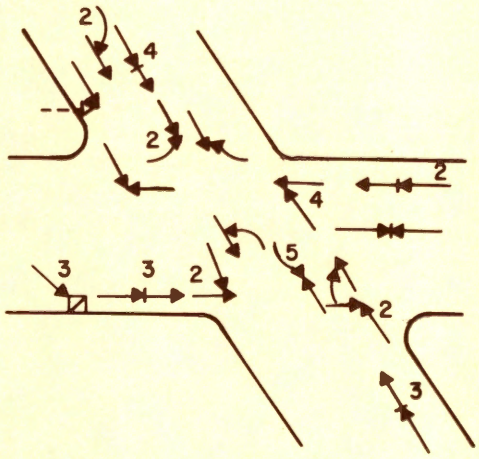


PEAK HOUR VOLUME
8:30-9:30 A.M./5:00-6:00 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD
7 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 5-11

5 - 12 NEW JERSEY ROUTE 71 (MAIN STREET) AND MAIN AVENUE NEPTUNE TOWNSHIP/OCEAN GROVE

This intersection is the northernmost entrance to Ocean Grove. The Boulevard is the southernmost entrance to downtown Asbury Park.

Problems

This location has high conflicting traffic volumes and a heavy left turn from southbound to eastbound. Existing parking and inadequate approach lane arrangements contribtue to the operational problems.

Recommendations

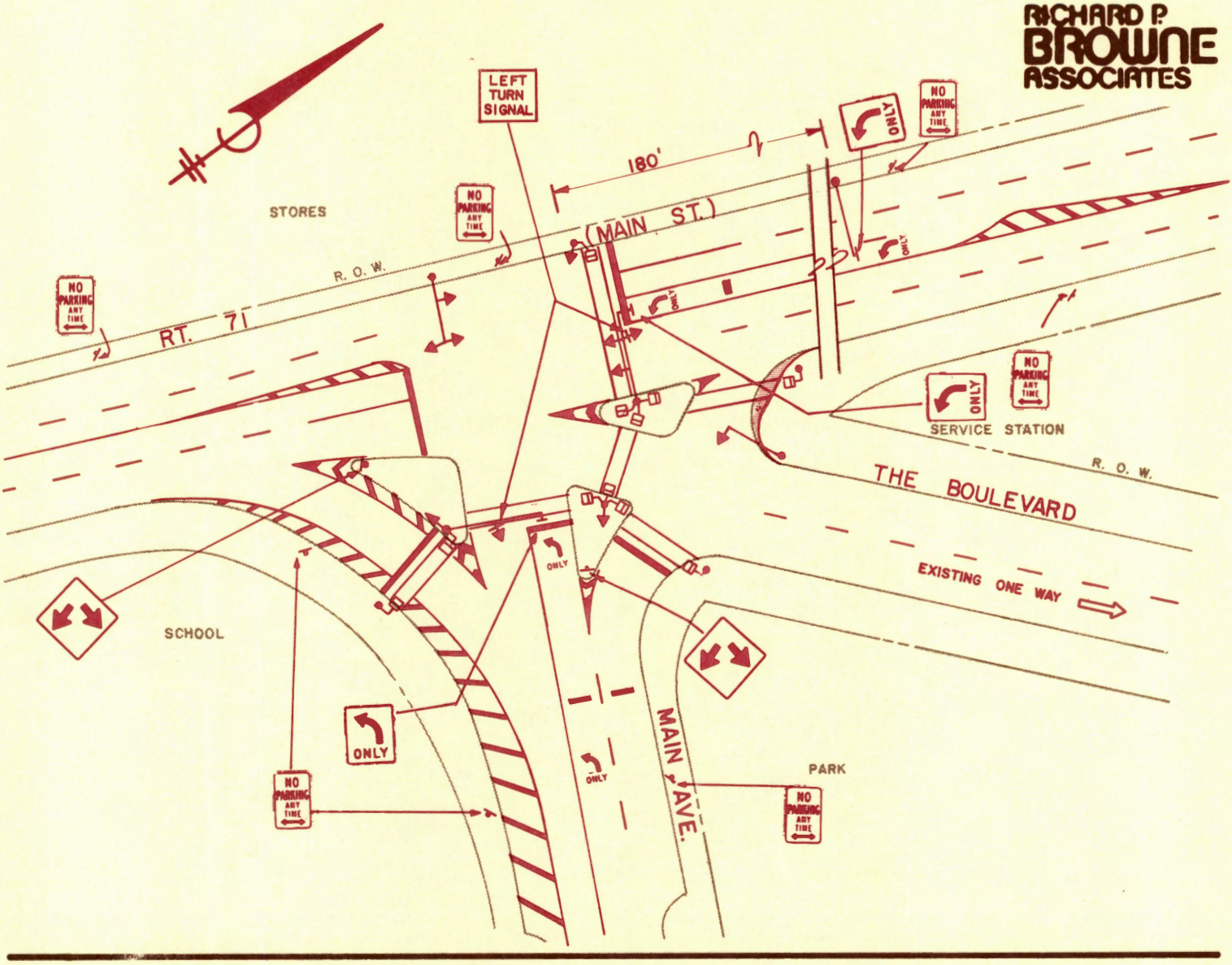
Modification to the signal layout and pavement markings is recommended in order to compact the intersection. Minor modification to the radius on the north side of the intersection, removal of parking, and provision of a left turn lane on the southbound approach are also recommended. Pedestrian signals are required to avoid confussing indicators to pedestrians and vehicles.

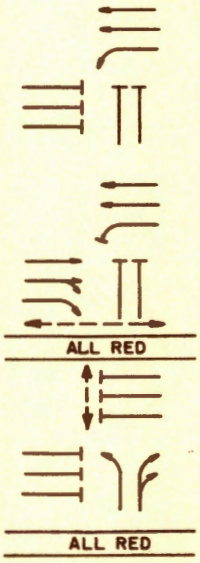
Benefits

The compacting of the intersection will reduce stop bar distance, improving visibility and operational characteristics. Provision of the left turning lanes and intervals in the sequence will contributeto the overall improvement.

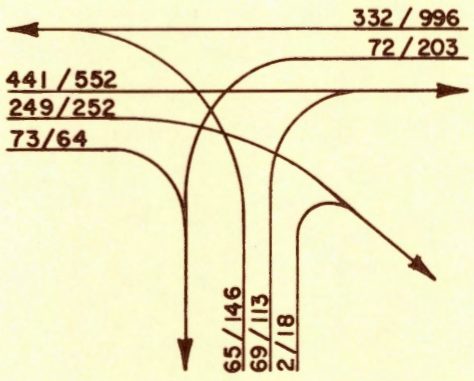
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

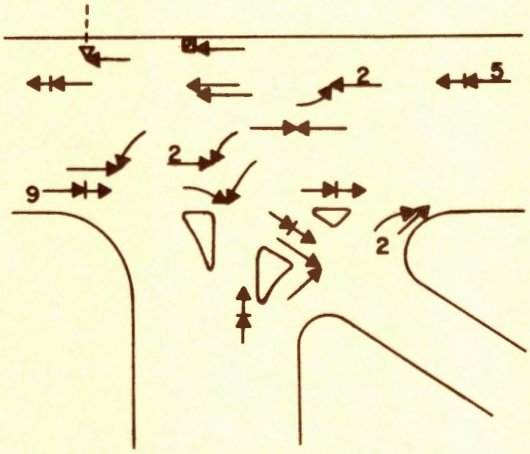




SIGNAL SEQUENCE



PEAK HOUR VOLUME
8:15 -9:15 A.M. / 4:30 - 5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
12 NOT SHOWN

0 60 120

Scale : 1" = 60'

PROPOSED IMPROVEMENT 5-12

5 - 13 NEW JERSEY ROUTE 35 AND HECK AVENUE NEPTUNE TOWNSHIP

Heck Avenue is a collector roadway for the surrounding area. The intersection is controlled by stop signs.

Problems

Because of buildings and a billboard located close to the roadway this location has reduced sight distance on several approaches. A large number of right angle and turning movement accidents are experienced.

Recommendations

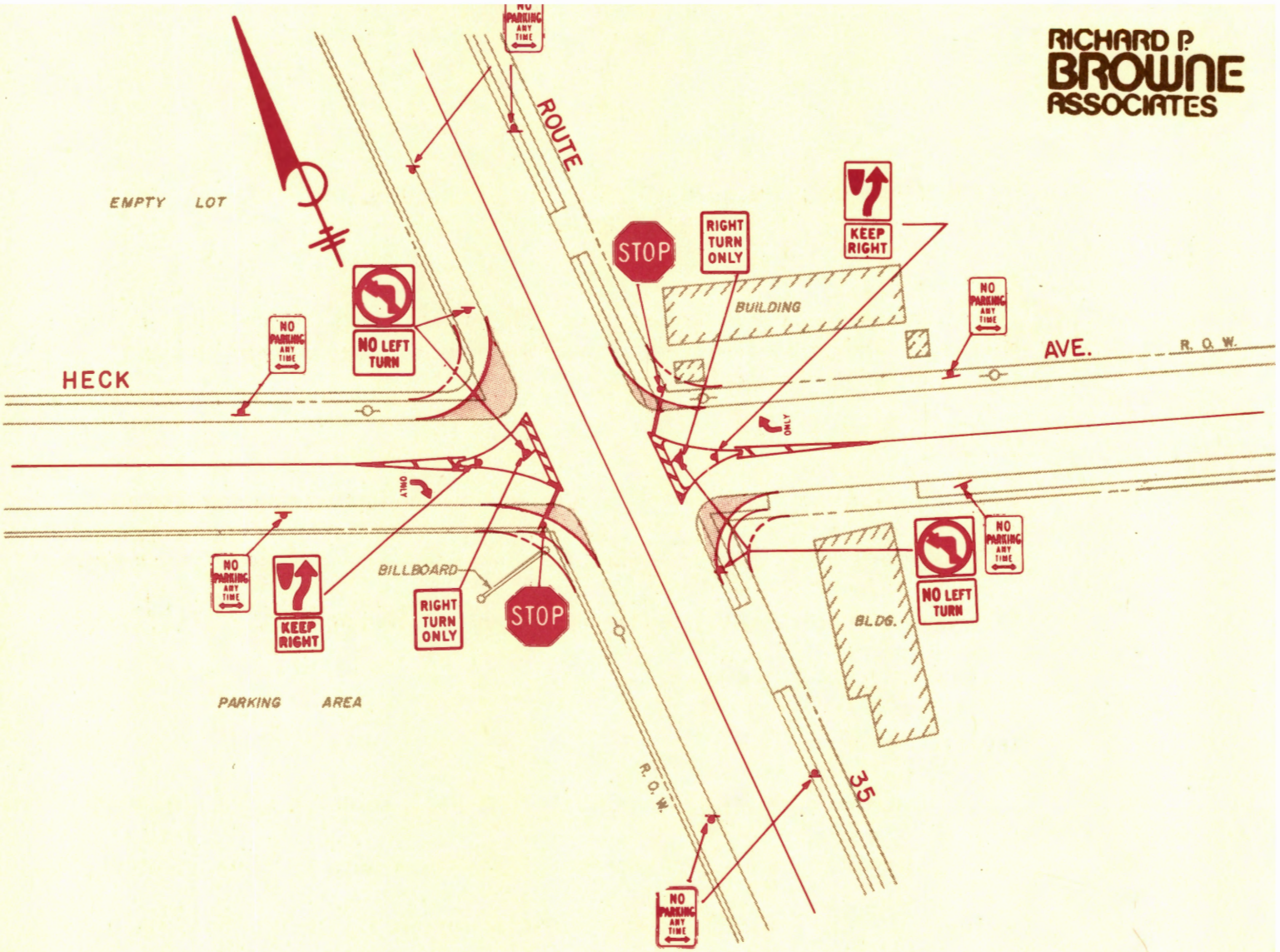
Modification to curb turning radii and construction of the traffic islands as indicated are recommended. Straight through and left turns should be prohibited from Heck Avenue. Removal of the billboard obstructing sight distance across the southwest corner is recommended.

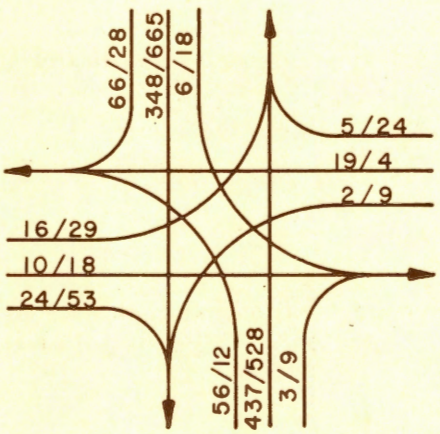
Benefits

The safety and operational characteristics of this location would be improved by these recommendations. The projected movement from Heck Avenue is better accommodated on the adjacent street network.

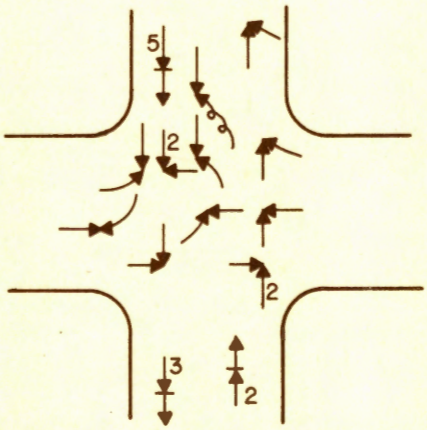
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
7:30 - 8:30 A.M./ 4:30 - 5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
12 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-13

5 - 14 CORLIES AVENUE (N.J. ROUTE 33) AND SPRINGDALE AVENUE NEPTUNE TOWNSHIP

Springdale Avenue to the north of this intersection is a major collector roadway for the surrounding area. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

This location has high traffic volumes with high turning movements from the southbound approach of Springdale Avenue. Roadway width and approach lane arrangement are inadequate on New Jersey Route 33. A large number of right angle and turning movement accidents are experienced.

Recommendations

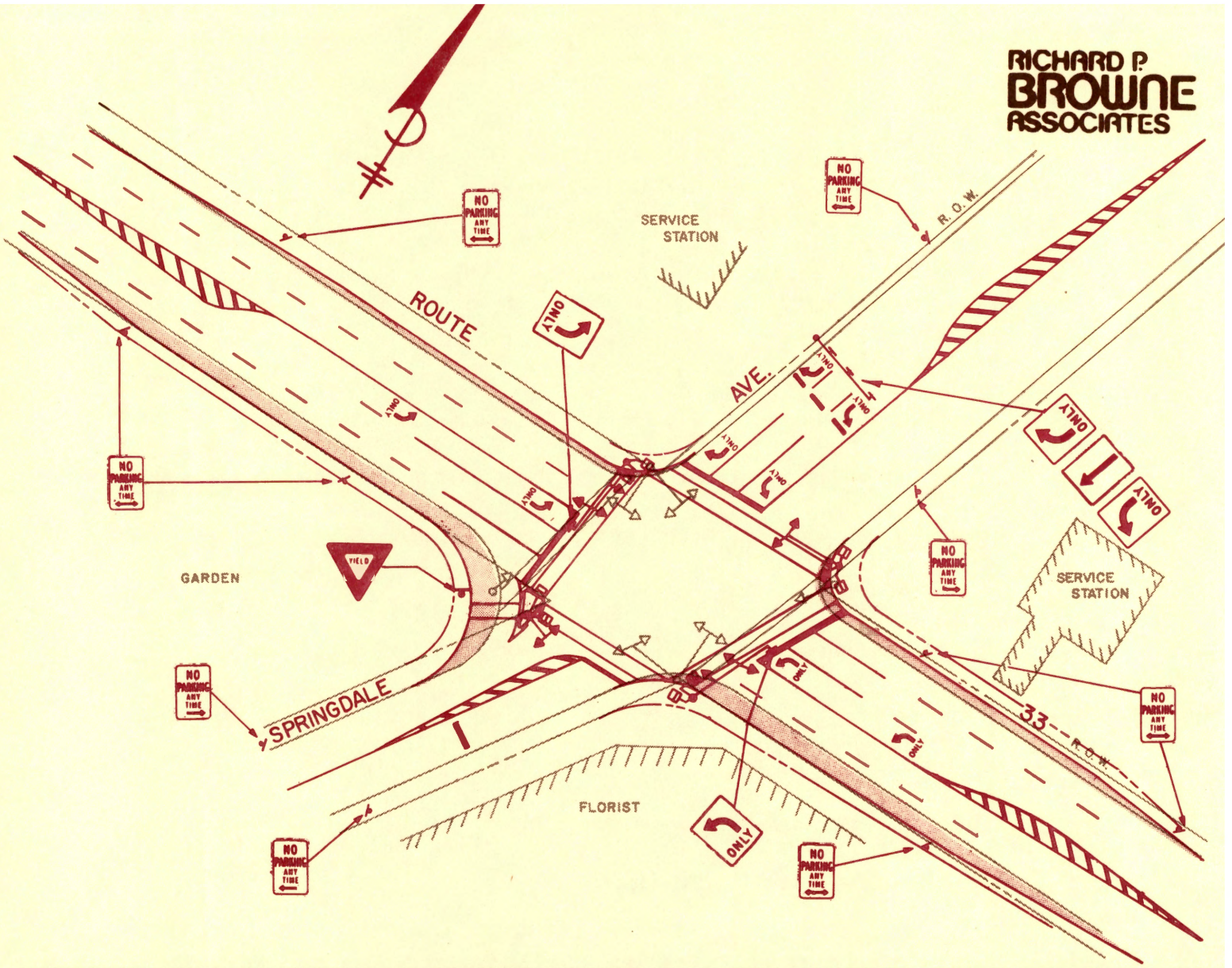
Widening of the approach lanes on New Jersey Route 33 and modification to the curb turning radii is recommended. Provision for special left turning lanes on the New Jersey Route 33 approaches are recommended. Provision for three lanes on the Springdale Avenue northerly approach is also recommended. Revision to the signal layout is recommended to increase its visibility. Pedestrian signals are also recommended.

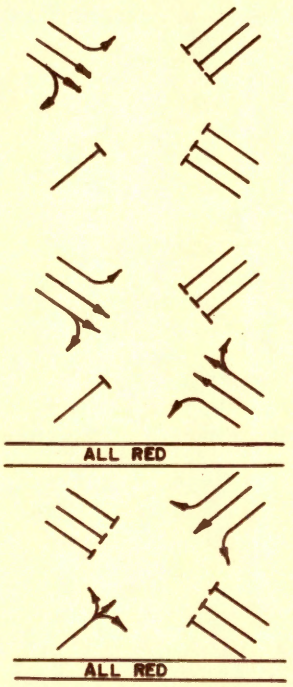
Benefits

The capacity, safety and operational characteristics of this location would be improved by these recommendations.

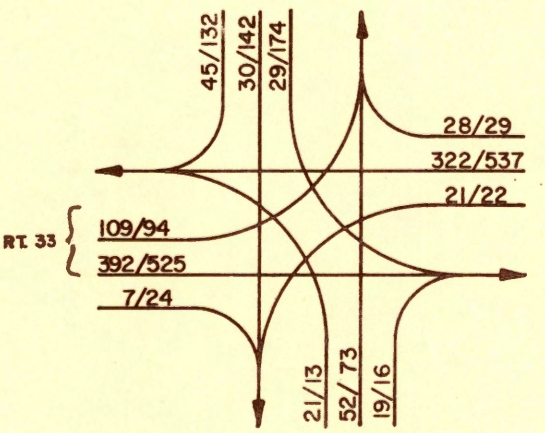
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

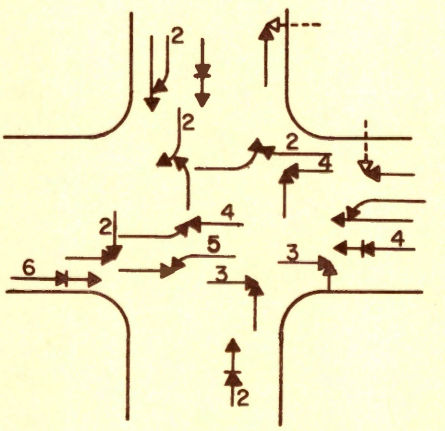




PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
7:45-8:45 A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD

0 60 120

PROPOSED IMPROVEMENT 5-14

5 - 15 NEW JERSEY ROUTE 33 AND RIDGE AVENUE NEPTUNE TOWNSHIP

Ridge Avenue is a collector roadway for the surrounding area. The intersection is controlled by stop signs and a flashing signal.

Problems

This location has considerable traffic volumes on New Jersey Route 33. This section of New Jersey Route 33 is not wide enough to meet anticipated traffic demands. A considerable amount of right angle accidents are experienced.

Recommendations

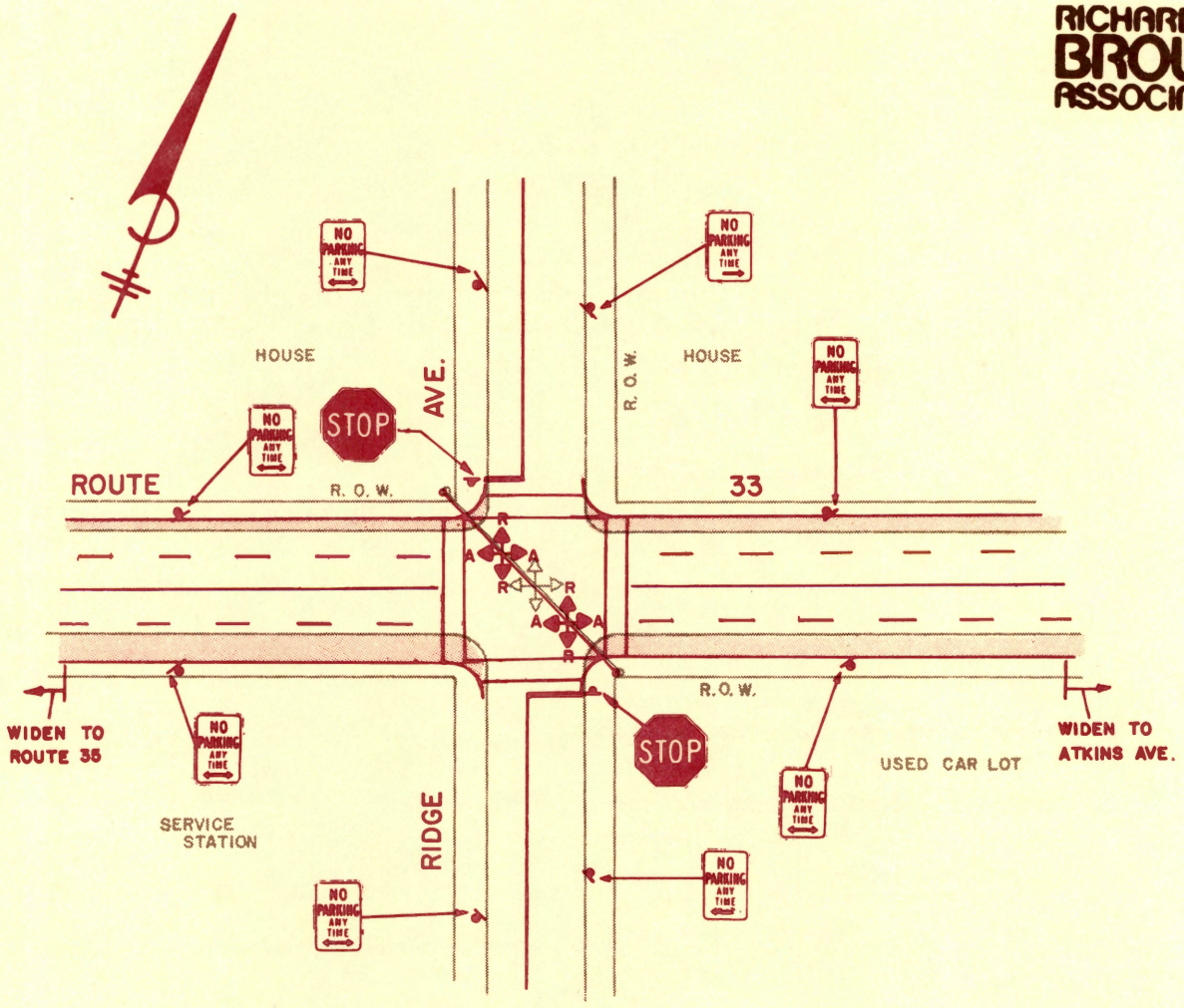
Widening of this section of New Jersey Route 33 is recommended to provide for two lanes in each direction.

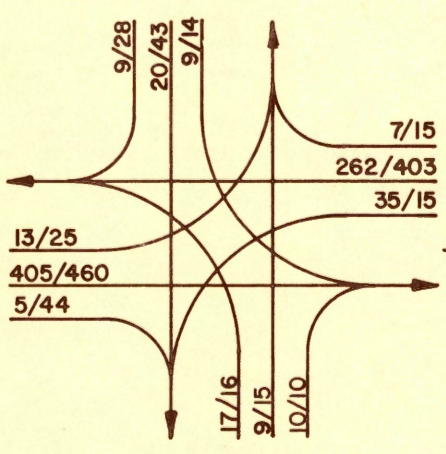
Benefits

The capacity, safety and operational characteristics of this location would be improved by these recommendations.

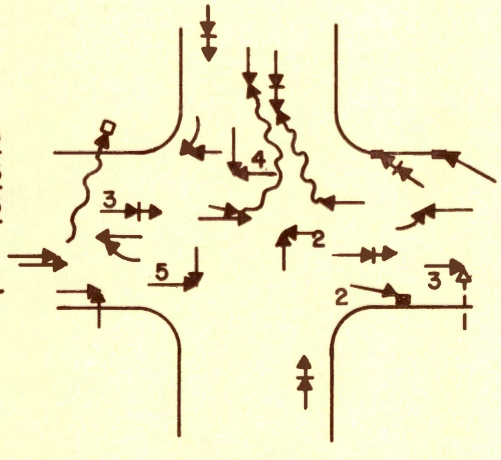
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
8:30-9:30 A.M./4:30-5:30 P.M.



ACCIDENT SUMMARY 3 YR. PERIOD
7 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-15

5 - 16 NEW JERSEY ROUTE 66 AND ASBURY AVENUE NEPTUNE TOWNSHIP

This location is the intersection of two major roadways for the surrounding area. The conflicting movements are presently controlled by a semi-actuated traffic signal.

Problems

This location has insufficient roadway width to meet anticipated traffic demands. The intersection count shown is at the Asbury Avenue and Bowne Road intersection. Traffic Volume information in the surrounding area indicates considerable present and anticipated traffic volume. A considerable number of right angle accidents are experienced at this location.

Recommendations

Asbury Avenue should be widened to provide for two lanes on each approach at the traffic signal and the two westbound lanes should be continued through Wayside Road. Modification to the traffic islands and curb turning radii are also recommended. Revision to the traffic signal to increase its visibility is also recommended.

Benefits

The capcity, safety and operational characteristics of this location would be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

BOWNE RD.

ASBURY AVE.

ROUTE 33

ROUTE 66

WAYSIDE RD.

WOODS

STOP

NO PARKING ANY TIME

KEEP RIGHT

200'

ONLY

NOTE: RIGHT OF WAY IN QUESTION

PROPOSED SIGNAL SEQUENCE

ALL RED

AVERAGE PEAK HOUR TRAFFIC

750

1,250

1,380

1,030

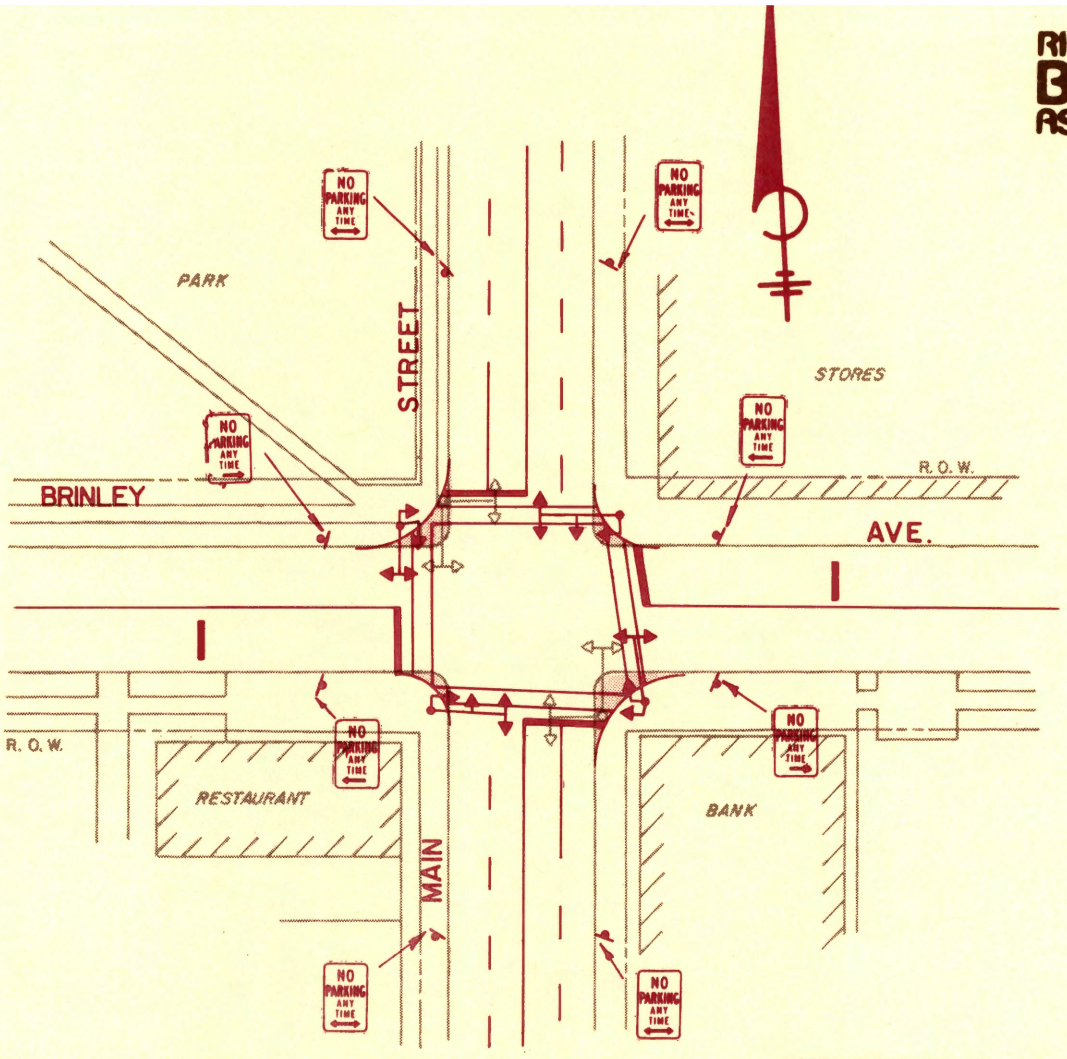
ACCIDENT SUMMARY — 3 YR. PERIOD
29 NOT SHOWN

0 60 120

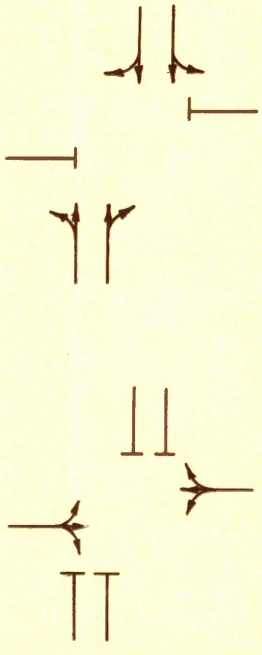
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-16

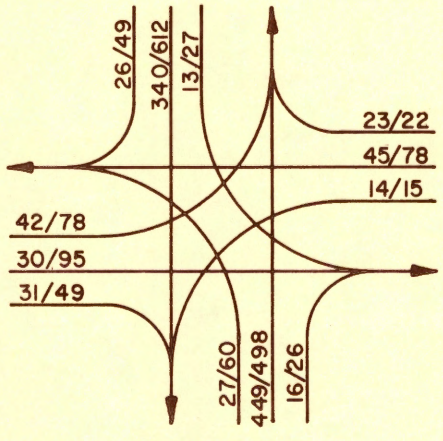
RICHARD P. BROWNE ASSOCIATES



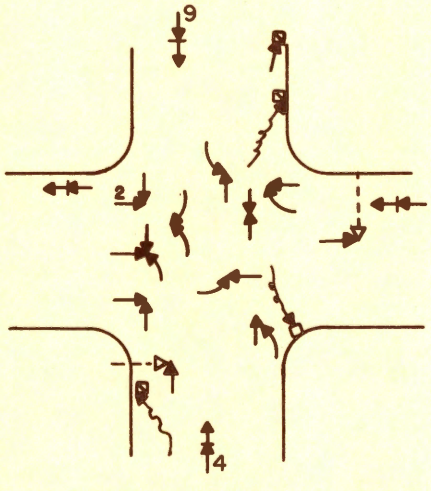
NOTE: RIGHT OF WAY IN QUESTION



PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
8:15–9:15 A.M./4:30–5:30 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD
7 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-17

5 - 18 NORWOOD AVENUE (N.J. ROUTE 71) AND ROOSEVELT AVENUE DEAL

Roosevelt Avenue is a collector roadway for the surrounding area and connects Ocean Avenue at the coastline with Monmouth Road to the west. Norwood Avenue is offset at this intersection. This location is controlled by a semi-actuated traffic signal.

Problems

This location has high traffic volumes with considerable volumes on the side street and considerable turning movements on two approaches. Approach lanes and receiving lanes for Norwood Avenue are not aligned. A slight mis-alignment on Roosevelt Avenue also exists. A considerable number of right angle accidents are experienced.

Recommendations

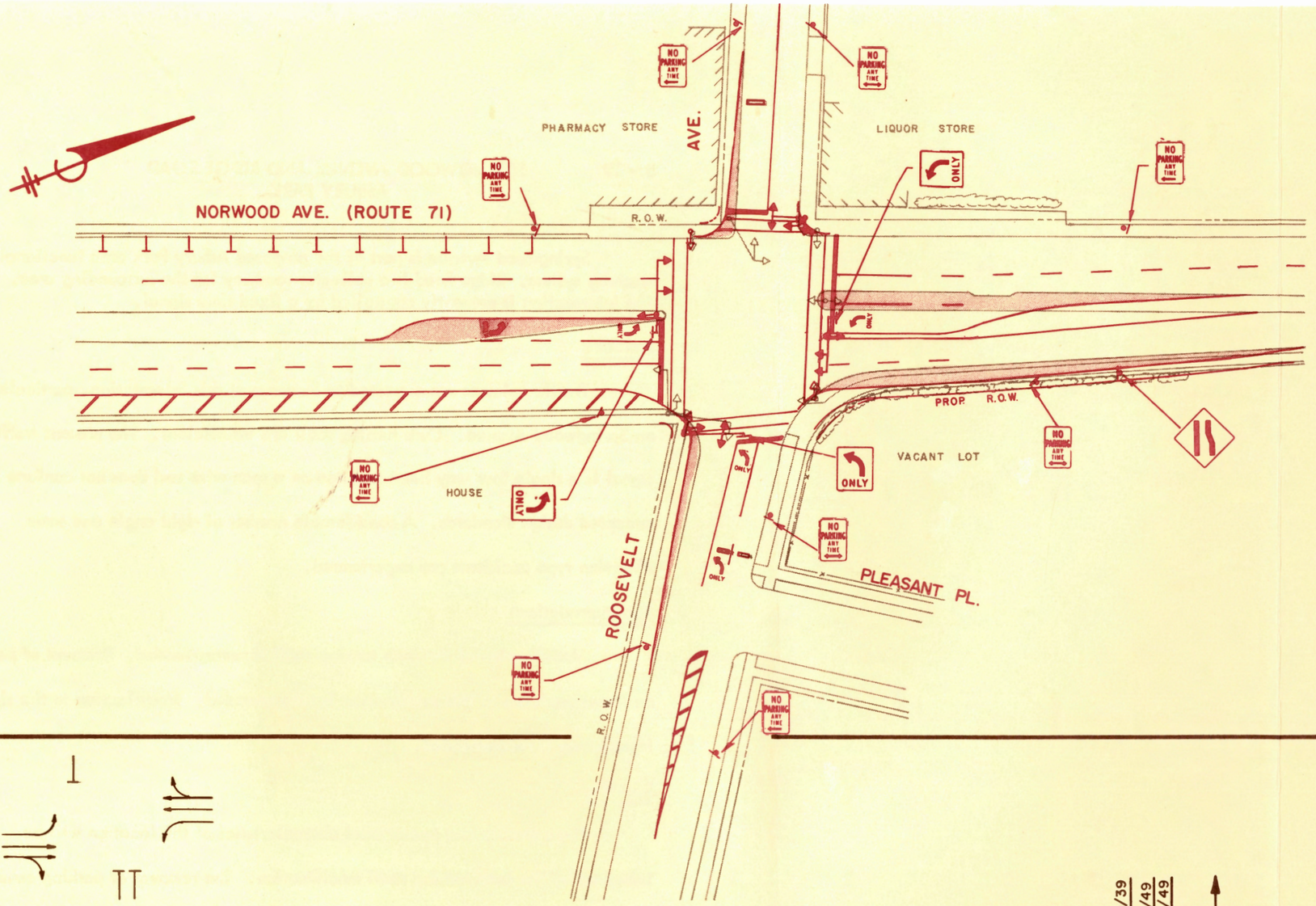
Modification of the center islands and receiving lanes is recommended to align the approach lanes with the receiving lanes. Provision for special left turn lanes for the southbound, northbound and westbound movements is recommended. Minor modification to the Roosevelt Avenue eastbound approach and receiving lane is recommended. Modification of the signal layout to increase its visibility is also recommended.

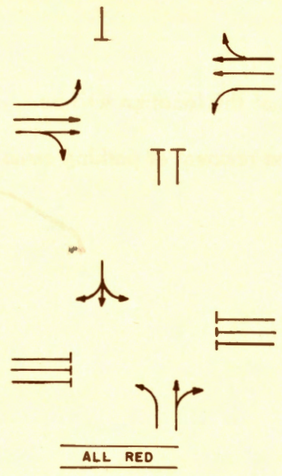
Benefits

Provision for the special turning lanes will increase the capacity at this location. The proposed realignment and modification to the traffic signal should improve safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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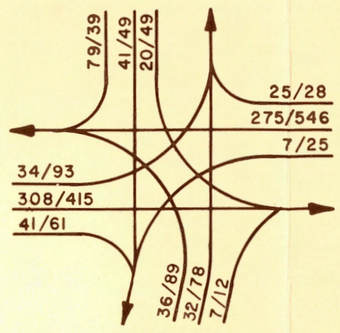
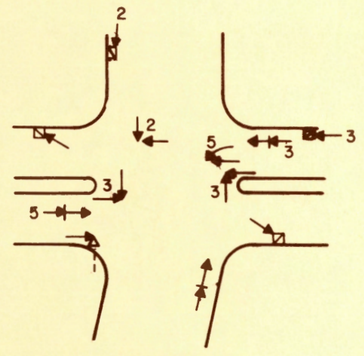


PEAK HOUR VOLUME
8:00-9:00 A.M./4:15-5:15 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
7 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-18

5 - 19 SPRINGWOOD AVENUE AND RIDGE ROAD ASBURY PARK

Springwood Avenue is part of the proposed Asbury Park area functional roadway system. Ridge Road is a collector roadway for the surrounding area. The intersection is presently controlled by a fixed time signal.

Problems

Traffic volumes are expected to increase at this intersection, particularly on Springwood Avenue. Curb turning radii are insufficient. The present traffic signal is a single four way head mounted on a span wire and does not conform to accepted design standards. A considerable number of right angle and same direction type accidents are experienced.

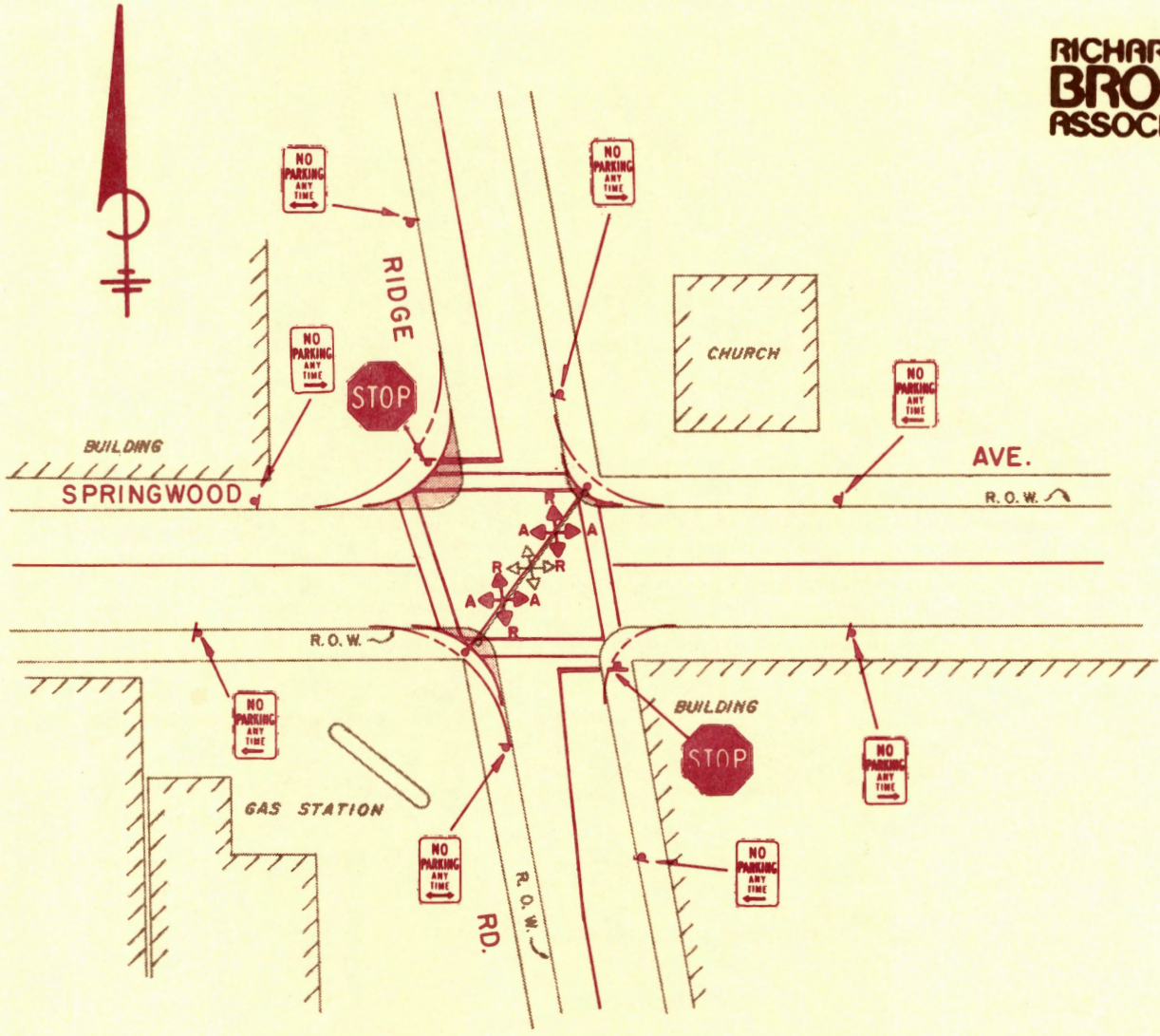
Recommendations

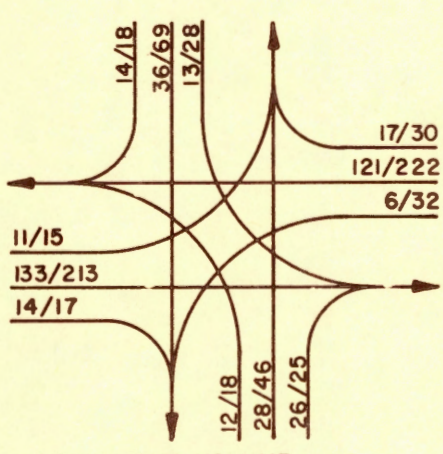
Modification of the curb turning radii is recommended. Removal of parking on the approaches to this intersection is recommended. Modification to the signal installation is recommended.

Benefits

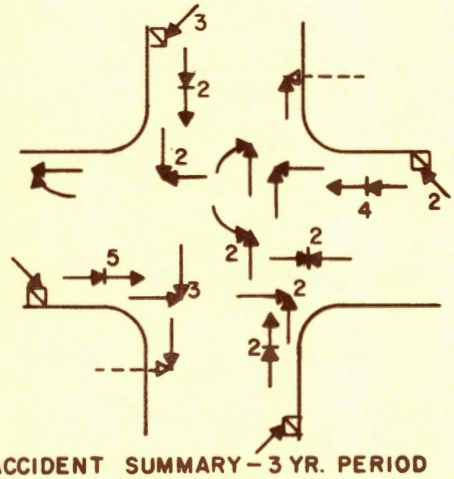
The capacity and operational characteristics of this location will be improved by the curb turning radii modification. The removal of parking combined with signal modification should increase safety.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
7:45 - 8:45 A.M. / 4:30 - 5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
2 NOT SHOWN

0 60 120
Scale: 1" = 60'

PROPOSED IMPROVEMENT 5-19

5 - 20 NEW JERSEY ROUTE 35 AND SIXTH AVENUE NEPTUNE TOWNSHIP

Sixth Avenue connects with Ocean Avenue on the coastline. This location has high traffic volumes with considerable traffic volume on the side street.

Problems

Curb truning radii are inadequate. A considerable number of right angle and turning movement accidents are experienced.

Recommendations

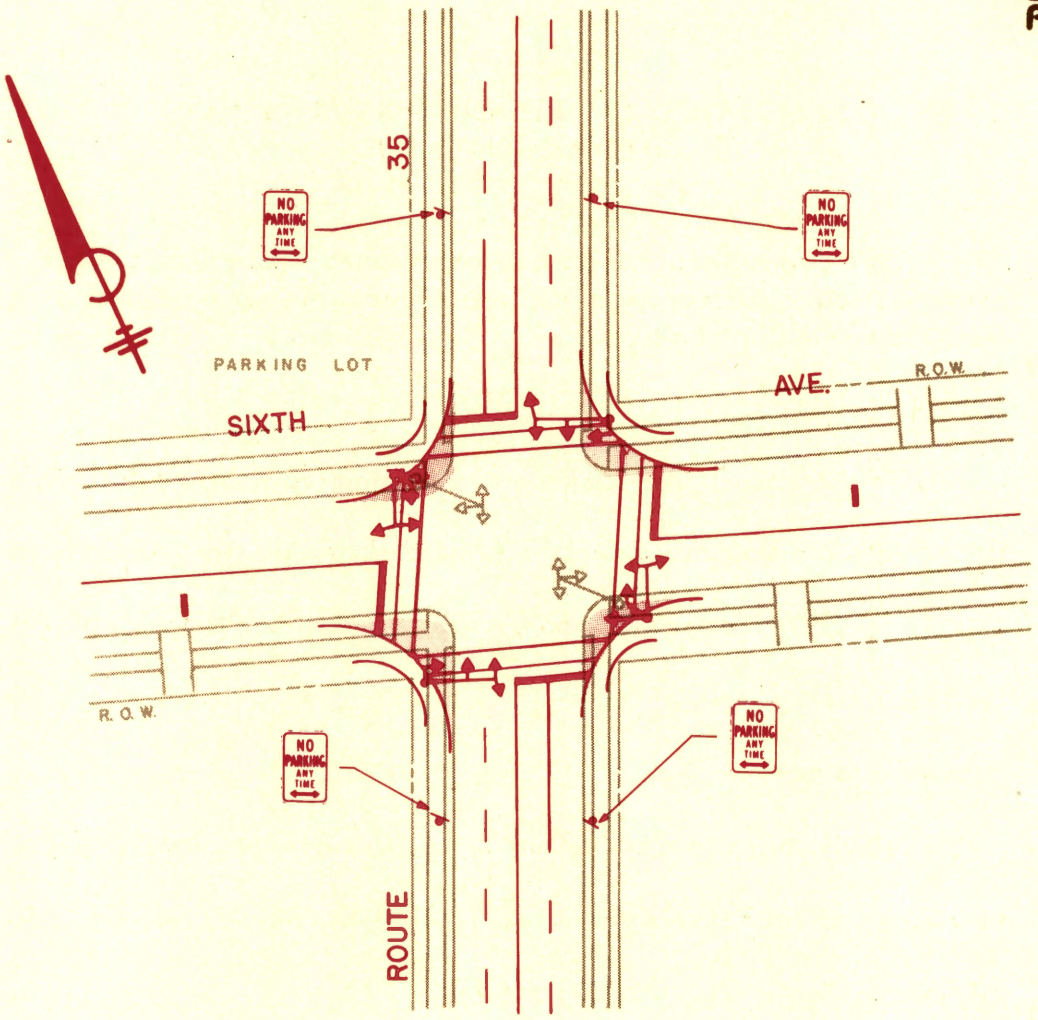
Modification to the curb turning radii is recommended. Modification of the traffic signal layout is recommended to increase its visibility.

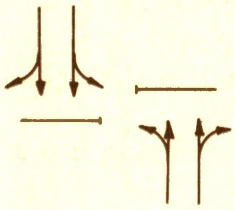
Benefits

The capacity, safety and operational characteristics of this location will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

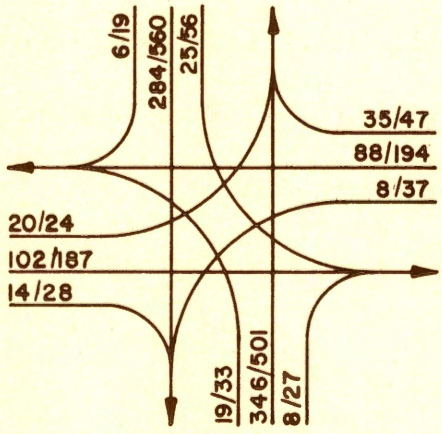
RICHARD P. BROWNE ASSOCIATES







PROPOSED SIGNAL SEQUENCE



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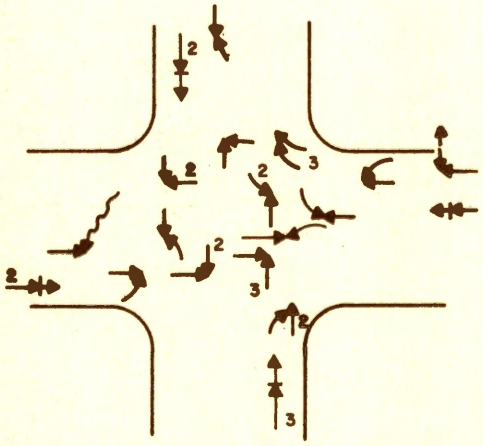
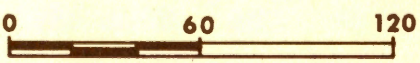


ACCIDENT SUMMARY 3 YR. PERIOD
5 NOT SHOWN



Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-20

5 - 21 SPRINGWOOD AVENUE AND FISCHER AVENUE NEPTUNE TOWNSHIP

Springwood Avenue is part of the proposed Asbury Park area functional roadway system. Fischer Avenue is a local roadway. The intersection is presently controlled by stop signs.

Problems

This location has inadequate curb turning radii. Sight distance on several approaches is inadequate. Vehicles presently park too close to the intersection and limit visibility. A considerable number of right angle accidents and fixed object accident are experienced.

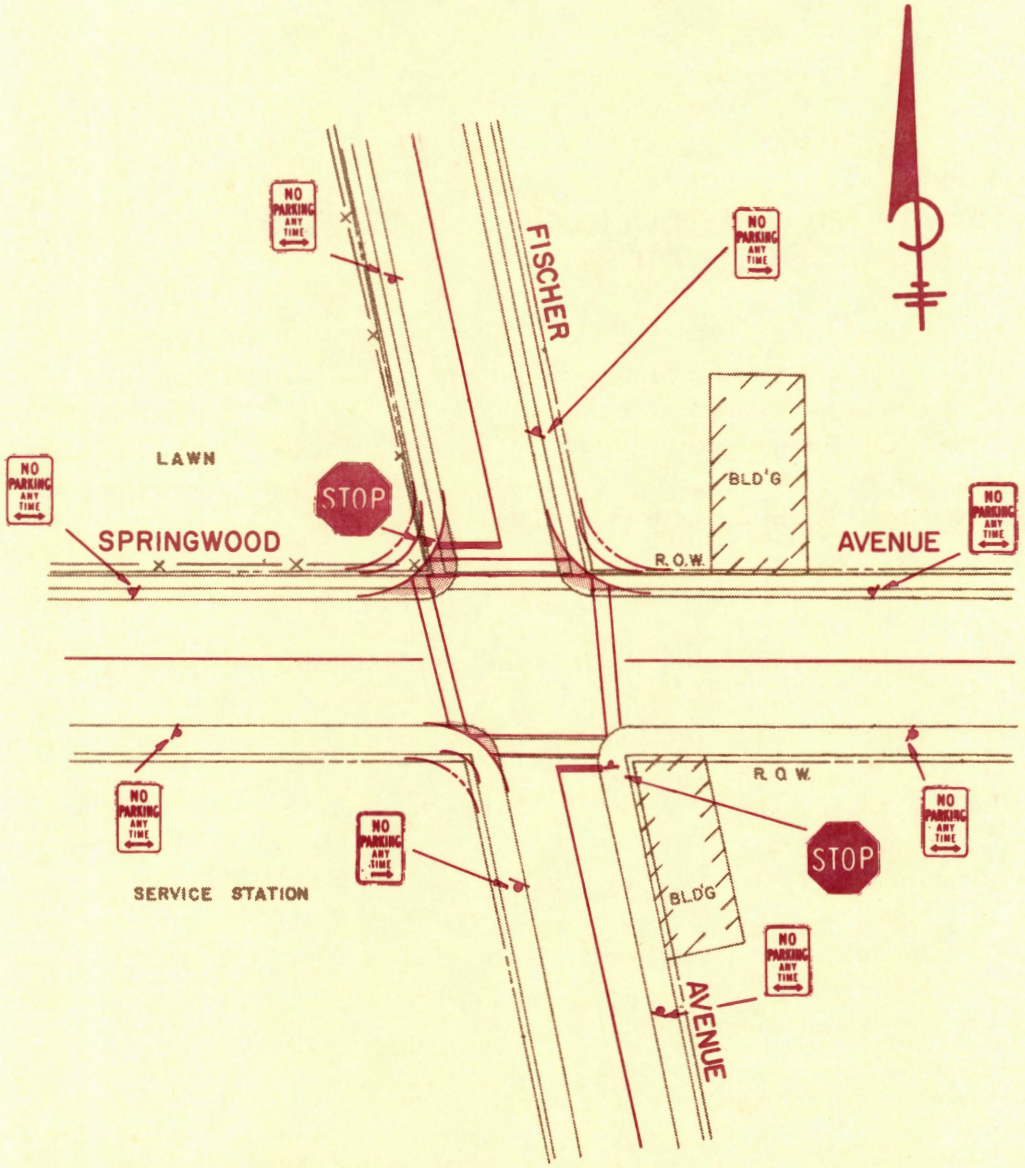
Recommendations

Modification to the curb turning radii is recommended. Installation of oversized stop signs is recommended. Prohibition of parking on the approaches to this intersection is also recommended.

Benefits

The safety and operational characteristics of this location will be improved by these recommendations. In the proposed improvement, no modification to the curb turning radius on the southeast corner is recommended even though it is inadequate. Improving this radius would require modification to the existing building and traffic volume counts in the surrounding area indicate insufficient turning volume exists to justify that costly procedure.

RICHARD P. BROWNE ASSOCIATES



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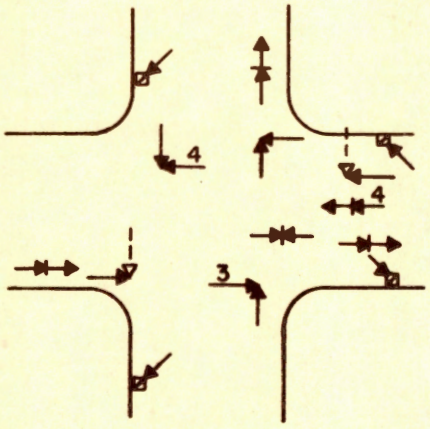


ACCIDENT SUMMARY – 3 YR. PERIOD
7 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-21

5 - 22 SYLVANIA AVENUE AT LAWRENCE DRIVE AND OXFORD WAY NEPTUNE TOWNSHIP

Lawrence Drive is a local roadway. Oxford Way is a local roadway which provides access for the apartment complex located in the northwest quadrant of this location. Oxford Way bends sharply to the northwest just north of this location, and then connects to Corlies Avenue (New Jersey Route 33). The intersection is presently controlled by stop signs.

Problems

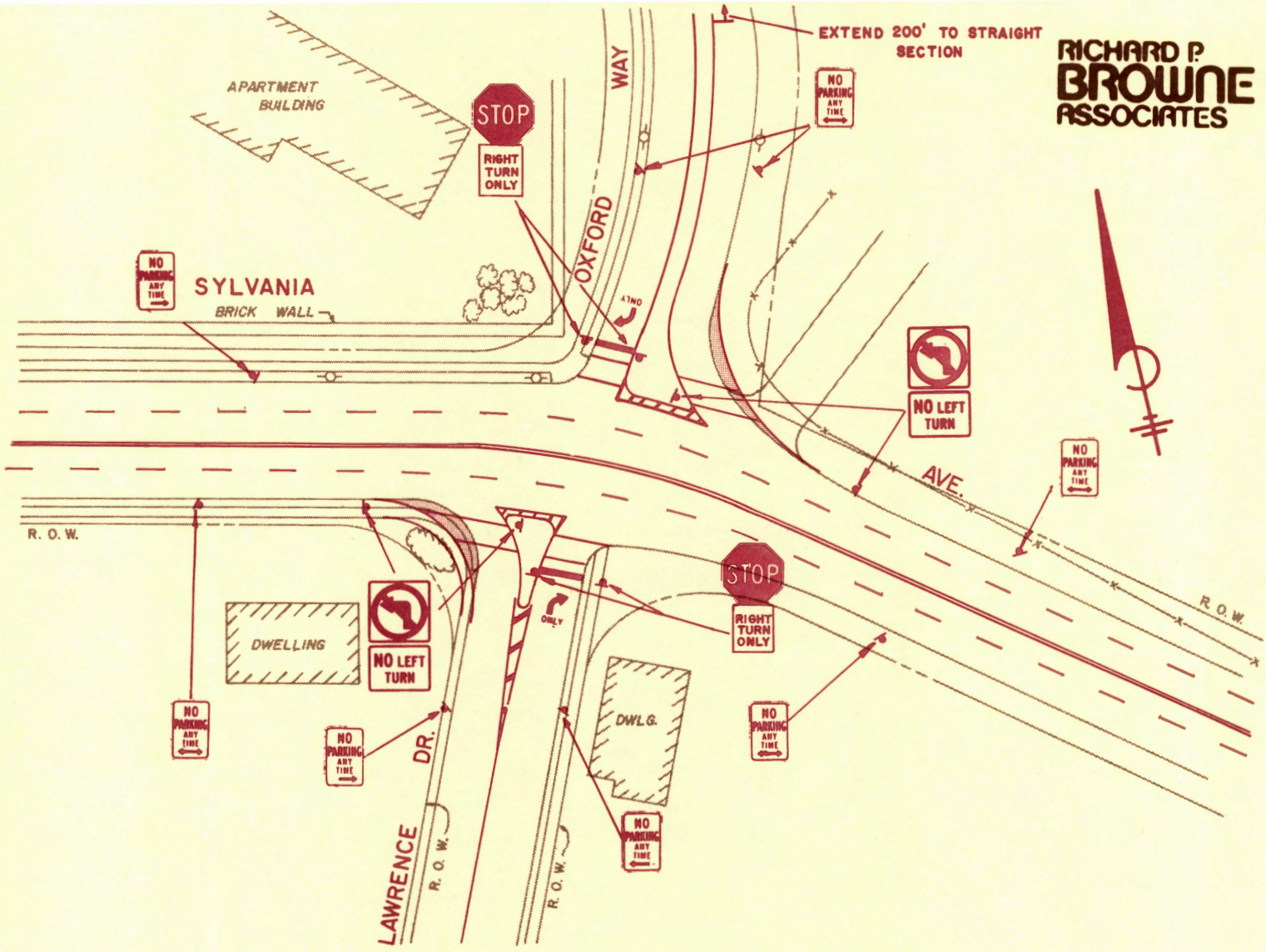
A large number of head on collisions and single vehicle accidents occur on the southbound approach of this intersection.

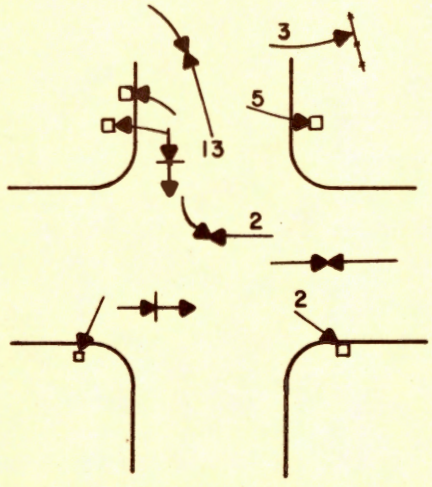
Recommendations

Modification to the curb turning radii and construction of the islands as indicated is recommended to allow only right turns into and out of both of these locations. The center median which is part of the island on the Oxford Way approach should be extended around the curve to a straight section of the roadway.

Benefits

The safety of this location will be improved by these recommendations. The prohibition of certain turns from Oxford Way will not reduce significantly its use to the residents of the apartment complex, but will discourage possible use of Oxford Way as a short cut connector between Sylvania Avenue and Corlies Avenue. Prohibited turns will be accommodated on the adjacent roadway network.





ACCIDENT SUMMARY–3 YR. PERIOD

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-22

5 - 23 N.J. ROUTE 33 AND WEST BANGS AVENUE NEPTUNE TOWNSHIP

West Bangs Avenue is a collector roadway for the surrounding area. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

High traffic volumes exist on the main street. A considerable turning movement occurs from eastbound to northbound. A significant number of rear end collisions and left turn accidents are experienced.

Recommendations

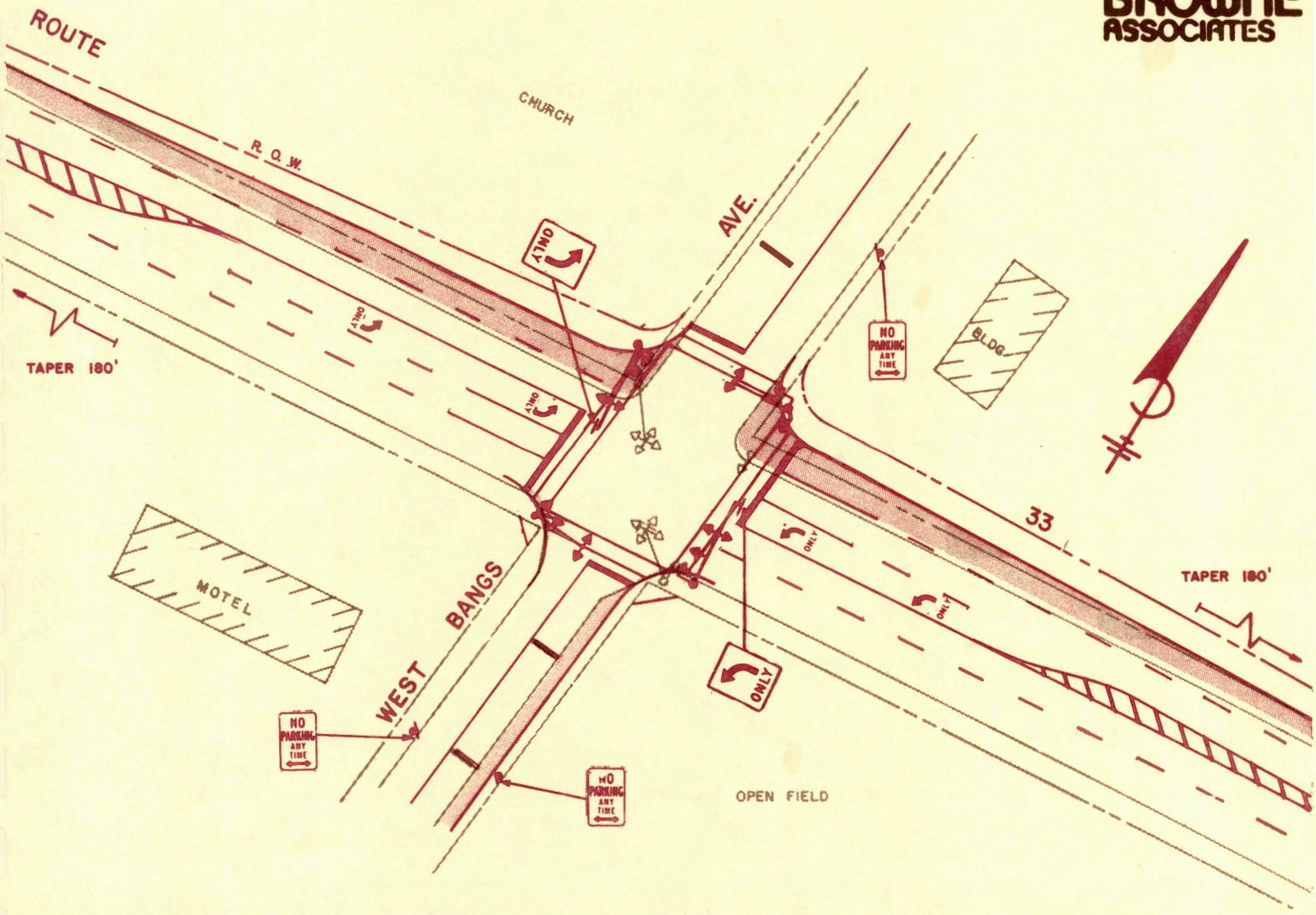
Modification to this portion of New Jersey Route 33 is recommended to provide for two through lanes and a special left turn lane on each approach. Modification to the signal layout is recommended to increase its visibility. Modification to the signal sequence to provide for a lead green on New Jersey Route 33 eastbound is also recommended.

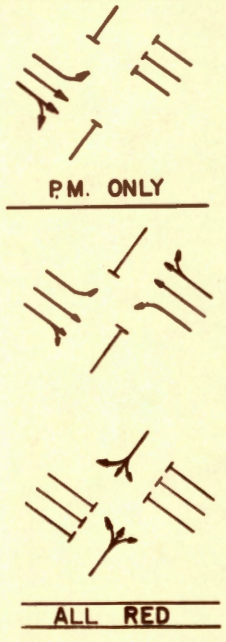
Benefits

The capacity, safety and operational characteristics of this location will be improved by these recommendations. A provision for a lead green on New Jersey Route 33 eastbound during the P.M. period will help to move the anticipated left furing volume through the anticipated westbound volume.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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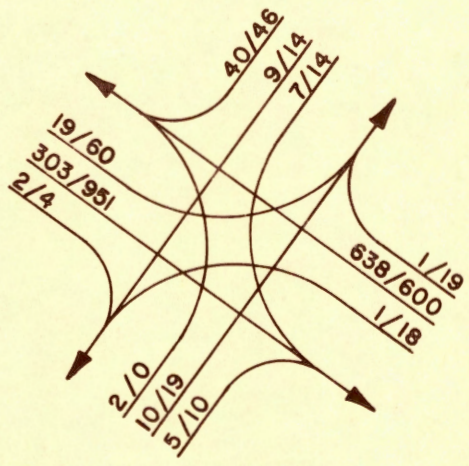
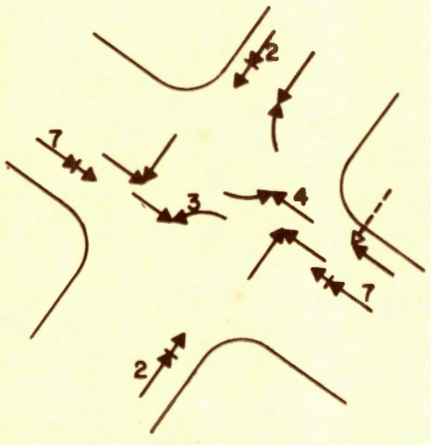


PEAK HOUR VOLUME
7:15 - 8:15 A.M. / 4:15 - 5:15 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
1 NOT SHOWN

0 60 120
Scale : 1" - 60'

PROPOSED IMPROVEMENT 5-23

5 - 24 LARCHWOOD AVENUE AND PARK AVENUE OCEAN TOWNSHIP

This location is the intersection of two collector roadways for the surrounding area. This intersection is presently controlled by stop signs.

Problems

This location has large number of right angle accidents. Curb turning radii are inadequate.

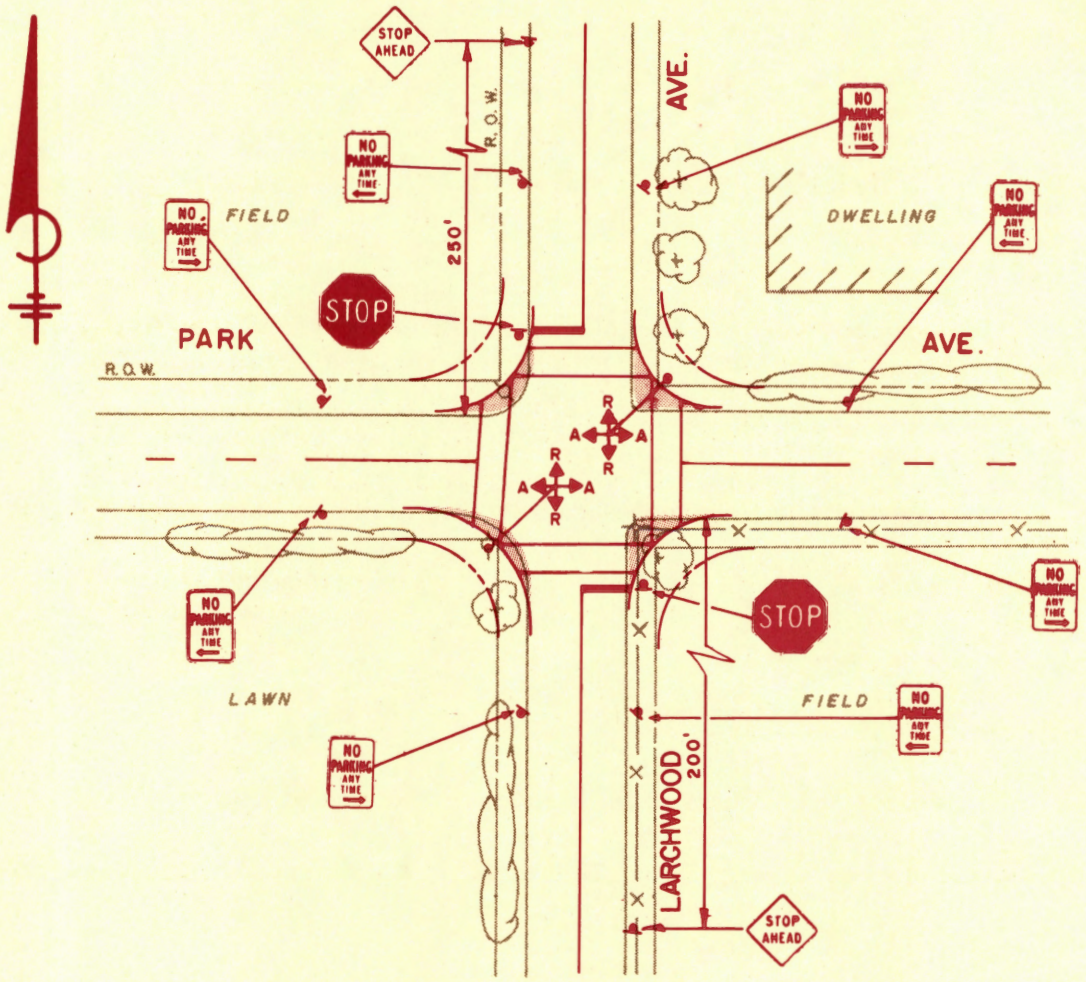
Recommendations

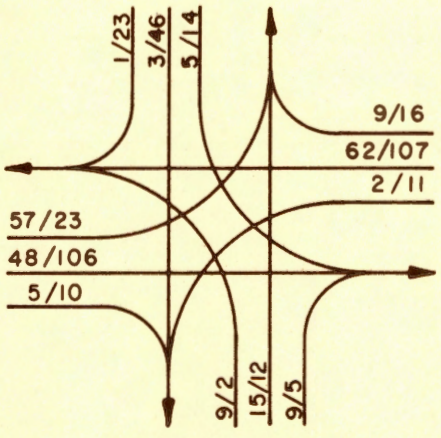
Modification to the curb turning radii are recommended. The installation of oversized stop signs and stop ahead signs is recommended alont with the installation of a flasher signal.

Benefits

The safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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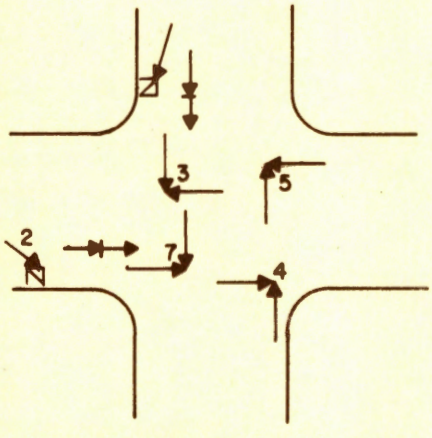


ACCIDENT SUMMARY - 3 YR. PERIOD
7 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 5-24

5-25 SPRINGWOOD AVENUE AND MYRTLE AVENUE NEPTUNE TOWNSHIP

Springwood Avenue is part of the proposed Asbury Park area functional roadway system. Myrtle Avenue is a local street.

Problems

This location has inadequate curb turning radii. A large number of right angle accidents are experienced. A large number of accidents with parked vehicles is experienced.

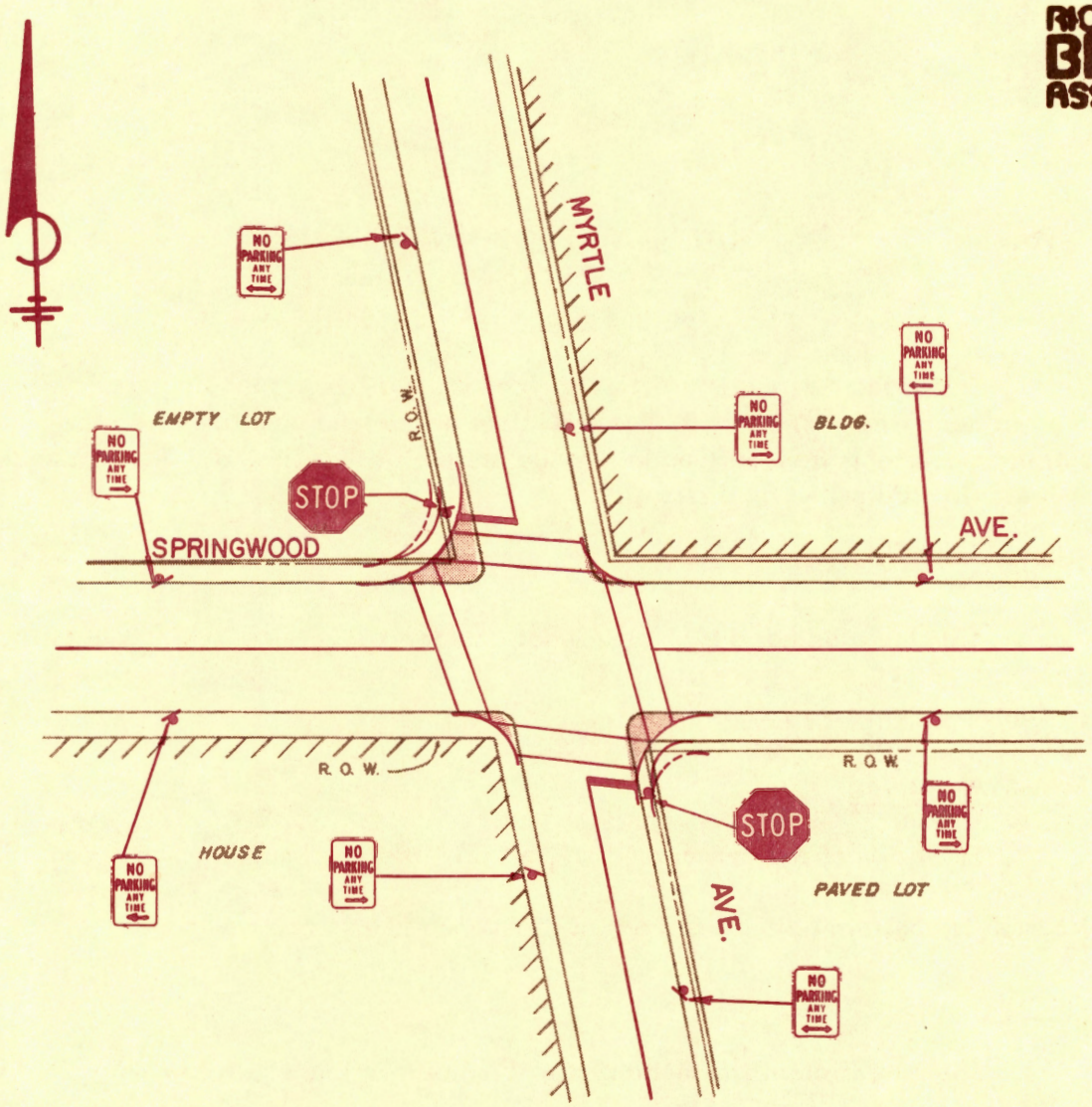
Recommendations

Modification of the curb turning radii is recommended along with the installation of oversize stop signs. The removal of parking on all approaches of the intersection is recommended.

Benefits

Improvements to the curb turning radii and oversized stop signs should improve the operational characteristics and safety at the intersection. Removal of parking from the approaches of the intersection should improve the accident experience with parked vehicles.

RICHARD P. BROWNE ASSOCIATES



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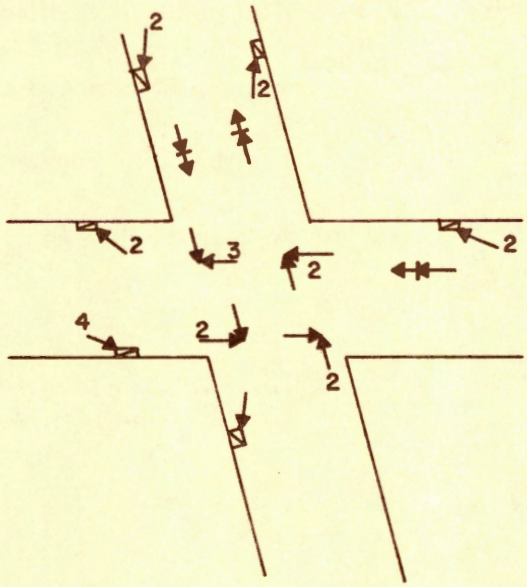


ACCIDENT SUMMARY-3 YR. PERIOD
6 NOT SHOWN

0 60 120

Scale : 1"=60'

PROPOSED IMPROVEMENT 5-25

5-26 N.J. ROUTE 33 AND FORTUNADO AVENUE NEPTUNE

Fortunado Avenue is a collector roadway for the surrounding area. The present center median on N.J. Route 33 does not extend past this intersection. All turning movements from Fortunado Avenue are presently allowed. The intersection is presently controlled by a stop signal.

Problems

This location has a high number of accidents involving vehicles entering from Fortunado Avenue.

Recommendations

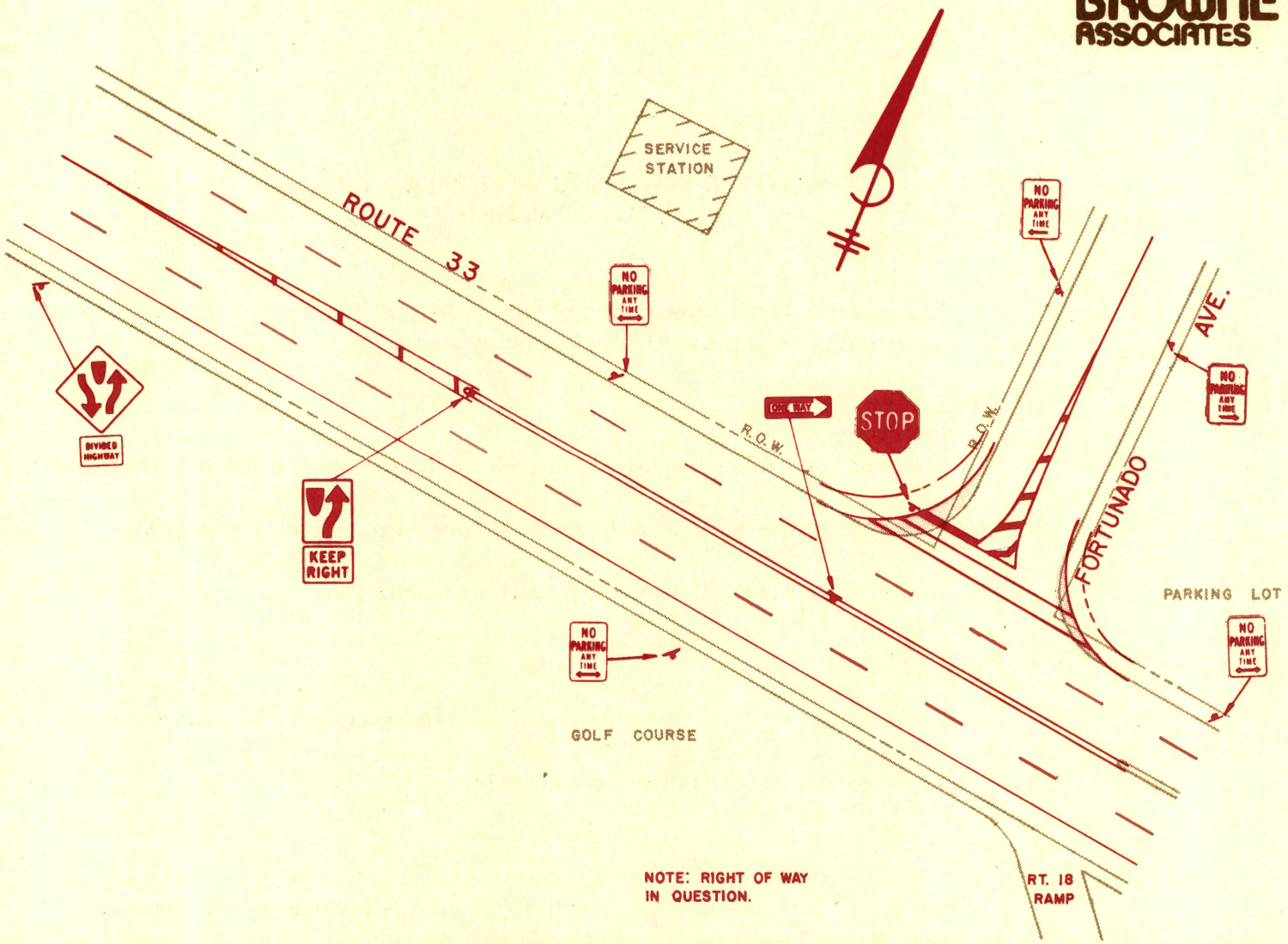
Extension of the center median past this intersection is recommended. Modification to the turning radii at Fortunado Avenue is also recommended.

Benefits

The extension of the median past this intersection will allow only right turning movements into and out of Fortunado Avenue, thus removing a number of vehicle conflict points. Modification to the turning radii will allow for the design vehicle to enter Fortunado Avenue or leave Fortunado Avenue using only the curb lane and N.J. Route 33. Further turning movements will be accommodated on the adjacent roadway network.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES



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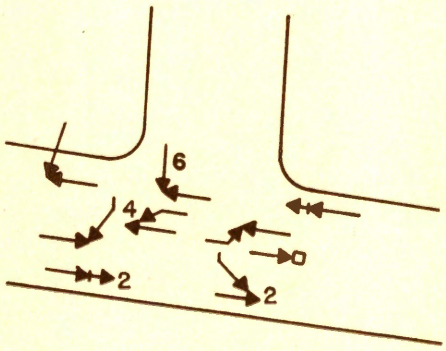


ACCIDENT SUMMARY - 3 YR. PERIOD
9 NOT SHOWN

0 60 120

Scale : 1" = 60'

PROPOSED IMPROVEMENT 5-26

5-27 WHALEPOND ROAD AND WEST PARK AVENUE OCEAN TOWNSHIP

This location is the intersection of two collector roadways for the surrounding area. The intersection is presently controlled by stop signs.

Problems

This location has a considerable number of right angle and turning movement accidents. Large traffic volumes exist on West Park Avenue with considerable volumes on the side street. Curb turning radii are inadequate.

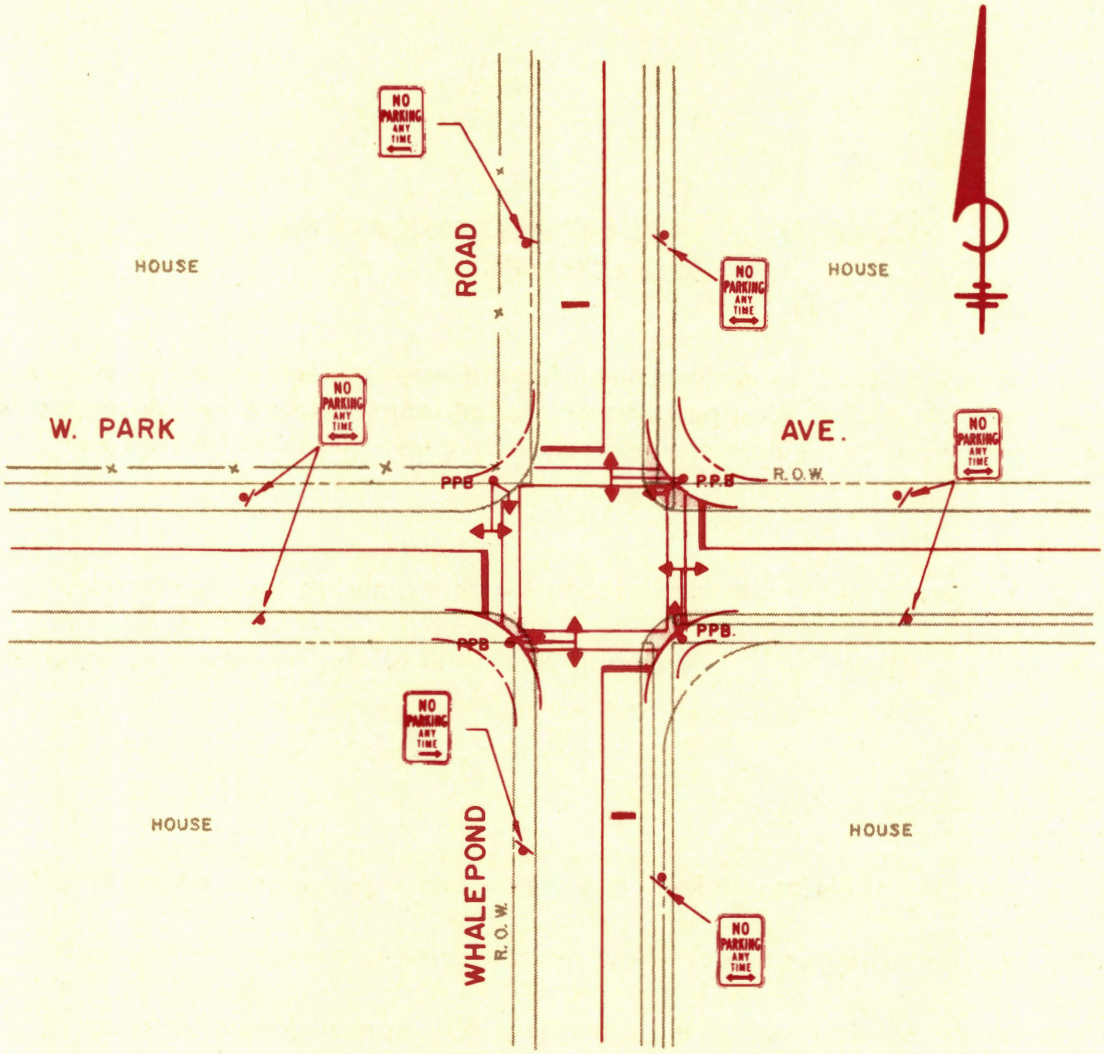
Recommendations

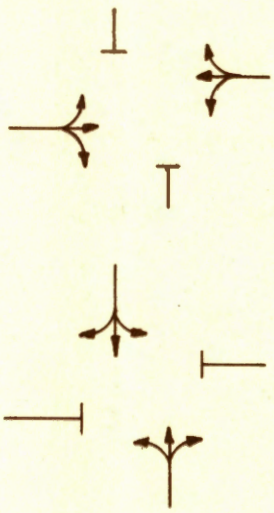
Modification to the curb turning radii are recommended. Installation of a semi-actuated traffic signal is also recommended.

Benefits

The safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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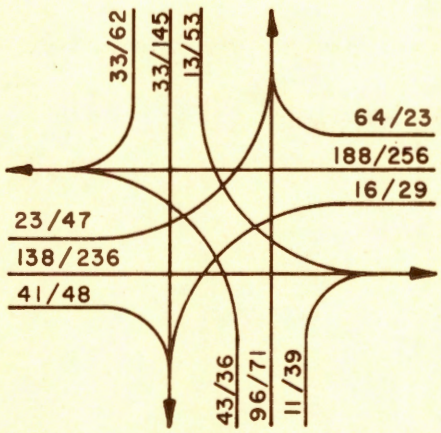

PEAK HOUR VOLUME
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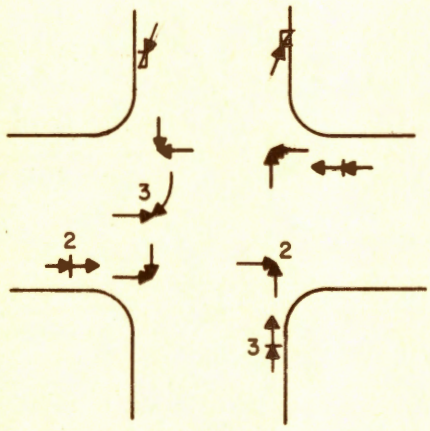


ACCIDENT SUMMARY - 3 YR. PERIOD
5 NOT SHOWN

0 60 120
Scale: 1" = 60'

PROPOSED IMPROVEMENT 5-27

5-28 MONMOUTH ROAD AND WEST PARK AVENUE OCEAN TOWNSHIP

Monmouth Road is a major connecting roadway between the Asbury Park area and points to the north. West part Avenue is a collector roadway for the surrounding area. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

This location has high traffic volumes with a high left turning movement on the northbound approach. A considerable number of turning movement accidents are experienced.

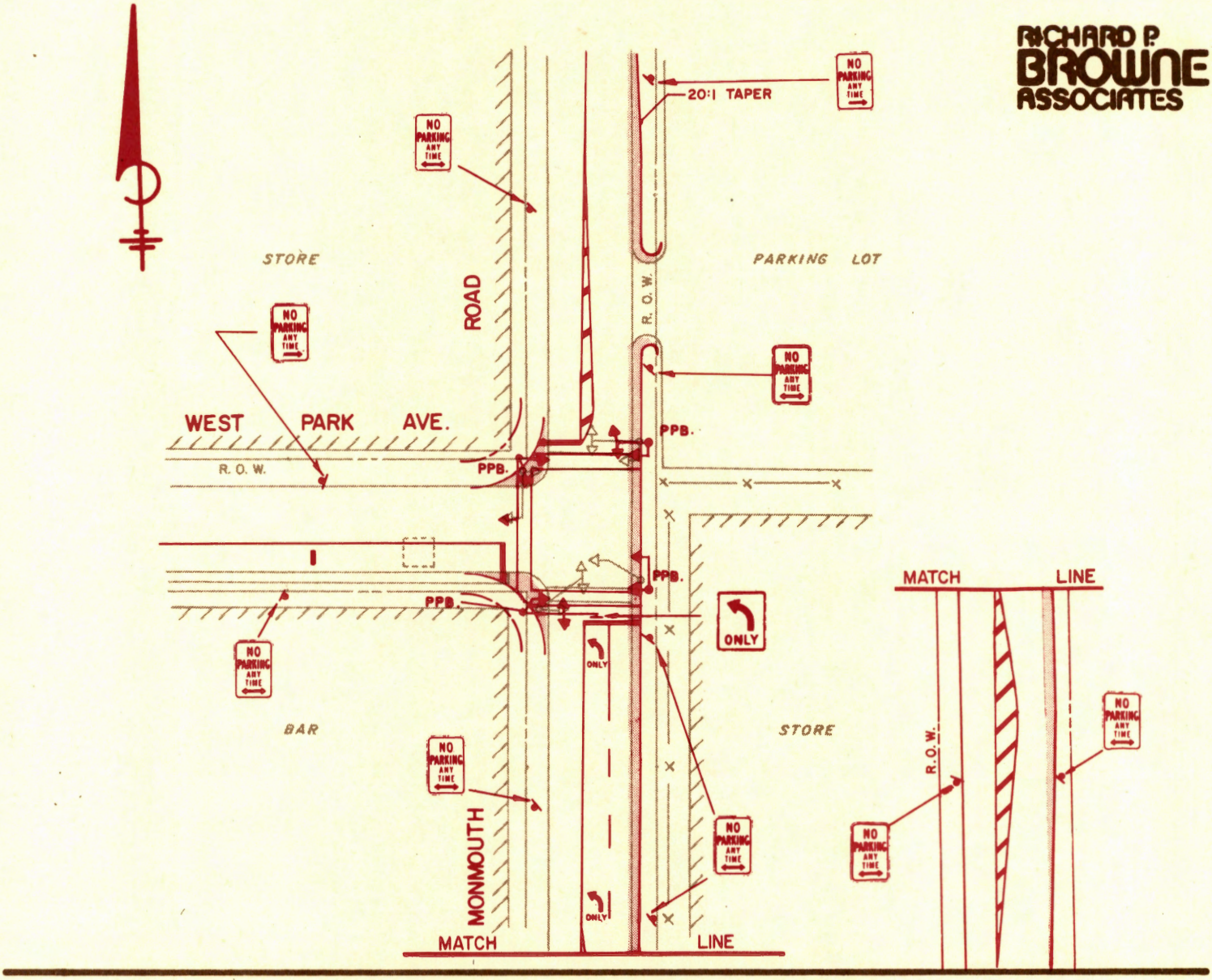
Recommendations

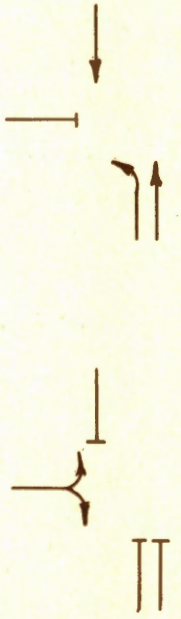
Widening of Monmouth Road is recommended to provide for a special left turning lane for northbound movements. Modification to the curb turning radii is recommended. Modification of the signal layout is recommended to increase its visibility.

Benefits

The capacity, safety, and operational characteristics of this location will be improved by these recommendations. Provision of the left turning lane for northbound movements will prevent the large turning volume from blocking northbound straight through movements.

RICHARD P. BROWNE ASSOCIATES





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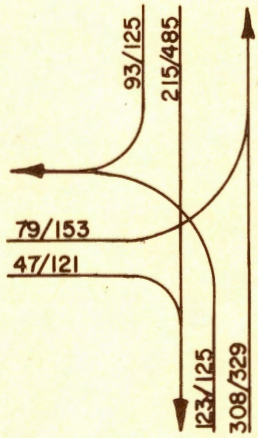
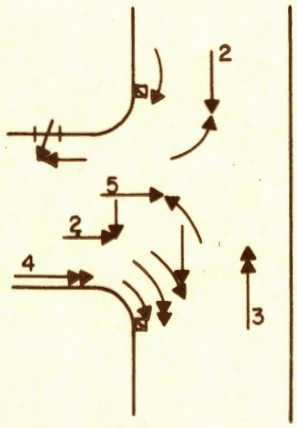


PEAK HOUR VOLUME
7:15-8:15A.M./4:15-5:15 P.M.



ACCIDENT SUMMARY- 3 YR. PERIOD
4 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 5-28

REGION 6

REGION VI - MONMOUTH COUNTY TOPICS

Regional Setting

Region VI is made up of the Boroughs of South Belmar, Spring Lake, Spring Lake Heights, Sea Girt, Manasquan, Brielle, Belmar and parts of Wall Township. The region is bounded on the north by Region V, on the west by the remainder of Wall Township, on the south by the Manasquan River, and on the east by the Atlantic Ocean. The region is primarily residential with some commercial and light industrial development. The region is served by New Jersey Routes 35, 70 and 71.

Federal-Aid System

PLATE 6 - 1 shows the Region VI study system and the recommended Federal-Aid System. Selection procedures were in accordance with Federal Highway Administration PPM 21-18, May, 1972. The system is intended to provide the basis for present and future local traffic demands. TABLE 6 - 1 lists the system mileage by type.

New Jersey Route 71 traverses the region on mostly narrow local streets generally paralleling the New York and Long Branch Railroad.

New Jersey Route 35 in many locations is only two lanes but on a wider right-of-way. In Belmar it has four lanes and an expressway character. Development along New Jersey Route 35, primarily commercial, does introduce side friction which has an effect on capacity and safety.. New Jersey Route 18, which is not completed in all sections of the county is shown on PLATE 6 - 1 in the northwest quadrant of the region. It will utimately connect to the New Jersey Routes 70, 34 traffic circle and will supply freeway service for north-south traffic movements.

Bus and Rail Transportation

Region VI is served by several bus companies and the New York and Long Branch Railroad as shown on PLATE 6 - 2.

Most of the bus service connects the region with employment centers in the New York Metropolitan area with little local service available.

The rail passenger service is primarily a commuter service to New York which carries standing room only loads on equipment badly in need of improvement. Rail passenger stations are located in Belmar, Spring Lake, Sea Girt and Manasquan.

Accident Experience

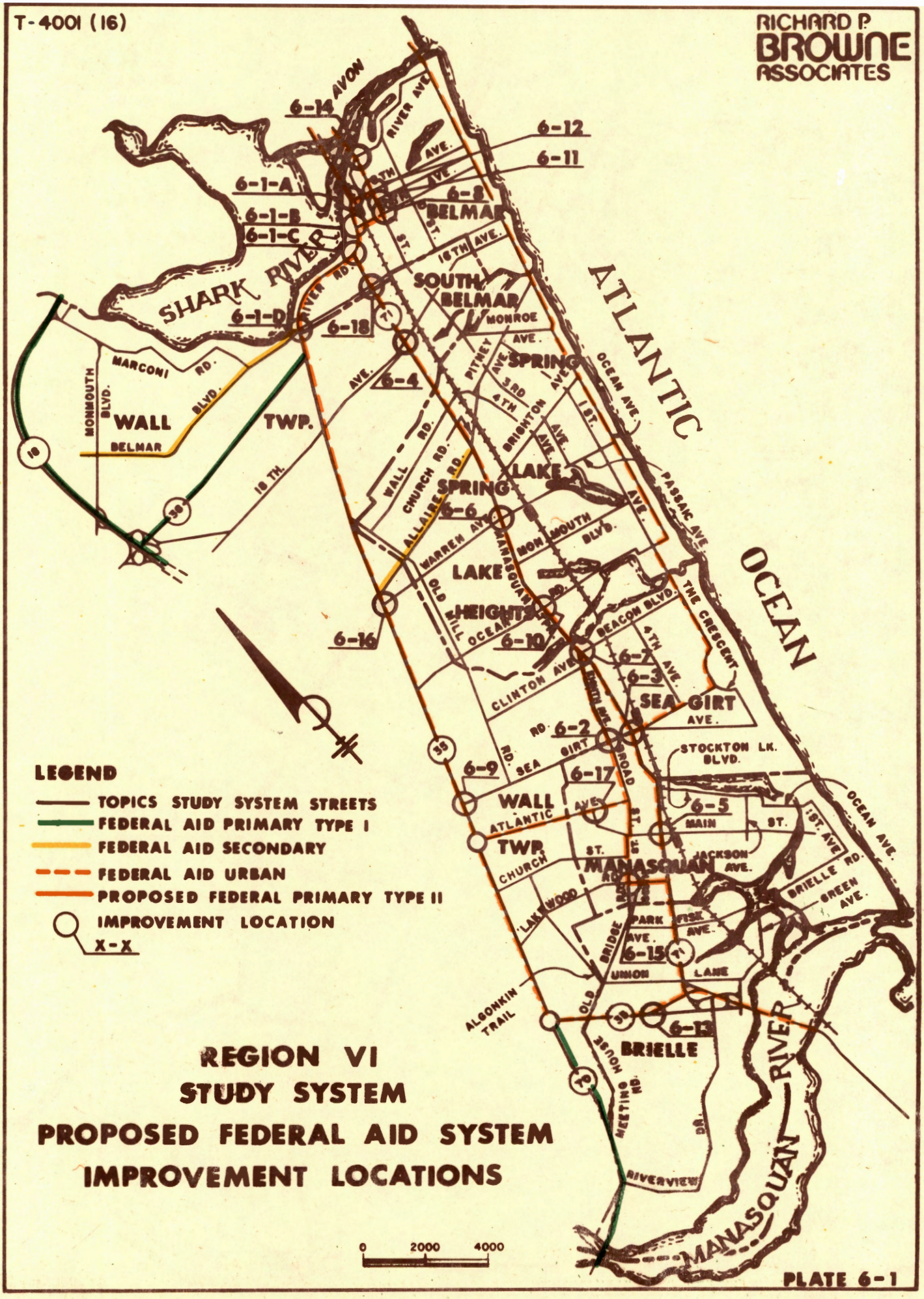
The police departments in each of the municipalities of the region made accident records available for analysis. High accident locations along with computed

EXISTING AND PROPOSED FEDERAL-AID SYSTEMS MILEAGE TABLE 6 - 1

EXISTING	MILES
Federal Aid Urban	19.24
Federal Aid Primary Type I	3.50
Federal Aid Secondary	2.65
PROPOSED ADDITIONS	
Federal Aid Primary Type II	1.31

T-4001 (16)

RICHARD P. BROWNE ASSOCIATES



LEGEND

- TOPICS STUDY SYSTEM STREETS
- FEDERAL AID PRIMARY TYPE I
- FEDERAL AID SECONDARY
- FEDERAL AID URBAN
- PROPOSED FEDERAL PRIMARY TYPE II
- IMPROVEMENT LOCATION X-X

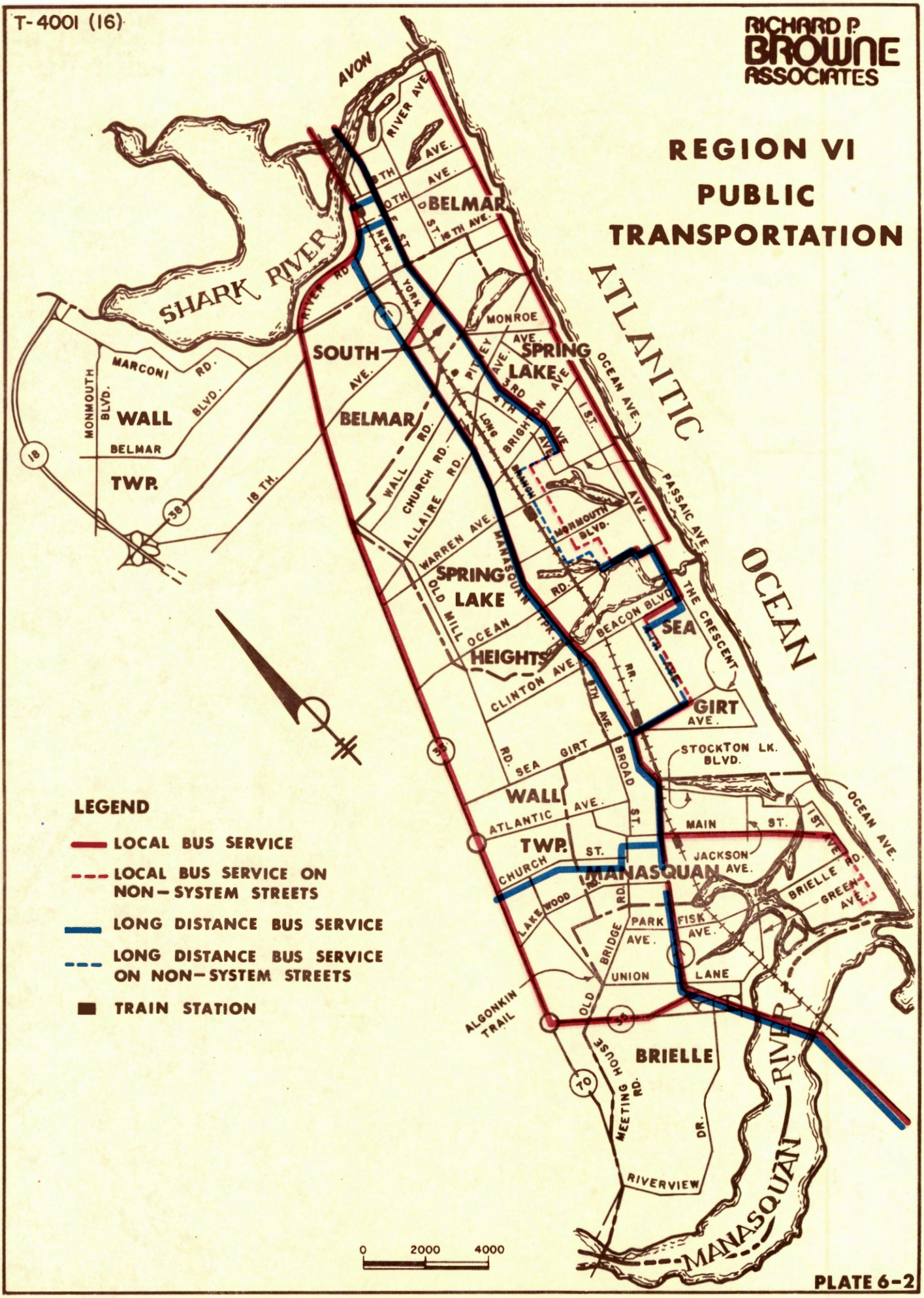
REGION VI
STUDY SYSTEM
PROPOSED FEDERAL AID SYSTEM
IMPROVEMENT LOCATIONS

PLATE 6-1

T-4001 (16)

RICHARD P. BROWNE ASSOCIATES

REGION VI PUBLIC TRANSPORTATION



LEGEND

- LOCAL BUS SERVICE
- LOCAL BUS SERVICE ON NON-SYSTEM STREETS
- LONG DISTANCE BUS SERVICE
- LONG DISTANCE BUS SERVICE ON NON-SYSTEM STREETS
- TRAIN STATION

PLATE 6-2

accident rates are shown on PLATE 6 - 3 and summarized on TABLE 6 - 2.

The highest accident location was found in Belmar, at the intersection of New Jersey Routes 35 and 71. The complex intersection has a high number of conflicting movements. A high rise apartment building, soon to be completed in the immediate area, will further complicate the problem at this location. Improvement recommendations for New Jersey Route 35 in Belmar including this intersection are made later in this report.

Speed and Delay

Speed and delay data was obtained in Region VI through the use of a data compiler installed in a moving car. Data for on and off peak periods was analyzed and is presented on PLATE 6 - 4.

The largest concentration of measured low travel speeds is found in Belmar. Congestion at the river crossing caused by draw bridge operation and on downtown streets caused by angle parking contributes to this condition.

Traffic Volumes

Turning movement counts and automatic traffic recorder counts were made at various locations in the region. These were supplemented by traffic volume information supplied by the New Jersey Department of Transportation and the Monmouth County Engineer's Office. These were analyzed and the traffic volume map on PLATE 6 - 5 was developed. The information was further analyzed and projected into the future producing the design year volume shown on PLATE 6 - 6.

The highest traffic volumes are experienced at the river crossings and along New Jersey Routes 35 and 71. The volumes on New Jersey Route 71 though not the highest in the region, contribute to many problems and resist easy TOPICS type improvements because the road is only two lanes on a narrow right of way with minimal set backs. The congestion is reflected by the calculated capacities in this area are shown on PLATE 6 - 4.

Traffic Signals

Analysis of data on existing conditions and projected traffic growth resulted in the traffic signal system modification shown on PLATE 6 - 7. A number of new signals are recommended along with modification to existing installations. Interconnection of signals in the Belmar area has also been recommended ans is discussed later in this report. TABLE 6 - 3 lists all signals on the recommended Federal-Aid System along with recommendations and warrants. These warrants are contained in the "Manual on Uniform Traffic Control Devices" as listed below:

ACCIDENT INFORMATION SUMMARY

TABLE 6 - 2

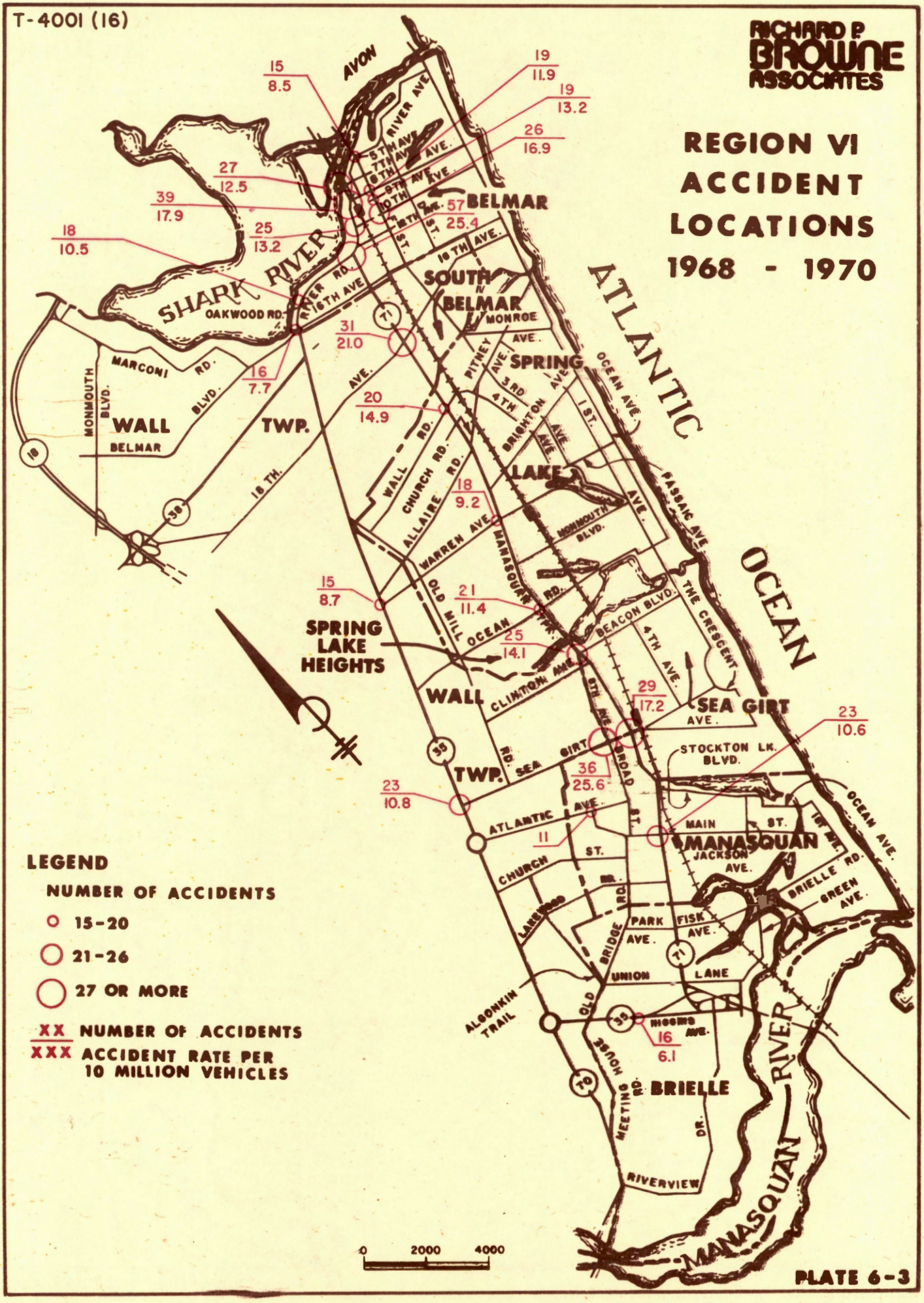
LOCATION	NUMBER OF ACCIDENTS*	ACCIDENT RATE**	PRIORITY INDEX
N.J. 35, N.J. 71 and Twelfth Ave.	57	25.4	390
Eighth Ave. (N.J. 71) and N.J. 35	39	17.9	300
N.J. 71 and Sea Girt Ave.	29	17.2	295
Broad St. and Sea Girt Ave.	36	25.6	280
Eighteenth Ave. and N.J. 71	31	21.0	270
Main St. and N.J. 71	23	10.6	242
Seventh Ave. and N.J. 35	27	12.5	240
Warren Ave. and N.J. 71	18	9.2	231
Beacon Blvd., Manasquan Tnpk. and N.J. 71	25	14.1	230
"F" St. and Tenth Ave.	26	16.9	230
Tenth Ave. and N.J. 35	25	13.2	230
Sea Girt Ave. and N.J. 35	23	10.8	220
Ocean Rd. and N.J. 71	21	11.4	205
"F" St. and Ninth Ave.	19	13.2	200
"F" St. and Eighth Ave. (N.J. 71)	19	11.9	200
Wall Rd. and N.J. 71	20	14.9	200
Oakwood Rd. and N.J. 35	18	10.5	195
Higgins Ave. and N.J. 35	16	6.1	190
Belmar Blvd., Sixteenth Ave. and N.J. 35	16	7.7	185
"F" St. and Fifth Ave.	15	8.5	180
Warren Ave. and N.J. 35	15	8.7	180

*Per Three Years (1968-1970)
**Per Ten Million Vehicles

T-4001 (16)

RICHARD P. BROWNE ASSOCIATES

REGION VI ACCIDENT LOCATIONS 1968 - 1970



LEGEND

NUMBER OF ACCIDENTS

- ○ 15-20
- ◯ 21-26
- ◯ 27 OR MORE

XX NUMBER OF ACCIDENTS

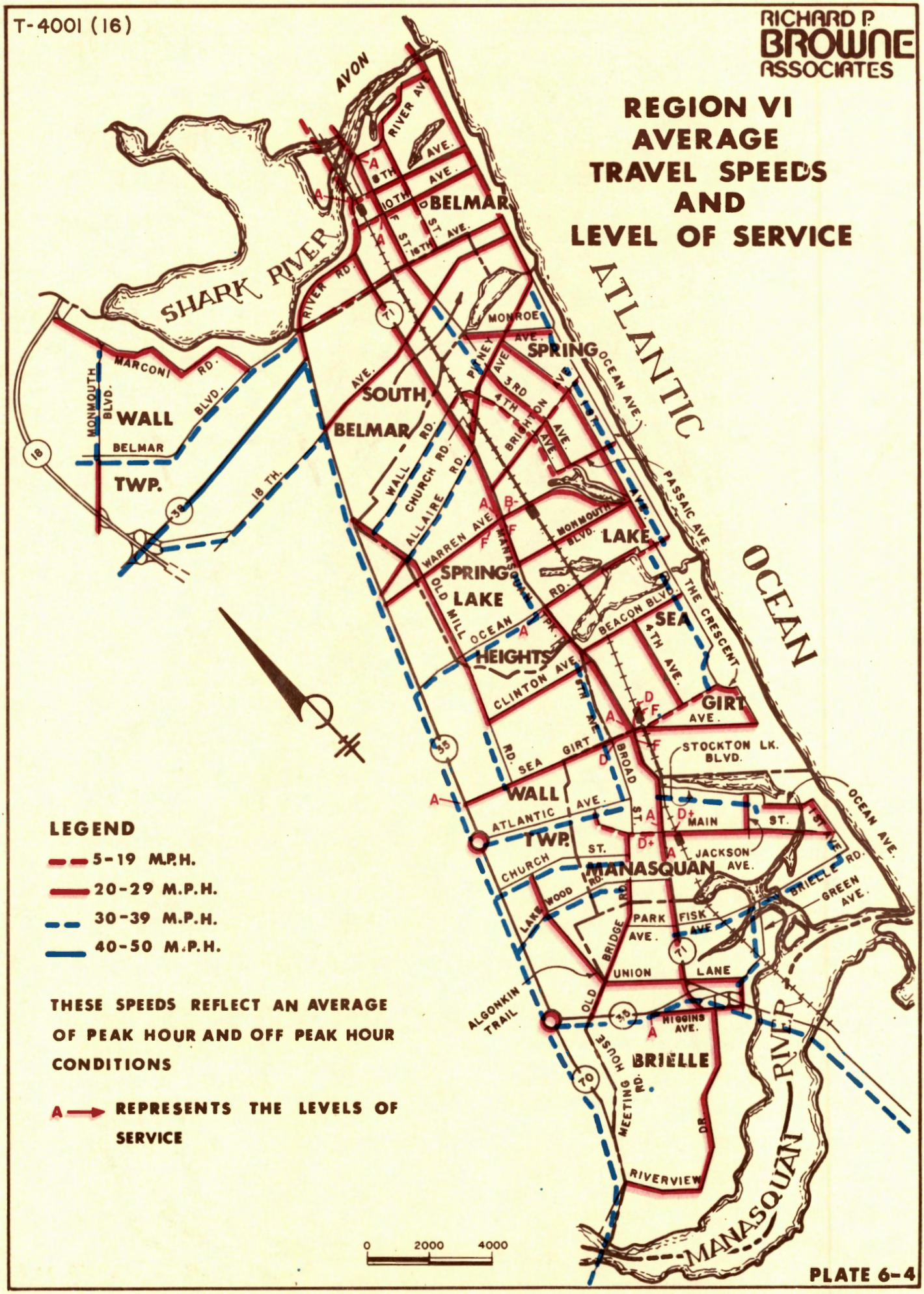
XXX ACCIDENT RATE PER 10 MILLION VEHICLES

PLATE 6-3

T-4001 (16)

RICHARD P. BROWNE ASSOCIATES

REGION VI AVERAGE TRAVEL SPEEDS AND LEVEL OF SERVICE



LEGEND

- 5-19 M.P.H.
- 20-29 M.P.H.
- 30-39 M.P.H.
- 40-50 M.P.H.

THESE SPEEDS REFLECT AN AVERAGE OF PEAK HOUR AND OFF PEAK HOUR CONDITIONS

A → REPRESENTS THE LEVELS OF SERVICE

PLATE 6-4

T-4001 (16)

RICHARD P. BROWNE ASSOCIATES

REGION VI
1971
TRAFFIC VOLUMES
AVERAGE DAILY TRAFFIC

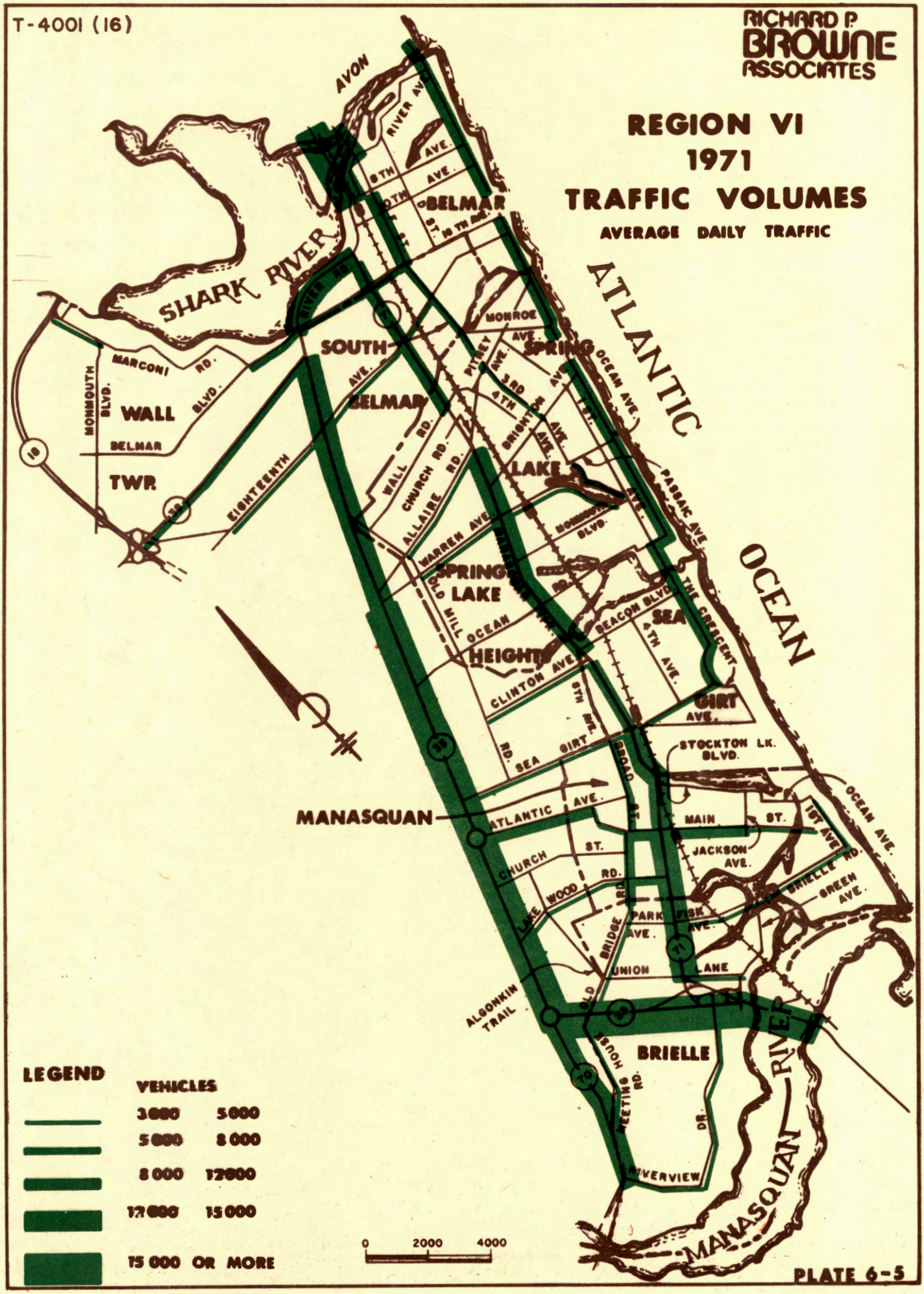


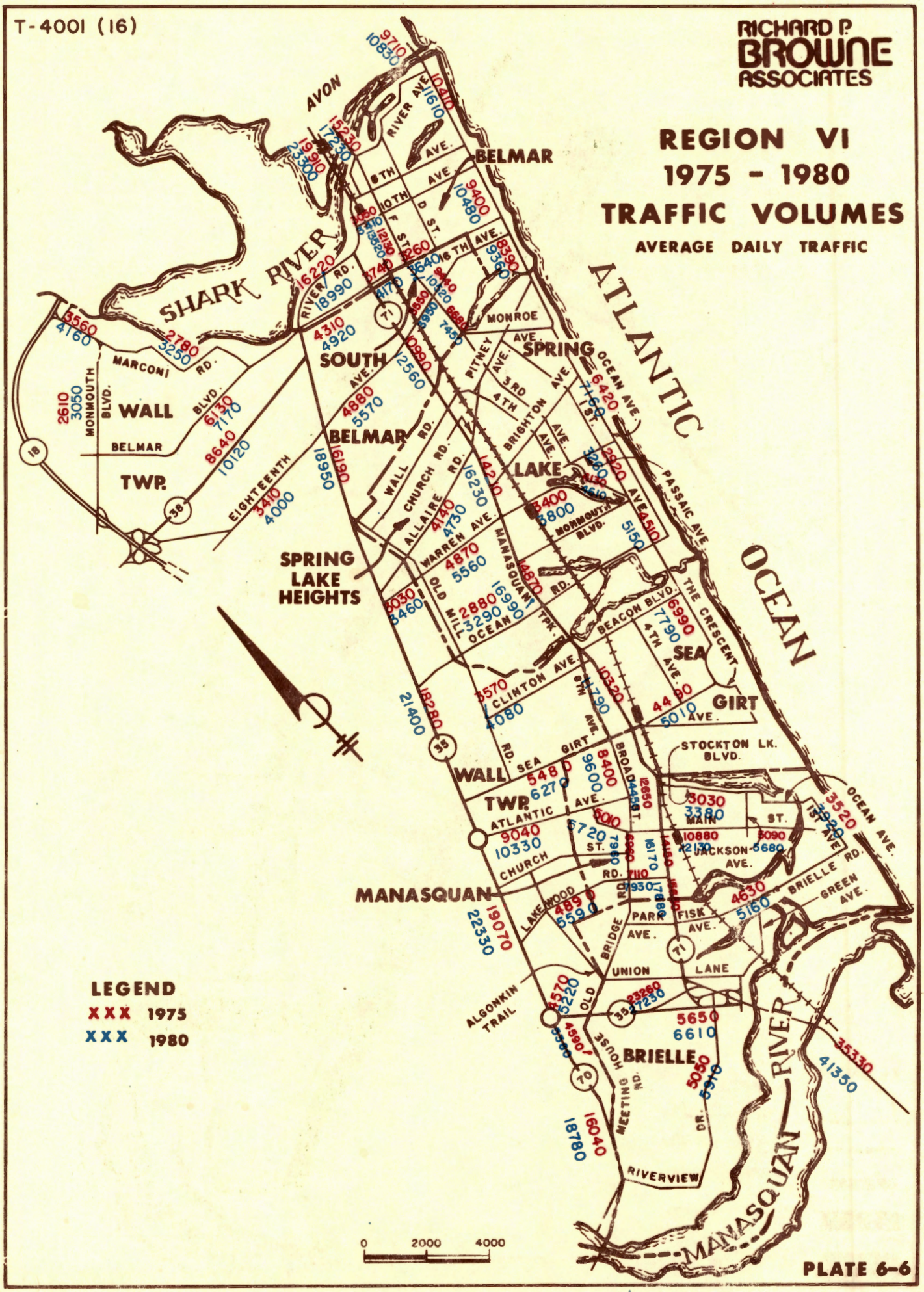
PLATE 6-5

T-4001 (16)

RICHARD P. BROWNE ASSOCIATES

REGION VI
1975 - 1980
TRAFFIC VOLUMES

AVERAGE DAILY TRAFFIC



LEGEND

XXX 1975

XXX 1980

PLATE 6-6

Warrant 1: Minimum Vehicular Volume
Warrant 2: Interruption of Continuous
Warrant 3: Minimum Pedestrian Volume
Warrant 4: School Crossing
Warrant 5: Progressive Movement
Warrant 6: Accident Experience
Warrant 7: Systems Warrant
Warrant 8: Combination of Warrants

Curb and Off Street Parking

Considerable use of the street system is made by parked vehicles including angle parking in Belmar and in some locations along the ocean front. Parking regulations are not rigiously enforced by the local police department.

Removal of 109 parking spaces in a relatively concentrated area of Belmar was necessary to facilitate engineering improvements and achieve statutory conformance. This included removal of angle parking on system streets in accordance with Federal requirements. A parking lot to replace 102 of these spaces is recommended and shown on PLATE 6 - 8. An additional 33 spaces in the Belmar Marina parking lot which are removed for engineering reasons should be replaced by expanding this parking lot in the vicinity of Tenth Avenue.

Intersection Improvements

Recommended improvements are shown in the following pages. Their relative location in the region is indicated on PLATE 6 - 1. TABLE 6 - 4 lists the improvements with the year of construction and cost estimates.

System Improvements

The Shark River and Atlantic Ocean form a physical barrier to development in the Belmar area. As a result development is concentrated and the traffic volumes experienced are higher than in other parts of the region.

New Jersey Routes 35 and 71 pass through Belmar carrying traffic having destinations in other areas. A considerable number of signals exist in this area and two additional signals are recommended in connection with TOPICS improvements. In order to insure reliable coordination of these signals, physical interconnection is recommended. The resulting system is shown on PLATE 6 - 7.

Considerable thought was given to recommending the interconnection of the two signals on New Jersey Route 35 at Old Bridge Road and Higgins Avenue in Brielle. The Higgins Avenue signal, which is presently a semi-actuated signal, is located in a low area and thus has down hill approaches from both directions on New Jersey Route 35. Vehicle platoons created by the signal at Old Bridge Road are occasionally interrupted by a red phase at Higgins Avenue. This combined with the down hill approaches

EXISTING AND PROPOSED TRAFFIC SIGNALS

TABLE 6 - 3

LOCATION	MUNICIPALITY	OPERATION	RECOMMEN-DATION	N.J.D.O.T. APPROVED	WARRANT*
Riverview Dr. and Route 70	Brielle	Semi-Actuated	Remove	Yes	
Route 35 Bridge	Brielle	Semi-Actuated	Retain	Yes	
Meeting House Rd. and Route 35	Wall Twp./Brielle	Semi-Actuated	Retain	Yes	1
Higgins Ave. and Route 35	Brielle	Semi-Act/Fully Act	Modify	Yes	7
Route 71 and Union Lane	Brielle	Semi-Actuated	Retain	Yes	7
Main Street and Route 71	Manasquan	Semi-Actuated	Retain	Yes	1
Lakewood Rd. and Route 35	Wall Township	Semi-Actuated	Retain	Yes	2
Atlantic Ave. and Main Street	Manasquan	Flashing	Retain	No	-
Sea Girt Ave. and Route 35	Wall Township	Semi-Actuated	Retain	Yes	1
Broad St. and Sea Girt Ave.	Manasquan/Sea Girt	Flashing/Semi-Act.	Modify	No	7
Sea Girt Ave. and Route 71	Sea Girt	Semi-Actuated	Retain	Yes	1
Beacon Boulevard, 8th Ave. and Route 71	Wall Township/ Sea Girt	Semi-Actuated	Install	Yes	7
Ocean Rd. and Route 71	Spring Lake Heights	Semi-Actuated	Retain	Yes	2
Warren Ave. and Route 35	Wall Township	Semi-Actuated	Retain	Yes	1
Allaire Rd. and Route 35	Wall Township	Semi-Actuated	Retain	Yes	1
Warren Ave. and Route 71	Spring Lake Heights	Semi-Actuated	Retain	Yes	2
Allaire Rd. and Route 71	Spring Lake Heights	Semi-Actuated	Retain	Yes	2
18th Ave. and Route 35	Wall Township	Semi-Actuated	Retain	Yes	1
Route 35 and Route 38	Wall Township	Semi-Actuated	Retain	Yes	1
Belmar Boulevard, 16th Ave. and Route 35	Belmar	Semi-Actuated	Retain	Yes	1
18th Avenue and Route 71	Wall Township	Semi-Actuated	Retain	Yes	1
17th Avenue and Route 71	Wall Township	Semi-Actuated	Remove	Yes	
16th Avenue and Route 71	Belmar/Wall Township	Semi-Actuated	Retain	Yes	1
Route 35 and Route 71	Belmar	Semi-Actuated	Install	Yes	1
Route 35 and Tenth Avenue	Belmar	Semi-Actuated	Install	Yes	6
** "F" St. and Tenth Avenue	Belmar	Semi-Actuated	Retain	No	1
** "F" St. and Ninth Avenue	Belmar	Semi-Actuated	Remove	No	
"F" St. and Eight Avenue	Belmar	Semi-Actuated	Retain	Yes	7
"F" St. and Fifth Avenue	Belmar	Semi-Actuated	Retain	Yes	2

EXISTING AND PROPOSED TRAFFIC SIGNALS (Continued)

TABLE 6 - 3

LOCATION	MUNICIPALITY	OPERATION	RECOMMEN-DATION	N.J.D.O.T. APPROVED	WARRANT*
Eighth Avenue and Route 35	Belmar	Semi-Actuated	Retain	Yes	1
Shark River Bridge (Route 35)	Belmar/Neptune City	Semi-Actuated	Retain	Yes	
Shark River Bridge (Ocean Ave.)	Belmar/Avon	Semi-Actuated	Retain	No	
South Street and Marcellus Ave.	Manasquan	Flasher	Retain	No	
"F" St. and Seventh Avenue	Belmar	Semi-Actuated	Retain	Yes	2
Shark River Bridge (Route 70)	Belmar/Avon	Semi-Actuated	Retain	Yes	
Manasquan River Bridge (Rt.70)	Brielle	Semi-Actuated	Retain	Yes	
** "F" St. and 16th Avenue	Belmar	Semi-Actuated	Retain	No	2

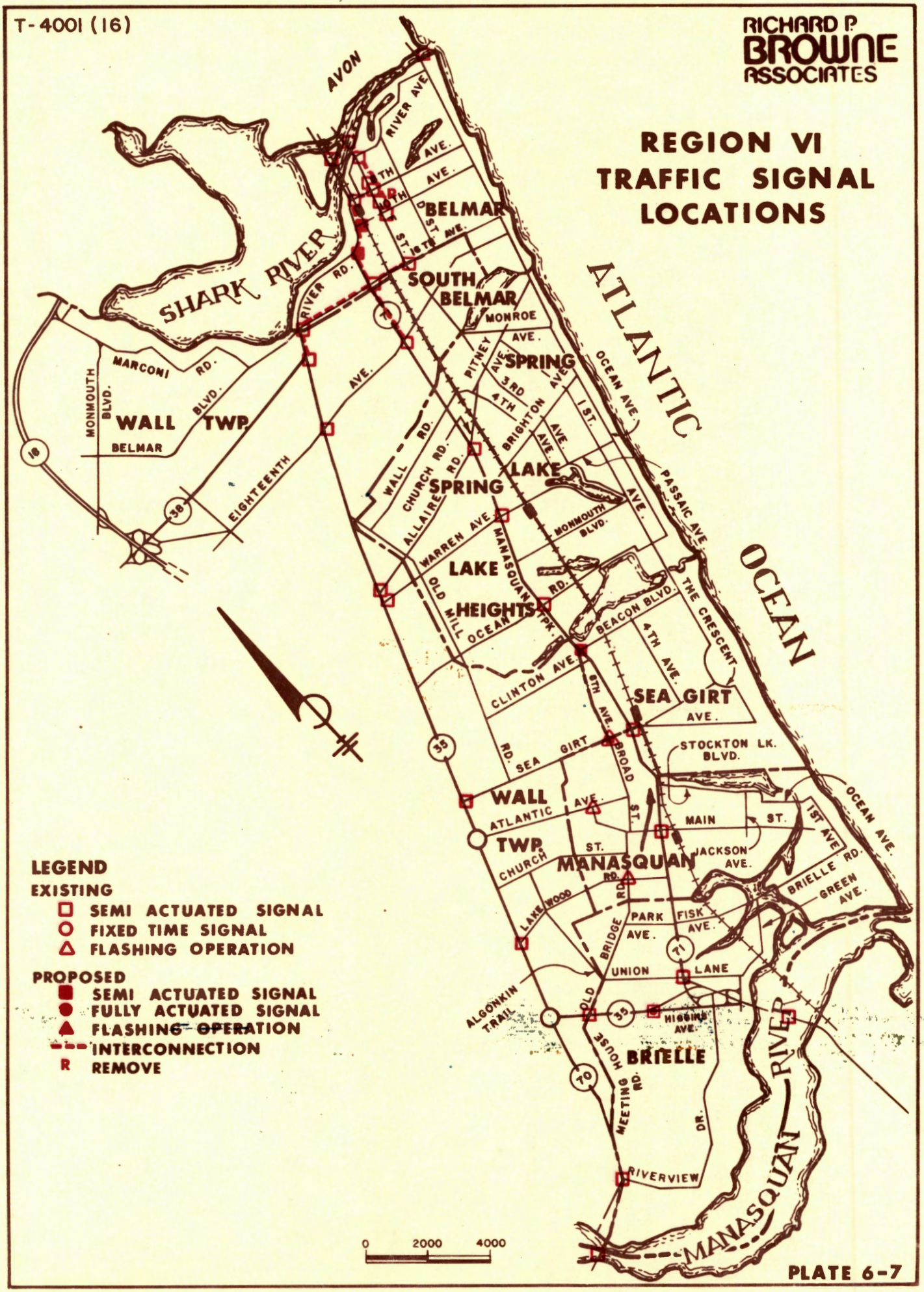
* Numbers shown refer to warrant numbers 1 through 8 as contained in the Manual on Uniform Traffic Control Devices.

** Approved in 1938, then declared illegal due to out-dated standards in 1958.

T-4001 (16)

RICHARD P. BROWNE ASSOCIATES

REGION VI TRAFFIC SIGNAL LOCATIONS



LEGEND

EXISTING

- SEMI ACTUATED SIGNAL
- FIXED TIME SIGNAL
- FLASHING OPERATION

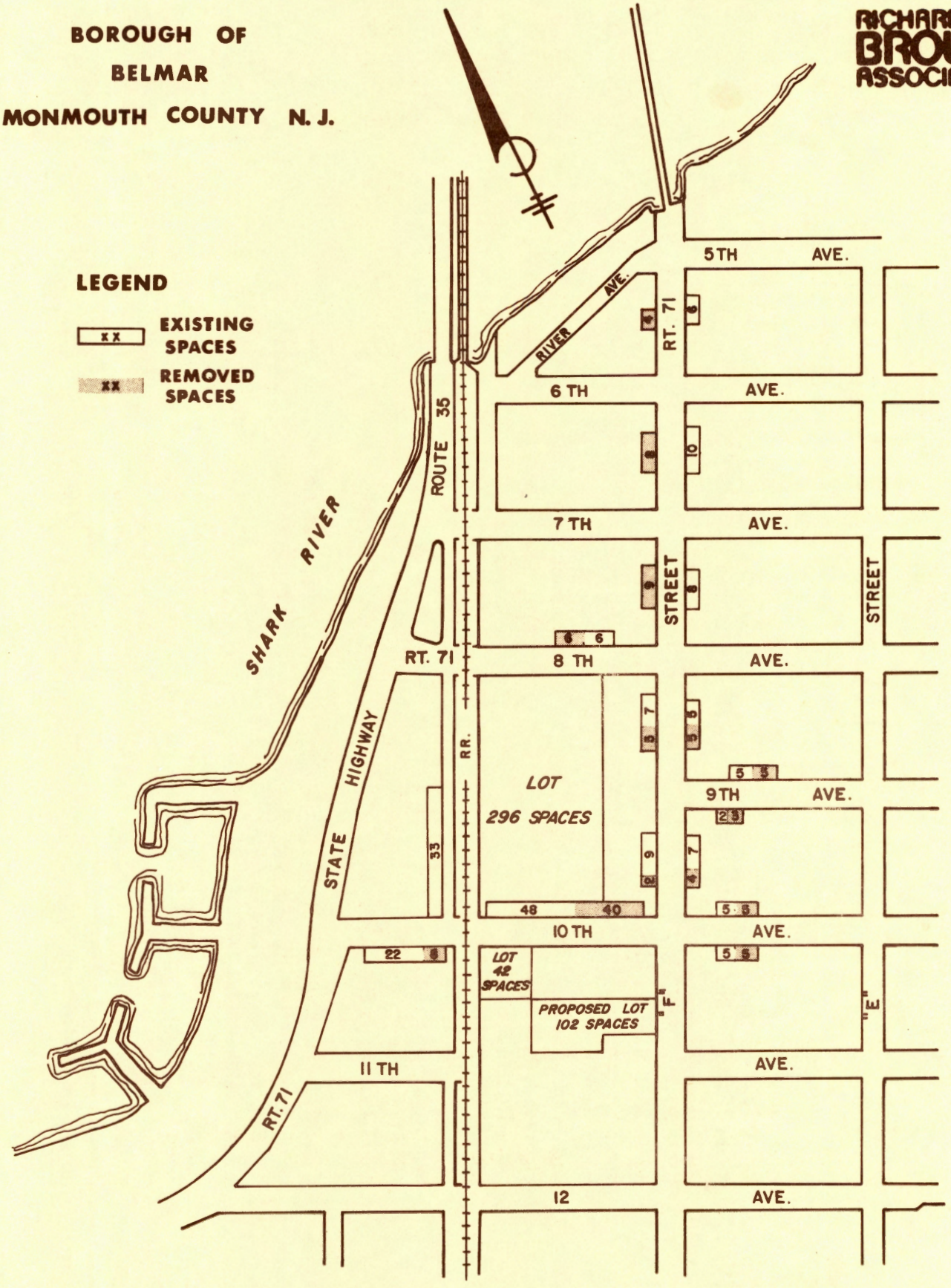
PROPOSED

- SEMI ACTUATED SIGNAL
- FULLY ACTUATED SIGNAL
- FLASHING OPERATION
- INTERCONNECTION
- R REMOVE

PLATE 6-7

BOROUGH OF
BELMAR
MONMOUTH COUNTY N. J.

RICHARD P. BROWNE ASSOCIATES



REGION VI
PARKING REPLACEMENT

PLATE 6-8

IMPROVEMENT PROJECT SEQUENCE AND FINANCIAL PROGRAM

TABLE 6 - 4

YEAR	LOCATION	MUNICIPALITY	IMPROVEMENT NUMBER	ESTIMATED COST
1973	Route 35 and Seventh Ave.	Belmar	6-1-A	
	Route 35 and Eighth Ave.	Belmar	6-1-A	
	Route 35 and Tenth Ave.	Belmar	6-1-B	
	Route 35 and Route 71	Belmar	6-1-C	
	Route 35 and Twelfth Ave.	Belmar	6-1-C	
	Route 35 and Belmar Blvd.	Belmar	6-1-D	$ 370,000.00
	Broad St. and Sea Girt Ave. and Eighth Ave.	Manasquan	6-2	25,000.00
1974	Route 71 and Sea Girt Ave.	Manasquan	6-3	30,000.00
	Eighteenth Ave. and Route 71	Wall Township	6-4	30,000.00
	Main St. and Route 71	Manasquan	6-5	32,000.00
	Route 71 and Warren Ave.	Spring Lake Heights	6-6	58,100.00
1975	Beacon Blvd., Eighth Ave. and Route 71	Sea Girt	6-7	35,000.00
	"F" St. and Tenth Ave.	Belmar	6-8	24,000.00
	Route 35 and Sea Girt Ave.	Wall Township	6-9	25,300.00
1976	Ocean Rd. and Route 71	Spring Lake Heights	6-10	34,000.00
	"F" St. and Ninth Ave.	Belmar	6-11	5,900.00
	"F" St., Eighth Ave., and Route 71	Belmar	6-12	7,000.00
	Route 35 and Higgins Ave.	Brielle	6-13	33,000.00
1977	Route 71, "F" St. and Fifth Ave.	Belmar	6-14	26,500.00
	Marcellus Ave. and South St.	Manasquan	6-15	5,400.00
	Route 35 and Warren Ave.	Wall Township	6-16	12,800.00
	Atlantic Ave. and Main St.	Manasquan	6-17	37,600.00
	Route 71 and Sixteenth Ave.	Wall Township	6-18	32,000.00

is felt to contribute to the rear end and right angle collisions experienced. It is recommended that the signal at New Jersey Route 35 and Higgins Avenue be made fully actuated to reduce the effect that side street demands have on New Jersey Route 35 traffic.

Maintenance

The maintenance of traffic control devices, in good operating condition and appearance is most important if they are to command the respect that is necessary to insure good driving habits. Signal maintenance becomes a difficult problem when a municipality is too small to support a separate maintenance unit. Since most of the traffic signals in the region are on roadways under state jurisdiction, the state maintains them. It is suggested that the remaining signals in operation in the region be maintained by the county or on a contract or agreement basis. Signs and pavement markings should also be maintained in a similar manner.

At all improvement locations, recommendations for traffic signs and pavement markings are in accordance with the requirements as defined in the current Manual on Uniform Traffic Control Devices.

Evaluation

In order to identify locations where traffic operational improvements are required, use was made of accident experience, average travel speeds on routes, congestion and delay at intersections, and the level of service provided. To measure the success of this program requires an in depth analysis of traffic conditions before and after implementation. This study provides the necessary data to evaluate a location as it now exists before the operational improvements have been implemented. Some additional speed and delay runs can be conducted to increase the reliability of our sample but other than this the necessary information has been inventoried.

After a reasonable period of time has elapsed, similar studies regarding accident experience, speed and delay runs and locations of congestion and delay can be conducted along selected routes where early implementation projects have been completed. Comparison of traffic conditions before and after improvement should be made to insure that the desired benefits are being achieved.

REGION 6 INTERSECTION IMPROVEMENTS

Improvement Number	Location	Municipality	Page No.
6-1-A	N.J. Route 35 and Eighth Avenue (Route 71)	Belmar	6 - 19
6-1-B	N.J. Route 35 and Tenth Avenue	Belmar	6 - 21
6-1-C	N.J. Route 35 at N.J. Route 71 and Twelfth Avenue	Belmar	6 - 23
6-1-D	N.J. Route 35 at Sixteenth Avenue and River Avenue	Belmar	6 - 25
6-2	Sea Girt Avenue at Broad Street and Eigth Avenue	Manasquan	6 - 27
6-3	N.J. Route 71 and Sea Girt Avenue	Manasquan	6 - 29
6-4	N.J. Route 71 and Eighteenth Avenue	Wall Township	6 - 31
6-5	N.J. Route 71 and Main Street	Manasquan	6 - 33
6-6	N.J. Route 71 and Warren Avenue	Spring Lake Heights	6 - 35
6-7	N.J. Route 71 at Eighth Avenue and Beacon Boulevard	Sea Girt/ Wall Township	6 - 37
6-8	"F" Street and Tenth Avenue	Belmar	6 - 39
6-9	N.J. Route 35 and Sea Girt Avenue	Wall Township	6 - 41
6-10	N.J. Route 71 and Ocean Road	Spring Lake Heights	6 - 43
6-11	"F" Street and Ninth Avenue	Belmar	6 - 45
6-12	N.J. Route 71, Eighth Avenue and "F" Street	Belmar	6 - 47
6-13	N.J. Route 35 and Higgins Avenue	Brielle	6 - 49
6-14	N.J. Route 71 and Fifth Avenue	Belmar	6 - 51
6-15	South Street and Marcellus Avenue	Manasquan	6 - 53
6-16	N.J. Route 35 and Warren Avenue	Wall Township	6 - 55
6-17	Main Street and Atlantic Avenue	Manasquan	6 - 57
6-18	N.J. Route 71 and Sixteenth Avenue	Wall Township	6 - 59

LEGEND FOR IMPROVEMENTS



EXISTING SIGNAL HEAD



PROPOSED SIGNAL HEAD



EXISTING STANCHION, PROPOSED SIGNAL HEAD

THUS: ONLY OPEN SIGNAL HEADS OR STANCHIONS INDICATE AN EXISTING CONDITION. SOLID SIGNAL HEADS OR STANCHIONS INDICATE A PROPOSED CONDITION.



ROADWAY WIDENING

RIGHT OF WAY



BUILDING LINE

SIGN POST

GUARD RAIL



SIGNAL DETECTOR



PEDESTRIAN HEAD

NOTE: DARK LINES INDICATE PROPOSED CONDITIONS. SCREENED OR LIGHT LINES INDICATE EXISTING CONDITIONS.

6-1-A NEW JERSEY ROUTE 35 AND EIGHTH AVENUE (ROUTE 71) BELMAR

This location is a part of a series of improvements along the New Jersey Route 35 in Belmar. Eighth Avenue is also New Jersey Route 71 and New Jersey Route 71 and 35 use the same roadway south of this intersection. On the west side of the intersection is a major parking lot serving a park and marina area adjacent to the Shark River. Immediately to the north of this intersection, New Jersey Route 35 passes over the Shark River Bridge. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

At this location the approach lanes for both directions of Route 35 do not have sufficient signs and markings and therefore are frequently used for traffic movements other than those for which they intended.

Recommendations

The southbound approach should be widened to provide a separate left turn lane. Widening and revision of the islands at the marina parking lot entrance is recommended. Modification to the width and approach lanes arrangements for the northbound lanes is also recommended. Permit right turns only from Seventh Avenue. Revise the signal layout to improve its visibility.

Benefits

Minor modifications to the approach lanes, turning lanes and traffic islands will improve the capacity and operational characteristics of this location. Improvements to the signal layout and the restriction of certain conflicting turning movements will increase safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

ROUTE 35

R. O. W.

MATCH LINE "A"

KEEP RIGHT

DO NOT ENTER

ONLY

PARKING FOR 35 CARS

PARKING FOR 26 CARS

SHARK RIVER

MARINA ENTRANCE

BLDG.

DIVIDED HIGHWAY

DIVIDED HIGHWAY ENDS

RIGHT LANE MUST TURN RIGHT

NO PARKING ANY TIME

EIGHTH AVE. (RT. 71)

PARK

PROPOSED ONE WAY

RR. R.O.W.

N.Y. & LONG BRANCH RR.

SEVENTH AVE.

STOP

NO LEFT TURN

YIELD

PARKING LOT

MUN. BLDG.

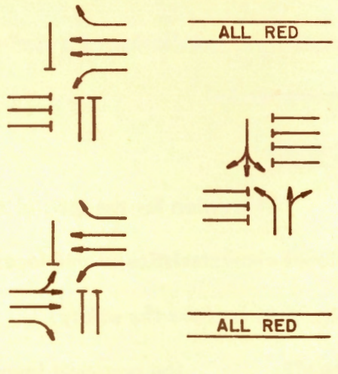
ONE WAY

RAILROAD AVE.

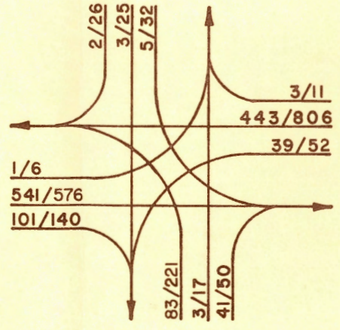
NO U TURN

TO 35 EAST

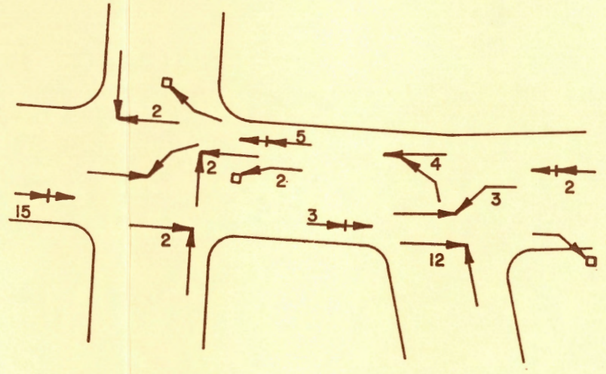
EXIST. ONE WAY



PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
8:15 - 9:15 A.M. / 4:00 - 5:00 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
9 NOT SHOWN

ACCIDENT SUMMARY - 3 YR. PERIOD
2 NOT SHOWN

0 60 120
Scale: 1" = 60'

PROPOSED IMPROVEMENT 6-1-A

6-1-B

N.J. ROUTE 35 AND TENTH AVENUE
BELMAR

This location is part of a series of proposed improvements to N.J. Route 35 in Belmar. Tenth Avenue is a major collector roadway passing through the Belmar central business district and also is part of a major entrance and exit to the Belmar marina parking lot. This location is presently controlled by stop signs.

Problems

This location has high traffic volumes. Traffic volume on Tenth Avenue will further increase due to development in the immediate area. A significant number of right angle and turning movement accidents have been experienced.

Recommendations

It is recommended that this location become a major entrance for left turning movements into the marina parking lot from the south. Therefore, a special left turning lane for northbound to westbound movements is recommended. A special left turning lane for southbound to eastbound movements is recommended to divert some turning movements from the Eighth Avenue intersection, since the Eighth Avenue intersection is too close to the Shark River Bridge to allow for optimum storage capacity. Installation of a semi-actuated traffic controller and signal is also recommended.

Benefits

Provision for the special turning lanes will improve the capacity and operational characteristics of this location and combine with the installation of the traffic signal to improve the safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

BELMAR MARINA

ROUTE 35

R.O.W.

MATCH LINE "B"

MATCH LINE "A"

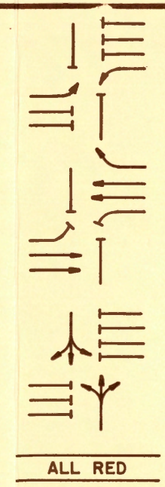
10TH AVE.

MOTEL

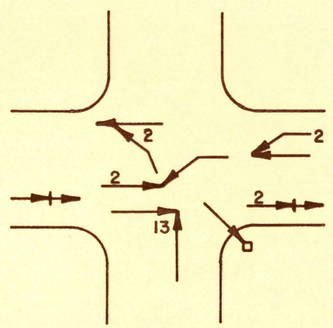
PARKING LOT

DINER

NO COUNT



PROPOSED SIGNAL SEQUENCE



ACCIDENT SUMMARY - 3 YR. PERIOD
2 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-1-B

6-1-C N.J. ROUTE 35 AT N.J. ROUTE 71 AND TWELFTH AVENUE BELMAR

This location is one of several proposed improvements for N.J. Route 35 in Belmar. This intersection is the northern connection point of N.J. Route 71 and N.J. Route 35. The Belmar marina and parking facility is located on the northwest side of this location. The intersection is presently controlled by stop and yield signs.

Problems

This location has high traffic volumes with high turning movements. The present center island orientation provides for a large number of turning movement conflicts to occur in a fairly confined area. The center island tends to divert northbound traffic in such a manner as to apparently generate a considerable number of fixed object accidents at the Twelfth Avenue connection. A significant number of right angle and turning movement accidents also are experienced.

Recommendations

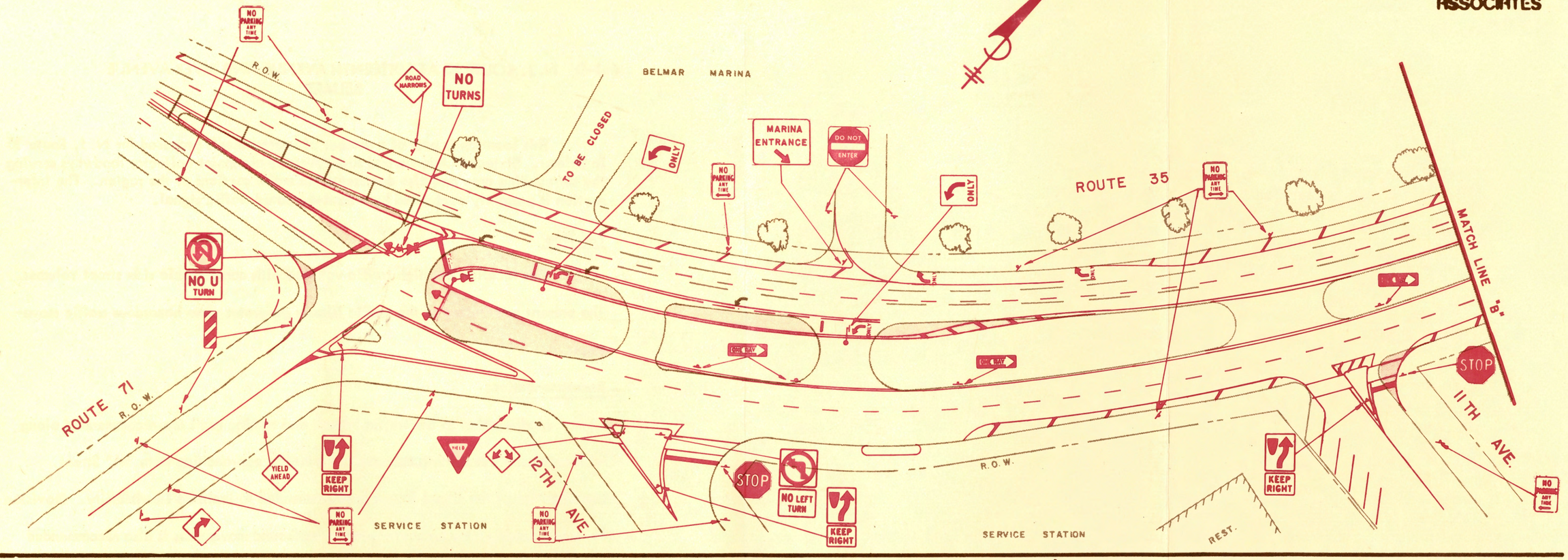
Major modification to the center island is recommended to remove some of the conflicting turning movements. Provision of a left turning lane for southbound to southeastbound movements into N.J. Route 71 is also recommended. Installation of a semi-actuated traffic signal to separate the major conflicting movements is also recommended.

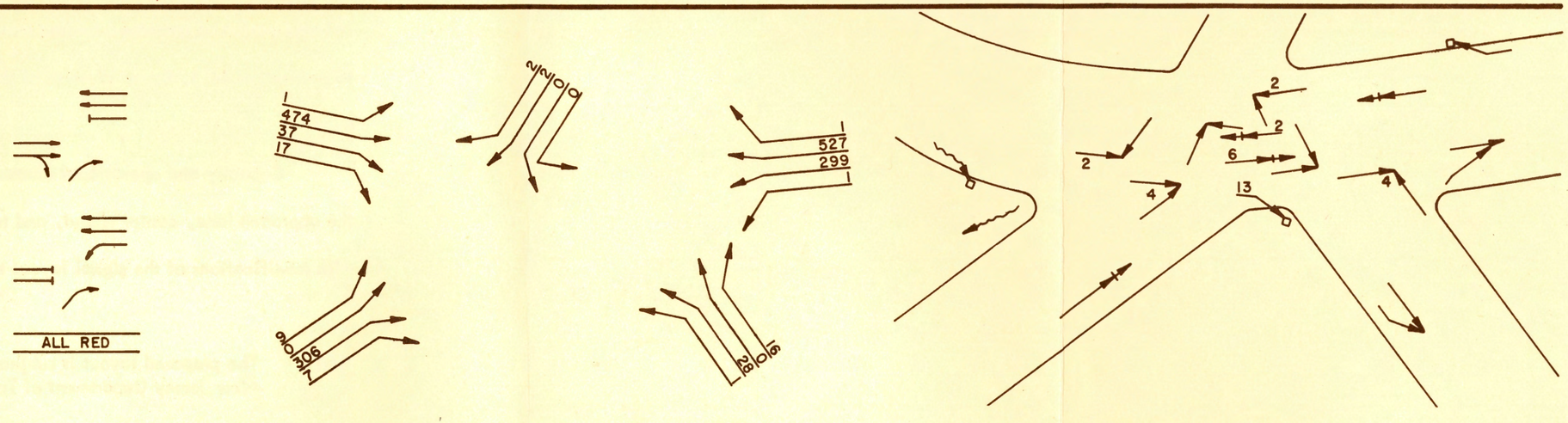
Benefits

Modification to the center islands, channelization islands, and curb turning radii will improve the capacity and operational characteristics of this location and will combine with the traffic signal control to eliminate certain turning movements to improve safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





PROPOSED SIGNAL SEQUENCE

PEAK HOUR VOLUME
4:00 - 5:00 P.M.

ACCIDENT SUMMARY - 3 YR. PERIOD
15 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-1-C

6-1-D N.J. ROUTE 35 AT SIXTEENTH AVENUE AND RIVER AVENUE BELMAR

This location is part of a number of improvements proposed for N.J. Route 35 in Belmar. Sixteenth Avenue and River Avenue are major collector roadways serving the surrounding area and also connect other major sections of the region. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

This location has high traffic volumes with considerable side street volumes. The present orientation of the traffic islands generates some hazardous traffic movements.

Recommendations

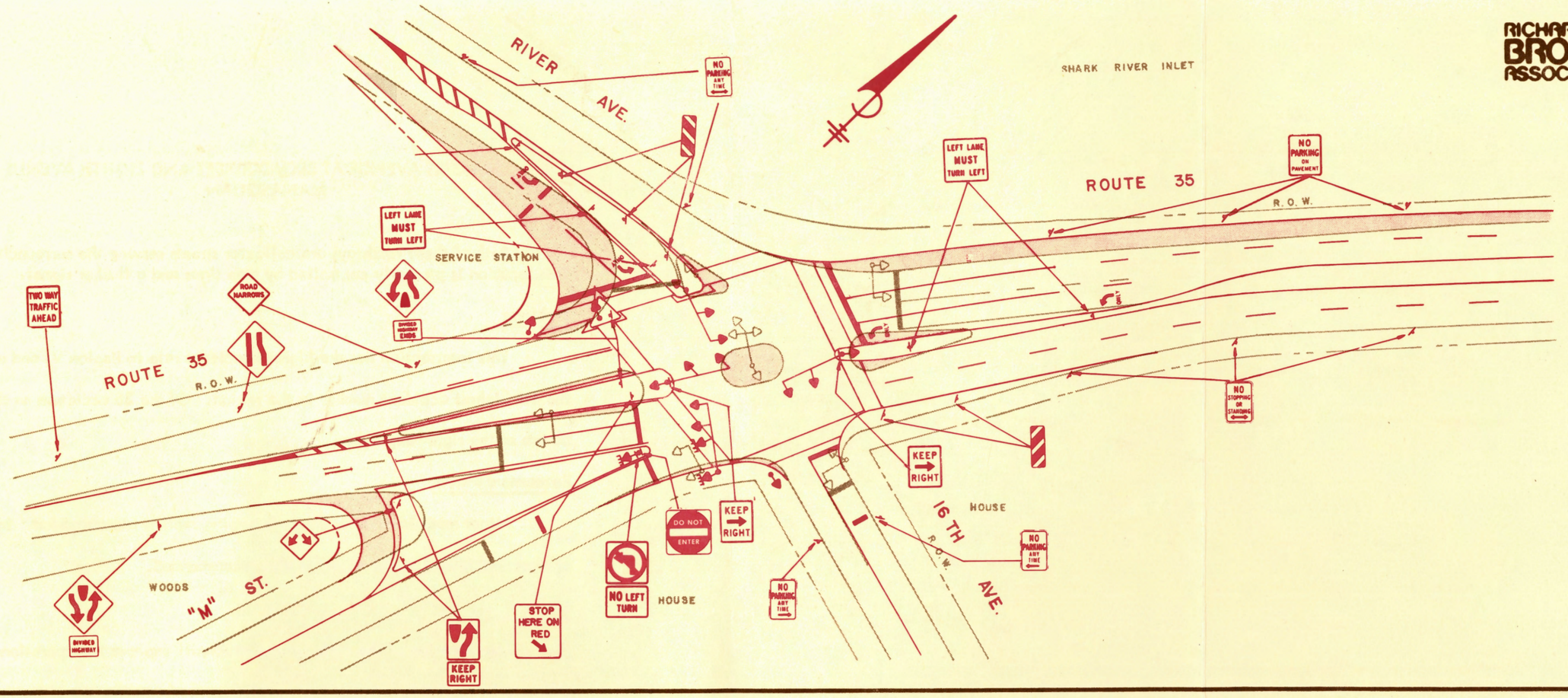
Modification to the traffic islands and turning radii are recommended along with restrictions of turning movements for traffic approaching from "M" Street. Modification of the signal layout is recommended to increase its visibility. Provision for a left turning lane for southbound to eastbound movements is also recommended in anticipation of increased turning movements due to center median modifications to portions of N.J. Route 35 north of this location.

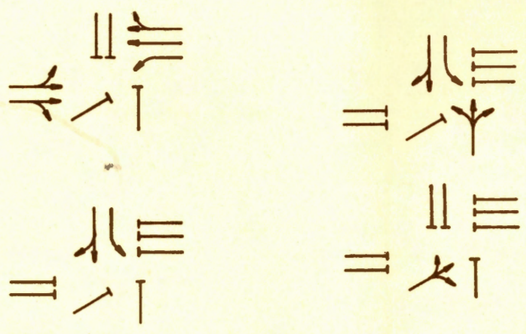
Benefits

Capacity and operational characteristics of this location will be improved by the approach lane, center island, and turning radius modifications and will combine with modifications of the signal layout to increase safety.

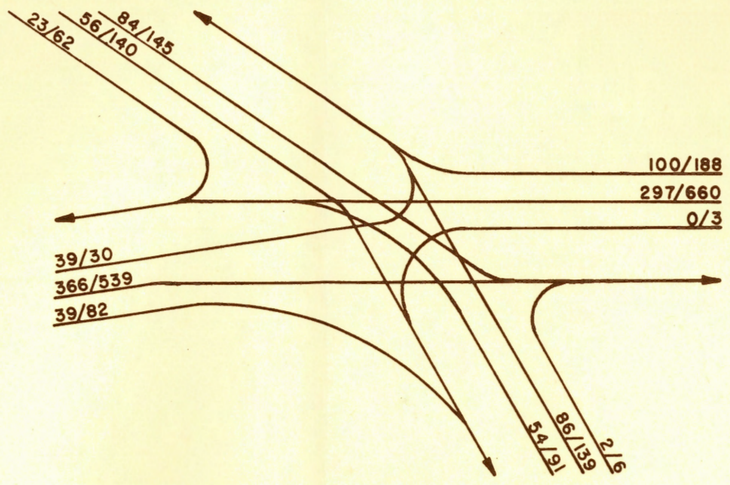
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

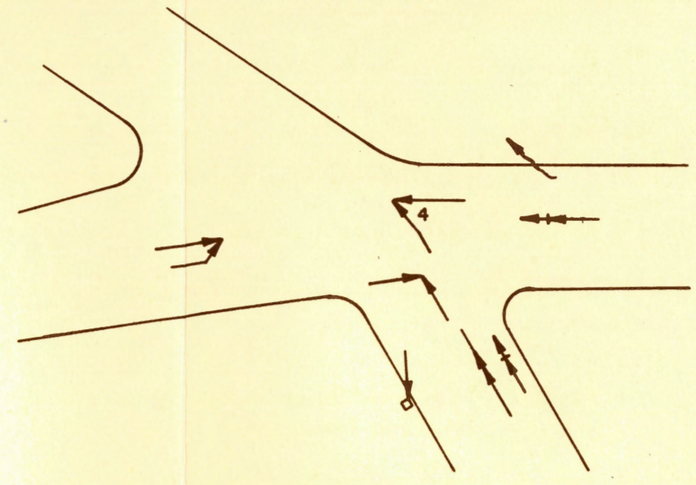




PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
7:30 - 8:30 A.M. / 4:15 - 5:15 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
5 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-1-D

6-2 SEA GIRT AVENUE AT BROAD STREET AND EIGHTH AVENUE MANASQUAN

Both of these roadways are collector streets serving the surrounding area. This location is presently controlled by stop signs and a flasher signal.

Problems

This intersection has the highest accident rate in Region VI and experienced the 4th highest accident number in the region. Of the 36 accidents at this location 30 are of the right angle type.

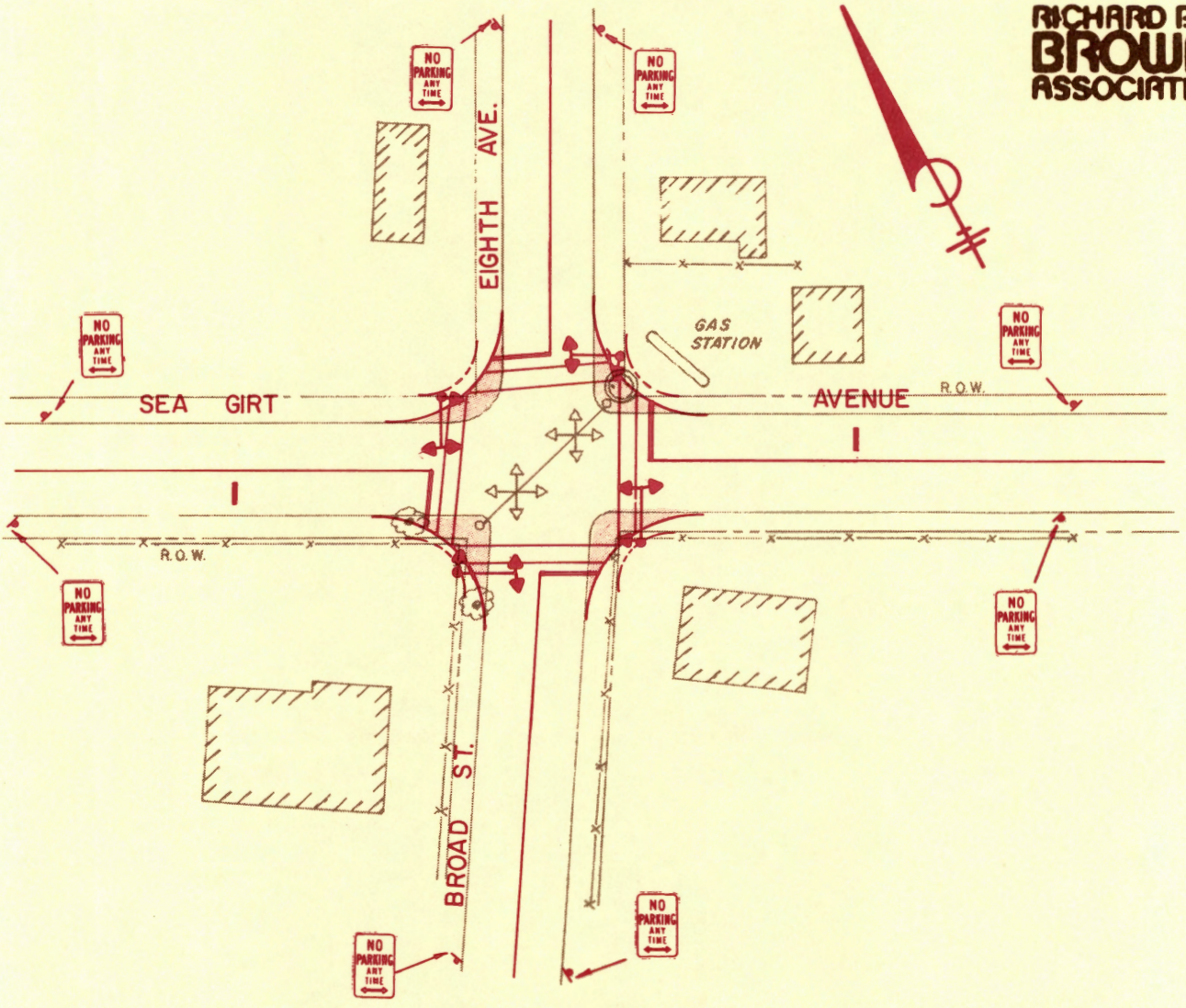
Recommendations

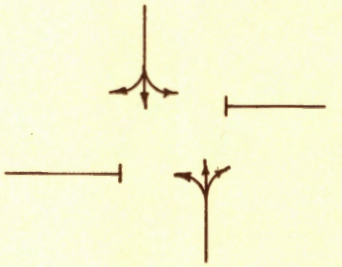
Minor modification to the curb turning radii is recommended. Installation of a semi-actuated traffic signal is also recommended.

Benefits

Modification of the curb turning radii will improve the operational characteristics of this location and combine with the traffic signal to increase safety.

RICHARD P. BROWNE ASSOCIATES





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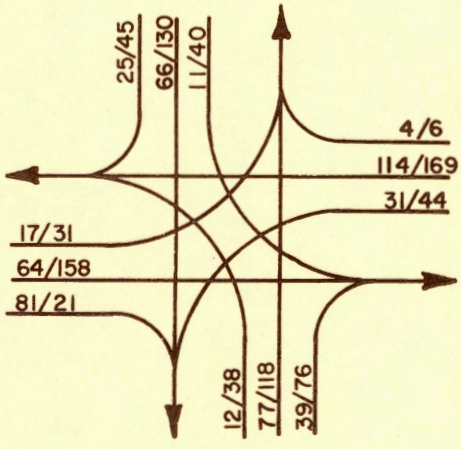
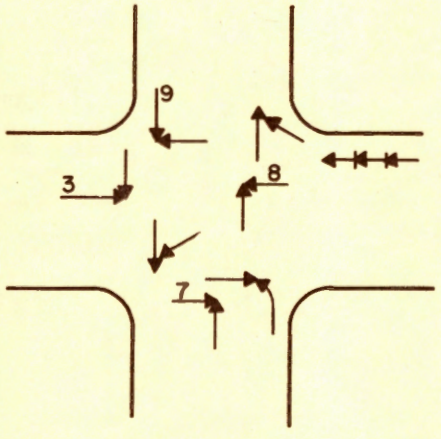


PEAK HOUR VOLUME
8:00-9:00 A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY- 3 YR. PERIOD
5 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 6-2

6-3 N.J. ROUTE 71 AND SEA GIRT AVENUE MANASQUAN

Sea Girt Avenue is a collector roadway serving the surrounding area. This location is presently controlled by a semi-actuated traffic signal.

Problems

This location has considerable traffic volume with high turning movements from the westbound direction.

Recommendations

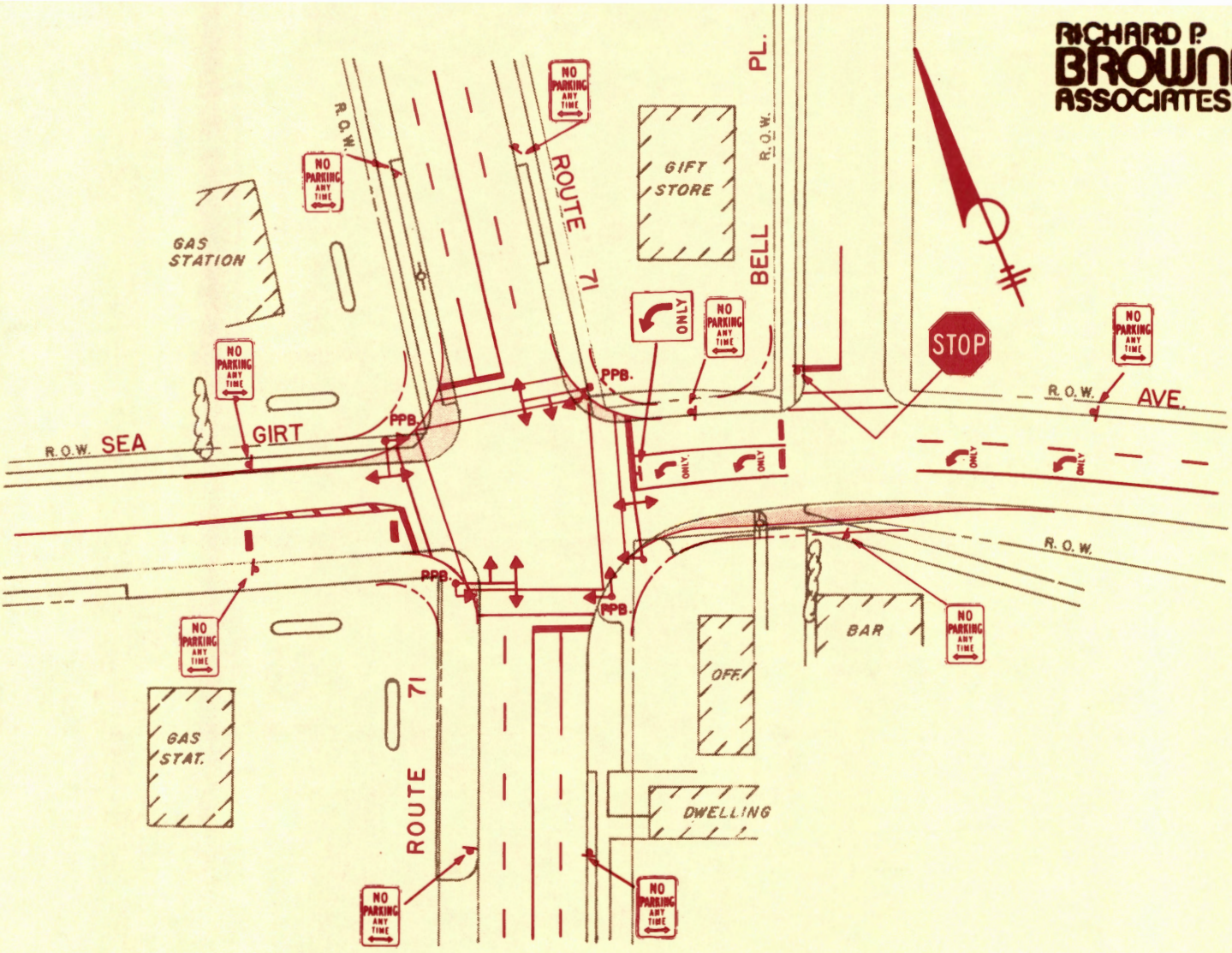
Modification to the westbound approach lanes is recommended to provide for a special left turn lane. Minor modification to the curb turning radii and approach lane width is also recommended. Modification to the signal layout is recommended to increase its visibility.

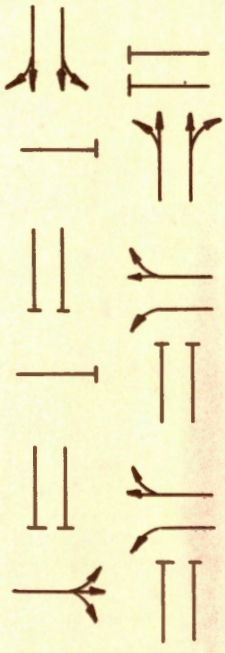
Benefits

A special approach lane and modifications to the turning radii will increase the capacity and operational characteristics of this location and will combine with signal layout modification to increase safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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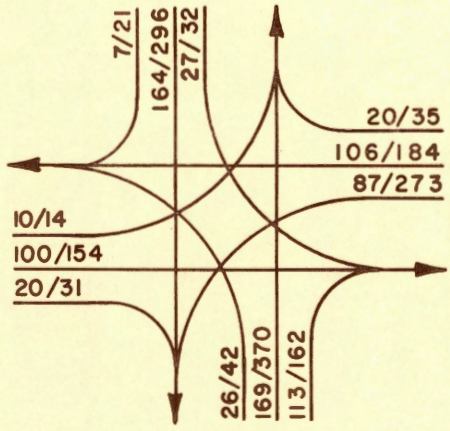

PEAK HOUR VOLUME
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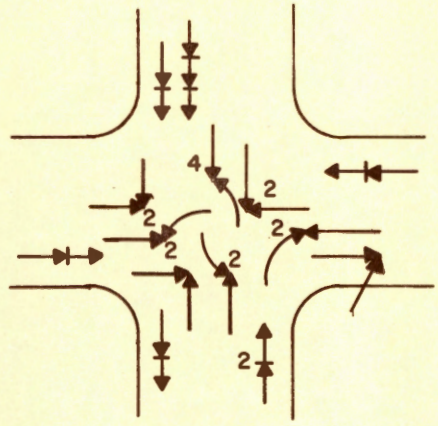


ACCIDENT SUMMARY - 3 YR. PERIOD
6 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 6-3

6-4 N.J. ROUTE 71 AND EIGHTEENTH AVENUE WALL TOWNSHIP

Eighteenth Avenue functions as a connector roadway between the shoreline and major highways to the west. This location is presently controlled by a semi-actuated traffic signal.

Problems

This location has high traffic volumes with considerable turning movements. There are inadequate curb turning radii.

Recommendations

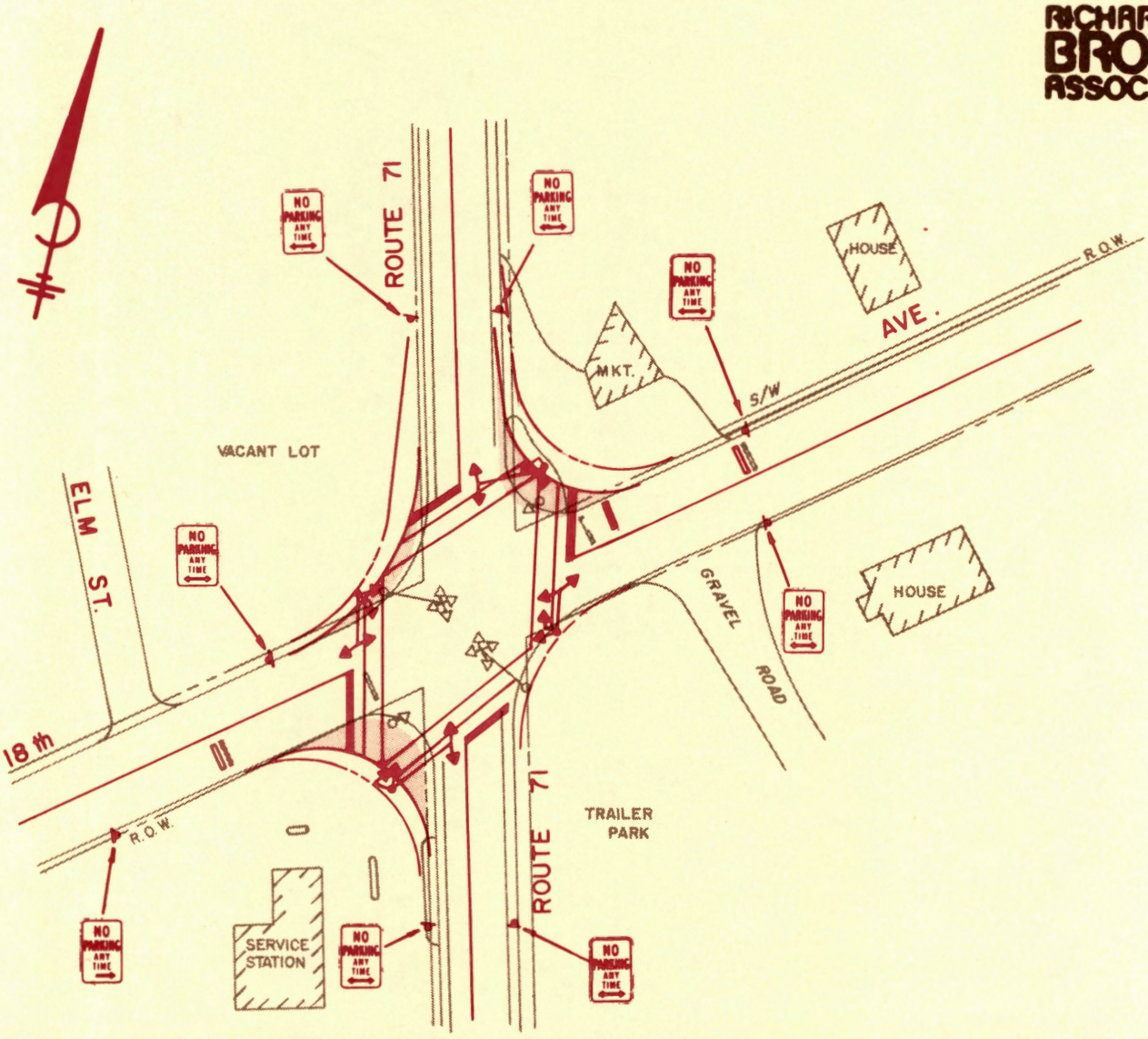
Minor modification of the curb turning radii is recommended. Modification to the signal layout is recommended to increase its visibility.

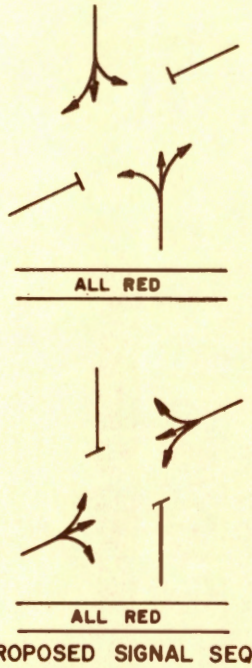
Benefits

The capacity and operational characteristics, along with safety will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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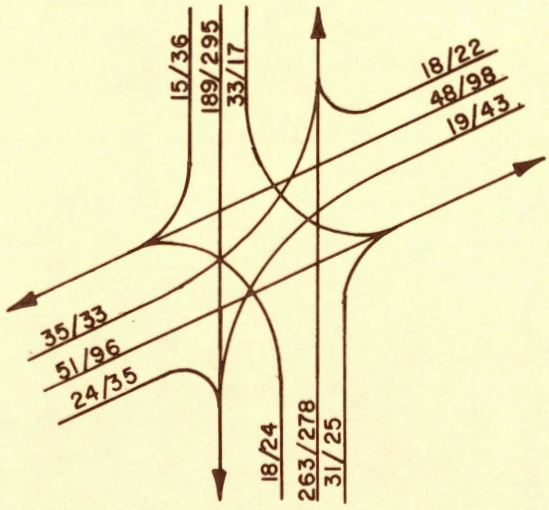

PEAK HOUR VOLUME
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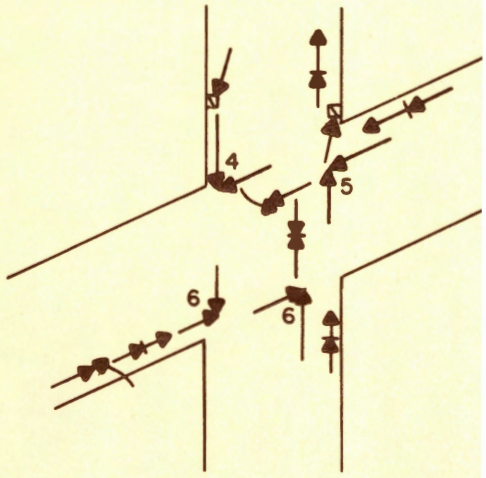


ACCIDENT SUMMARY - 3 YR. PERIOD
NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 6-4

6-5 N.J. ROUTE 71 AND MAIN STREET MANASQUAN

This location is in the central business district of Manasquan. It is presently controlled by a semi-actuated traffic signal.

Problems

This location has considerable traffic volume with high turning movements on all approaches. There are inadequate curb turning radii and approach lane arrangements. Some pedestrian accidents have occurred.

Recommendations

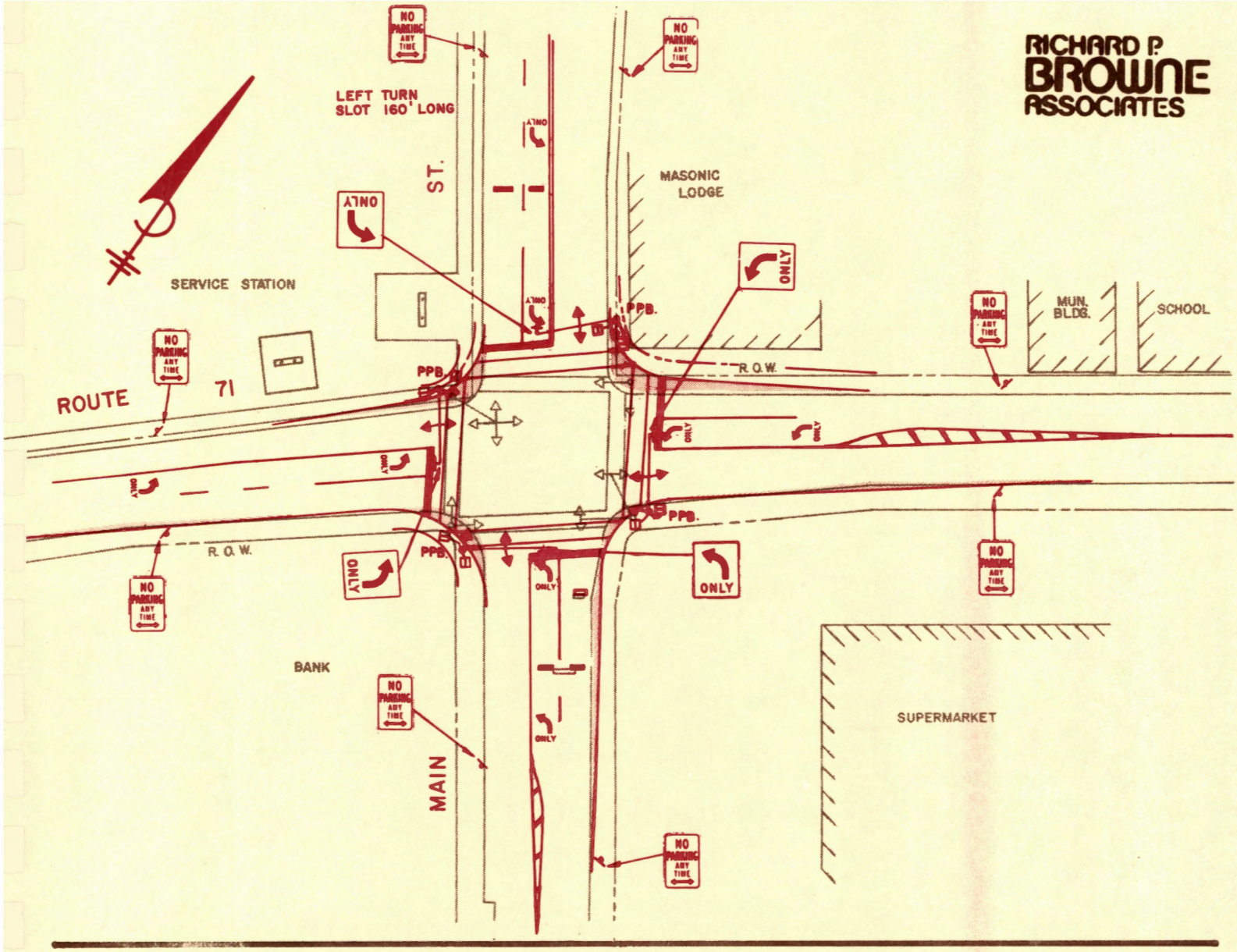
Modification to the approach lanes is recommended to provide for left turn lanes. Minor widening and modification to the curb turning radii is recommended. Modification to the signal layout is recommended to increase its visibility. Provision of Walk - Don't Walk heads with the signal installation are recommended.

Benefits

Modification to the approach lane arrangements, approach widths, and turning radii will increase the capacity and operational characteristics of the location and will combine with modifications to the signal layout to increase vehicular and pedestrian safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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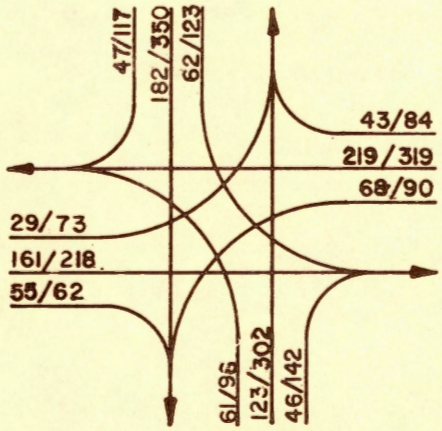
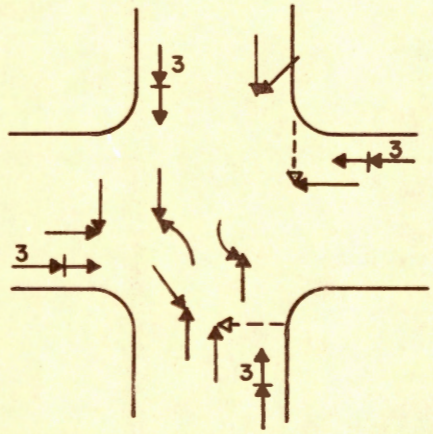


PEAK HOUR VOLUME
8:00-9:00 A.M. / 4:45-5:45 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD
4 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-5

6-6 N.J. ROUTE 71 AND WARREN AVENUE SPRING LAKE HEIGHTS

Warren Avenue is a collector roadway for the surrounding area. The location is presently controlled by a semi-actuated traffic signal.

Problems

This location has considerable traffic volumes and a high left turn movement on the westbound approach during the evening peak hour. Insufficient approach widths exist on all approaches.

Recommendations

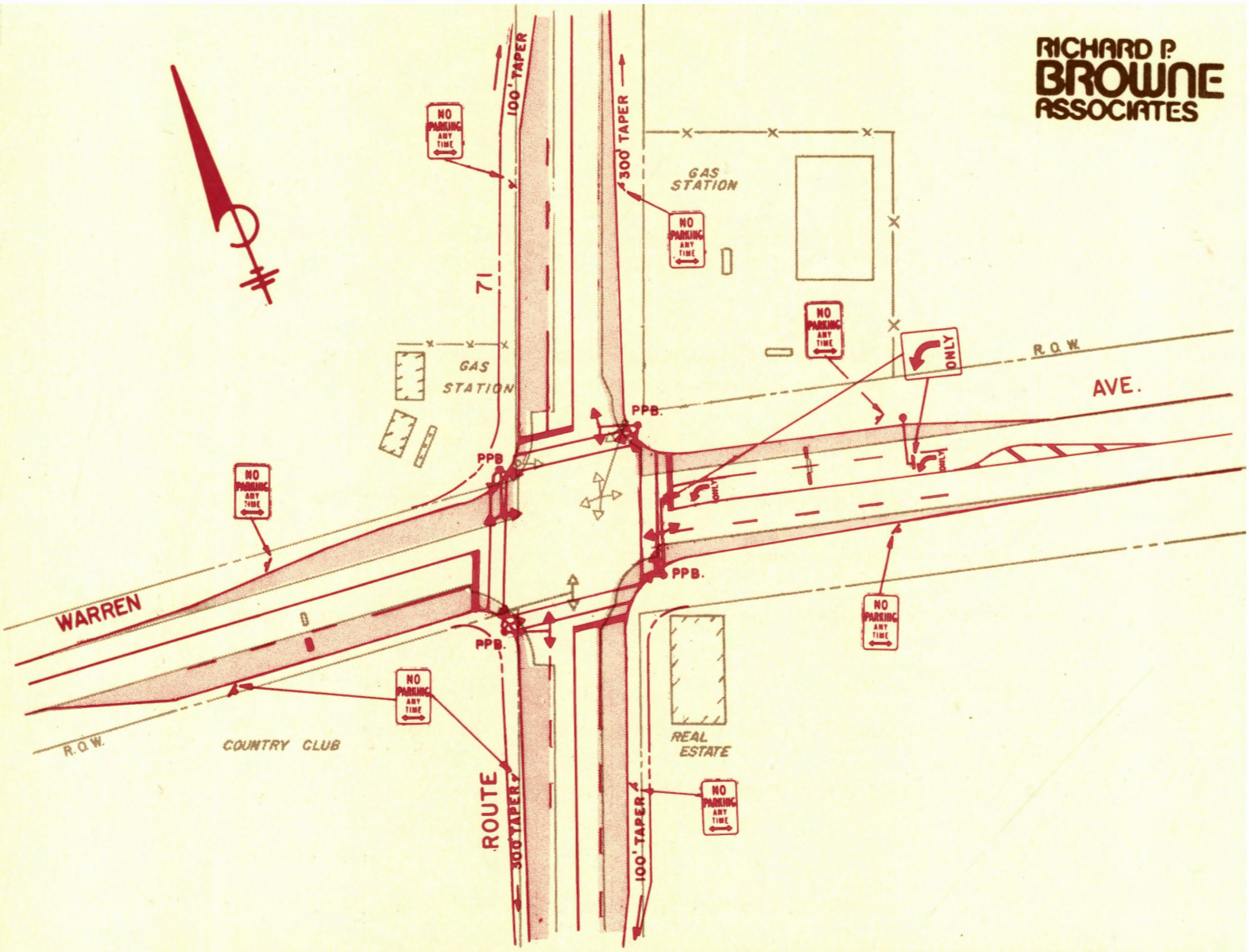
Widening and turning radius modifications are recommended on all approaches. The westbound approach should have a special left turning lane. Modification to the signal layout is recommended to increase its visibility.

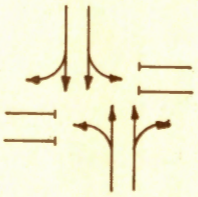
Benefits

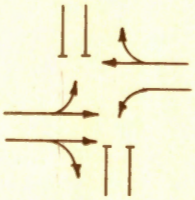
The capacity, operational characteristics, and safety of this location will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES







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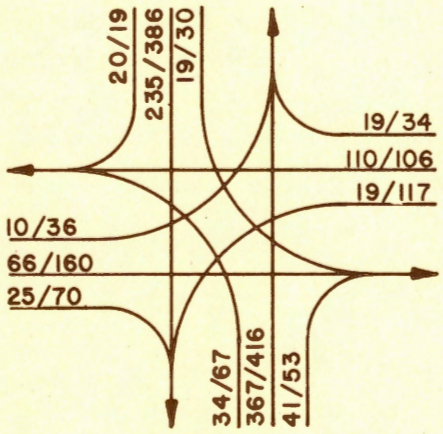
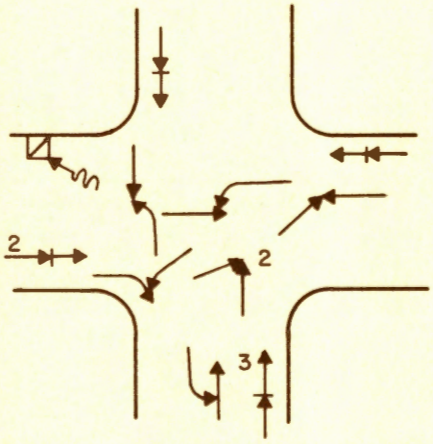


PEAK HOUR VOLUME
7:45-8:45 AM/4:30-5:30 PM



ACCIDENT SUMMARY-3 YR. PERIOD
2 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-6

6-7 N.J. ROUTE 71 AT EIGHTH AVENUE AND BEACON BOULEVARD SEA GIRT/WALL TOWNSHIP

Eighth Avenue and Beacon Boulevard are collector roadways for the surrounding area. The location is presently controlled by stop signs.

Problems

Insufficient curb turning radii exist on three corners and the direction of approach of Eighth Avenue reduces the sight distance of the intersection. A considerable number of right angle and left turn accidents are experienced.

Recommendations

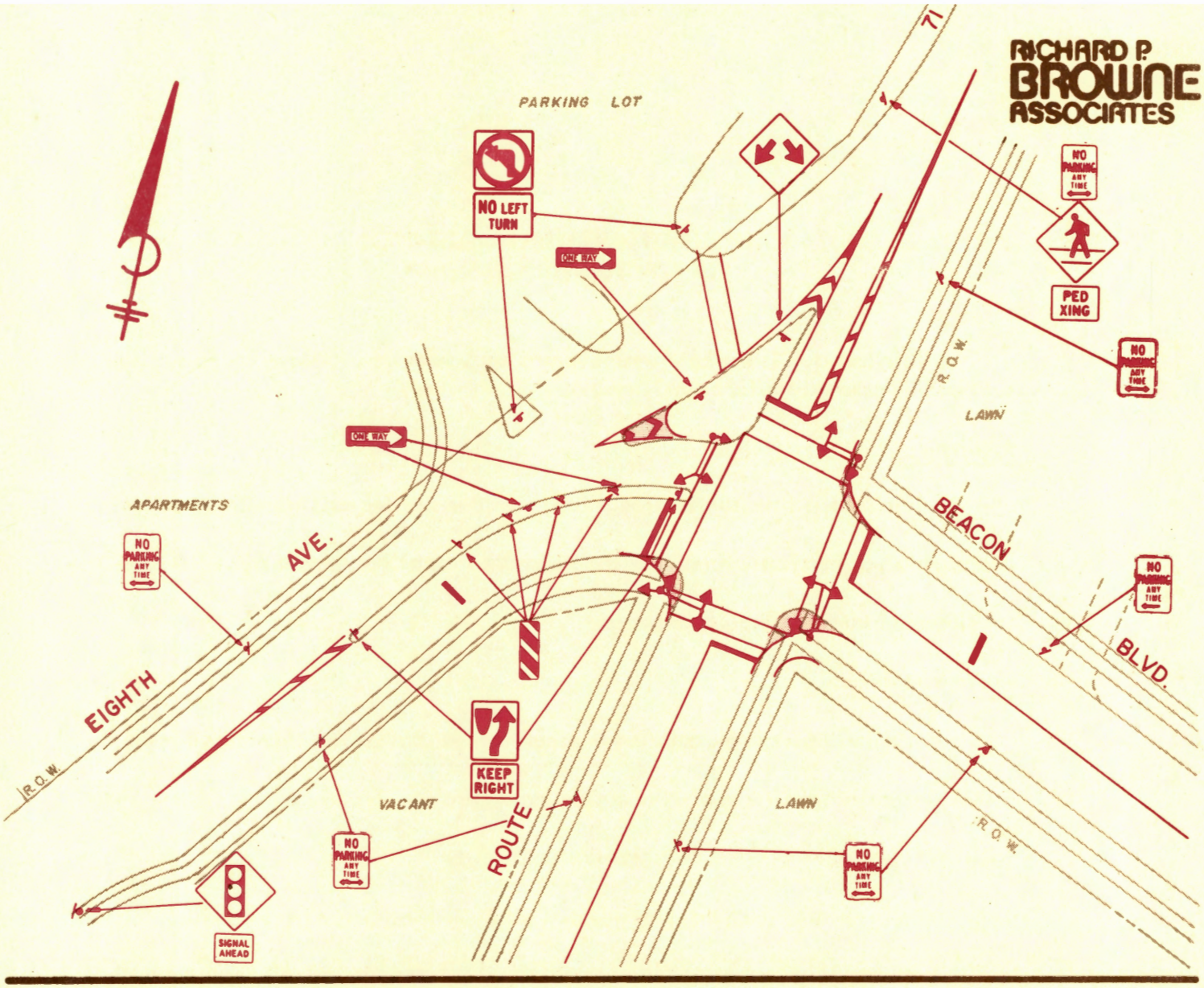
Modification to the curb turning radii are recommended. Installation of a semi-actuated traffic signal is also recommended.

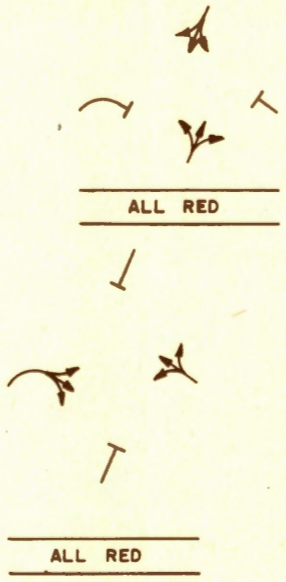
Benefits

The operational characteristics and safety will be improved by these recommendations.

NOTE: The need for a signal and proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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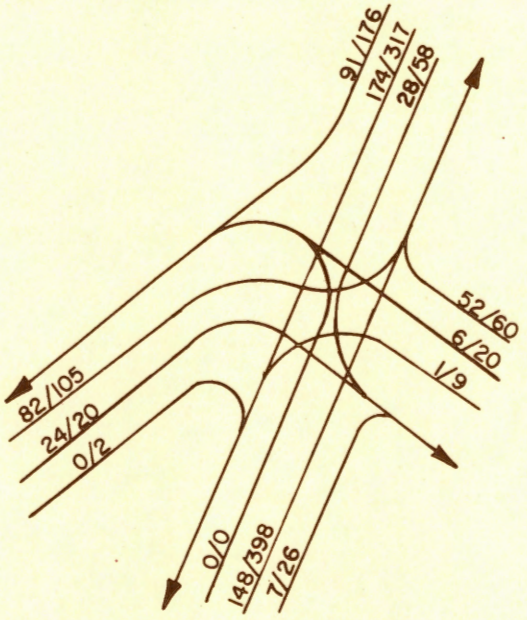
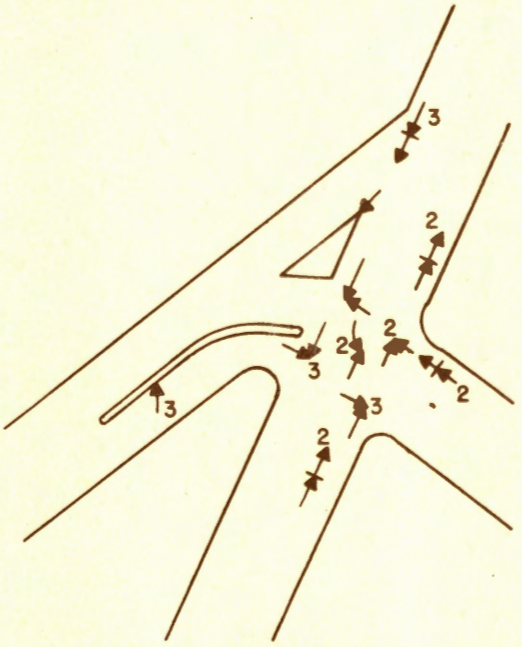


PEAK HOUR VOLUME
8:00–9:00 A.M./4:30–5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
1 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 6-7

6-8 "F" STREET AND TENTH AVENUE
BELMAR

This location is in the downtown area of Belmar and is presently controlled by a semi-actuated traffic signal.

Problems

This is an offset intersection. Poor signal visibility exists on Tenth Avenue. Angle parking interfers with proper traffic operations and a number of accidents involved vehicles hitting parked cars.

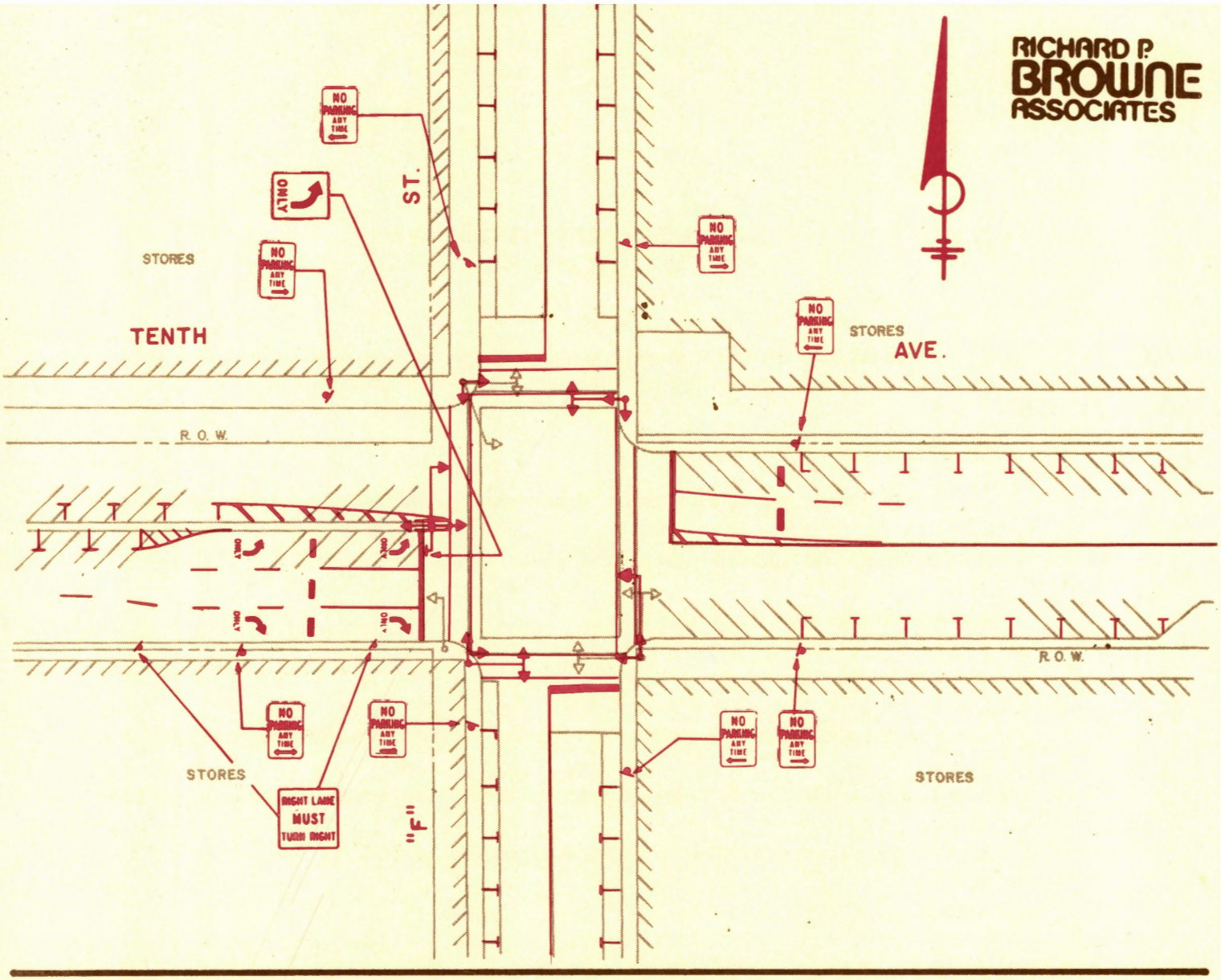
Recommendations

Elimination of angle parking is recommended along with provision for the left and right turning lanes for the eastbound approach. Modification of the signal layout is also recommended to increase its visibility.

Benefits

The capacity, safety, and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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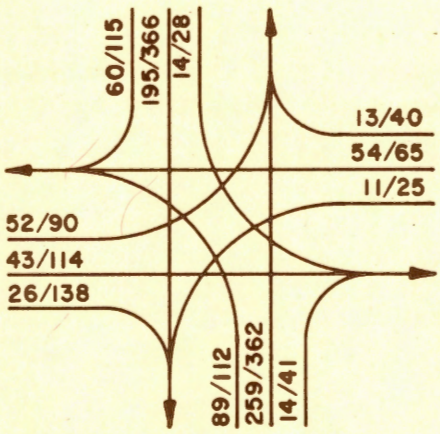
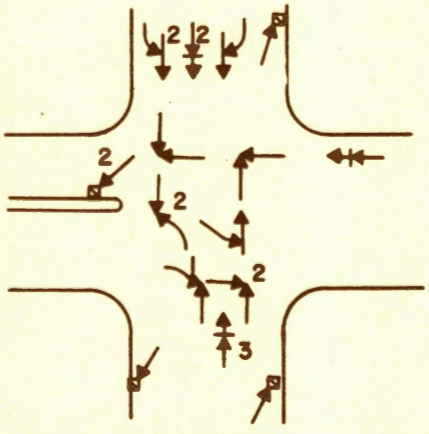


PEAK HOUR VOLUME
8:15-9:15 AM / 4:30-5:30 PM



ACCIDENT SUMMARY—3 YR. PERIOD
4 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-8

6-9 N.J. ROUTE 35 AND SEA GIRT AVENUE WALL TOWNSHIP

Sea Girt Avenue is a collector roadway for the surrounding area. The location is presently controlled by a semi-actuated traffic controller.

Problems

This location has large traffic volumes with considerable turning movements from the westbound approach.

Recommendations

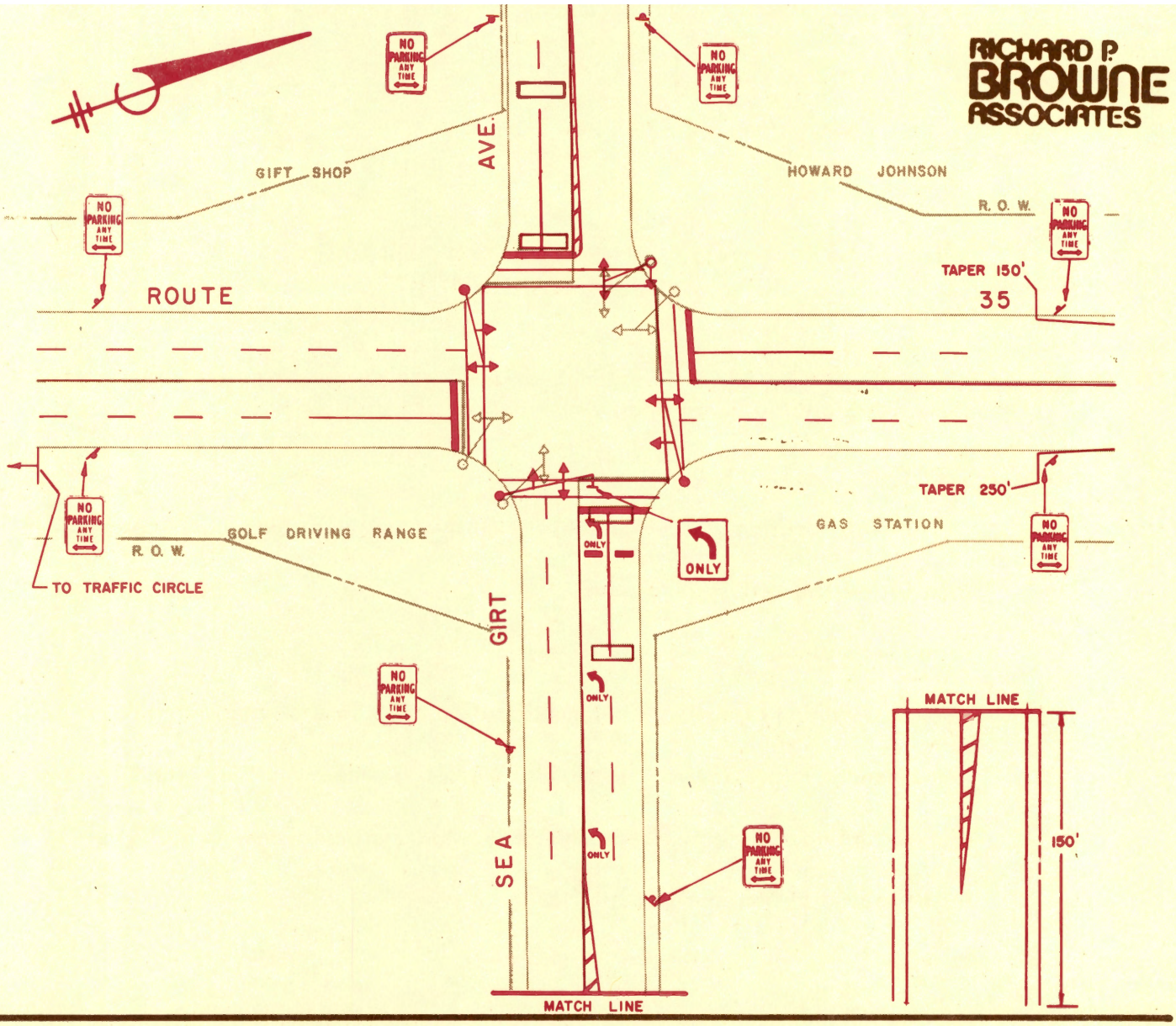
Minor modification to the curb turning radius on the southeast corner is recommended along with provision for a left turn lane on the westbound approach. Modification of the signal layout is recommended to increase its visibility. Modification of the signal controller to provide for actuation from the side street is also recommended.

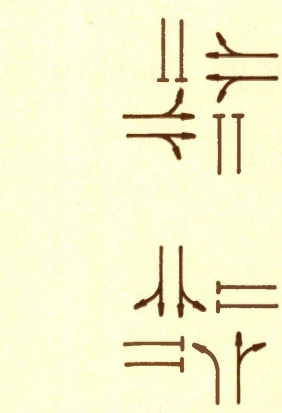
Benefits

The capacity, safety, and operational characteristics of this location will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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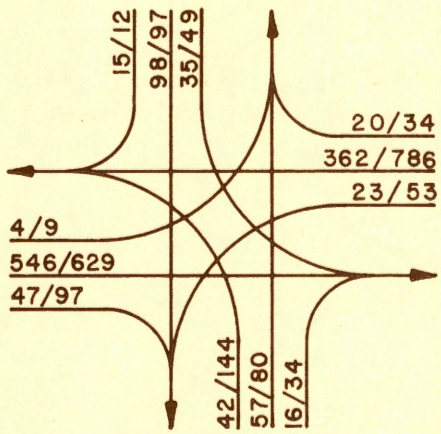
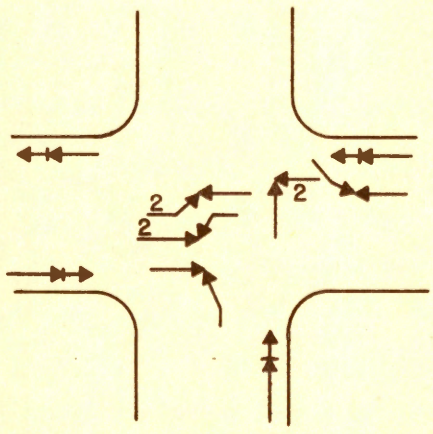


PEAK HOUR VOLUME

7:30-8:30 A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD

11 NOT SHOWN

0 60 120

Scale : 1"= 60'

PROPOSED IMPROVEMENT 6-9

6-10 N.J. ROUTE 71 AND OCEAN ROAD SPRING LAKE HEIGHTS

Ocean Road is a collector roadway for the surrounding area. The intersection is presently controlled by a semi-actuated traffic signal.

Problems

This location has considerable traffic volumes with inadequate approach lane widths and curb turning radii.

Recommendations

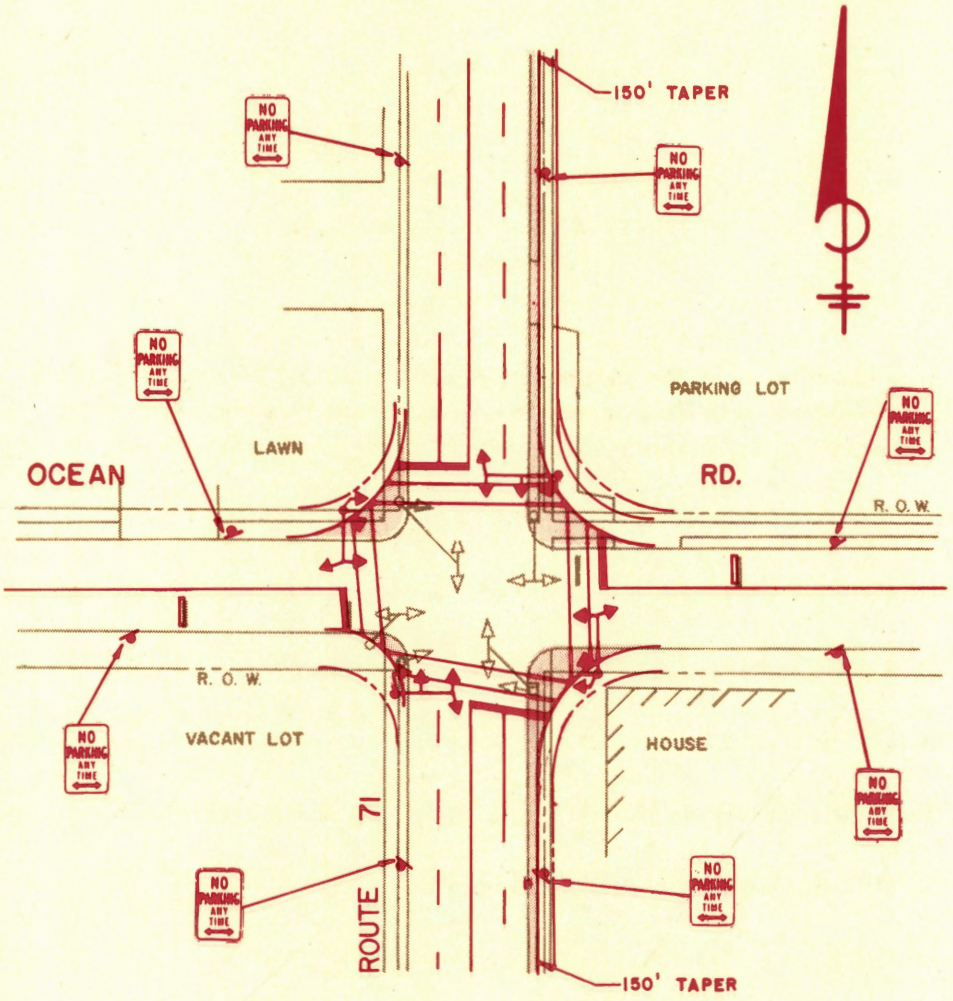
Widening of Route 71 and modification of its lane arrangement are recommended to provide for two approach lanes in each direction. Modification of curb turning radii is also recommended. Modification of the signal layout is recommended to increase its visibility.

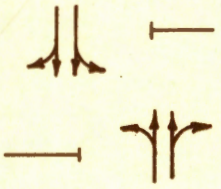
Benefits

The approach lane improvements and curb turning radii modifications will increase the capacity and operational characteristics of this location and combined with signal modification will increase safety.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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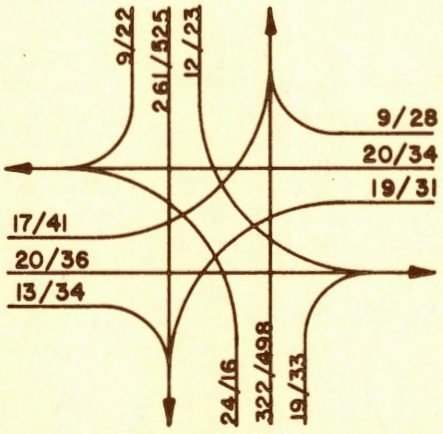
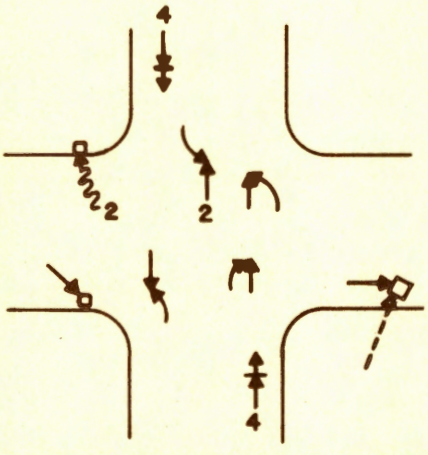


PEAK HOUR VOLUME
7:45 - 8:45 A.M. / 4:30 - 5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
4 NOT SHOWN

0 60 120

Scale: 1" = 60'

PROPOSED IMPROVEMENT 6-10

6 - 11 "F" STREET AND NINTH AVENUE
BELMAR

This location is in the central business district of Belmar. Ninth Avenue is a local street which provides access to adjacent busniess and residences. This location is presently controlled by a semi-actuated signal which is not warranted.

Problems

This location has angle parking on the side streets occurring immediately adjacent to the crosswalk. Considerable curb parking exists on the "F" Street approaches and receiving lanes also. A considerable number of accidents occur on Ninth Avenue, apparently due to angle parking maneuvers and a number of pedestrian-vehicular accidents are also experienced.

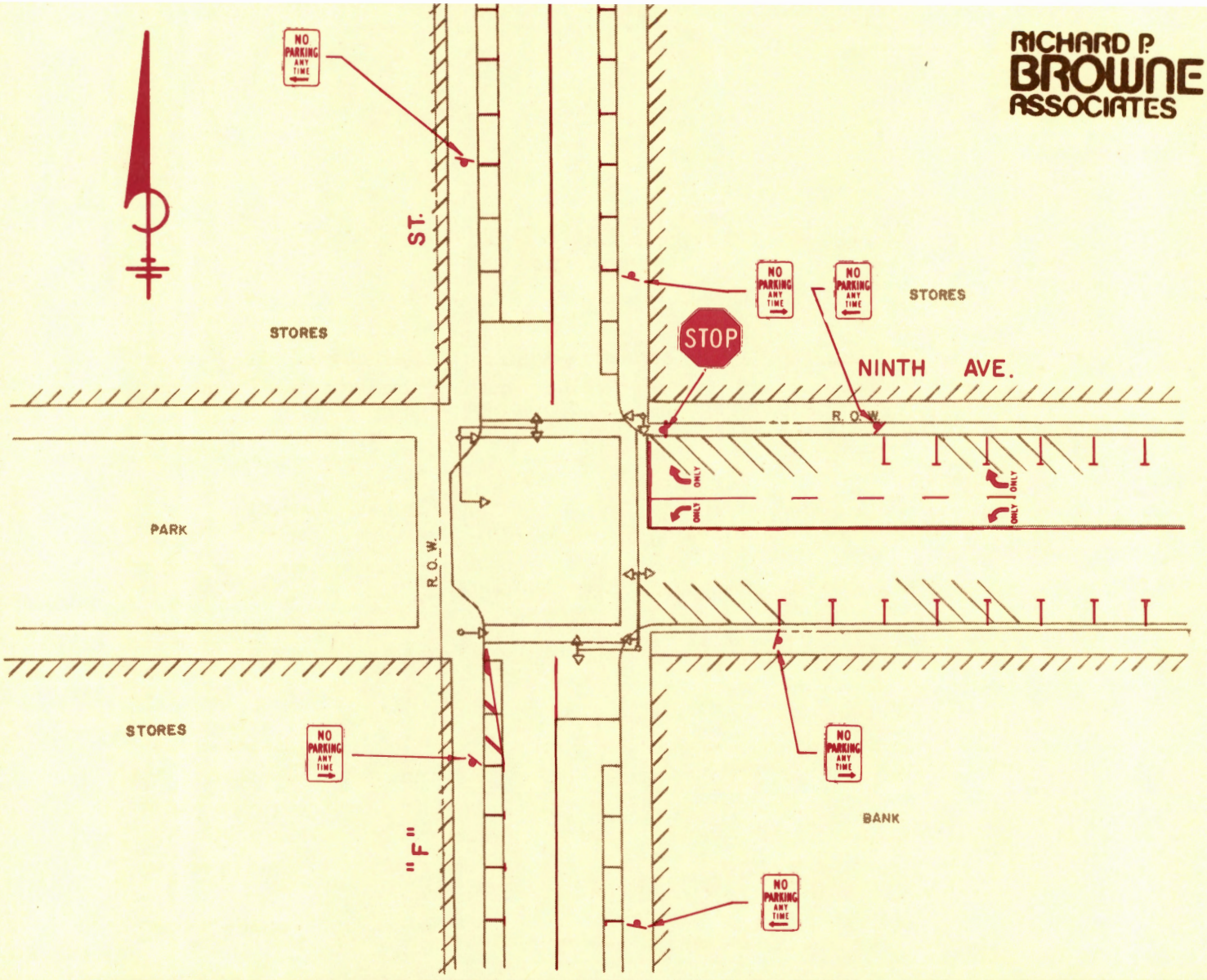
Recommendations

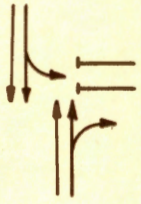
Elimination of all parking adjacent to the intersection and angle parking on Ninth Avenue is recommended. Removal of the signal is recommended.

Benefits

The capacity, safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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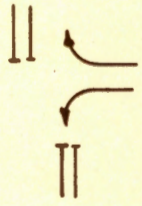

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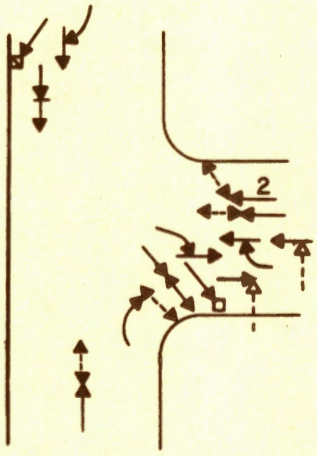


ACCIDENT SUMMARY – 3 YR. PERIOD
5 NOT SHOWN

0 60 120
Scale: 1" = 60'

PROPOSED IMPROVEMENT 6 - 11

6-12 N.J. ROUTE 71, EIGHTH AVENUE AND "F" STREET BELMAR

This location is in the central business district of Belmar. N.J. Route 71 makes a 90 degree turn at this point. The location is presently controlled by a semi-actuated traffic signal.

Problems

This location has parking too close to the intersection. On the westbound receiving lane there exists angle parking immediately adjacent to the crosswalk. A number of accidents involve vehicles hitting angle parked cars.

Recommendations

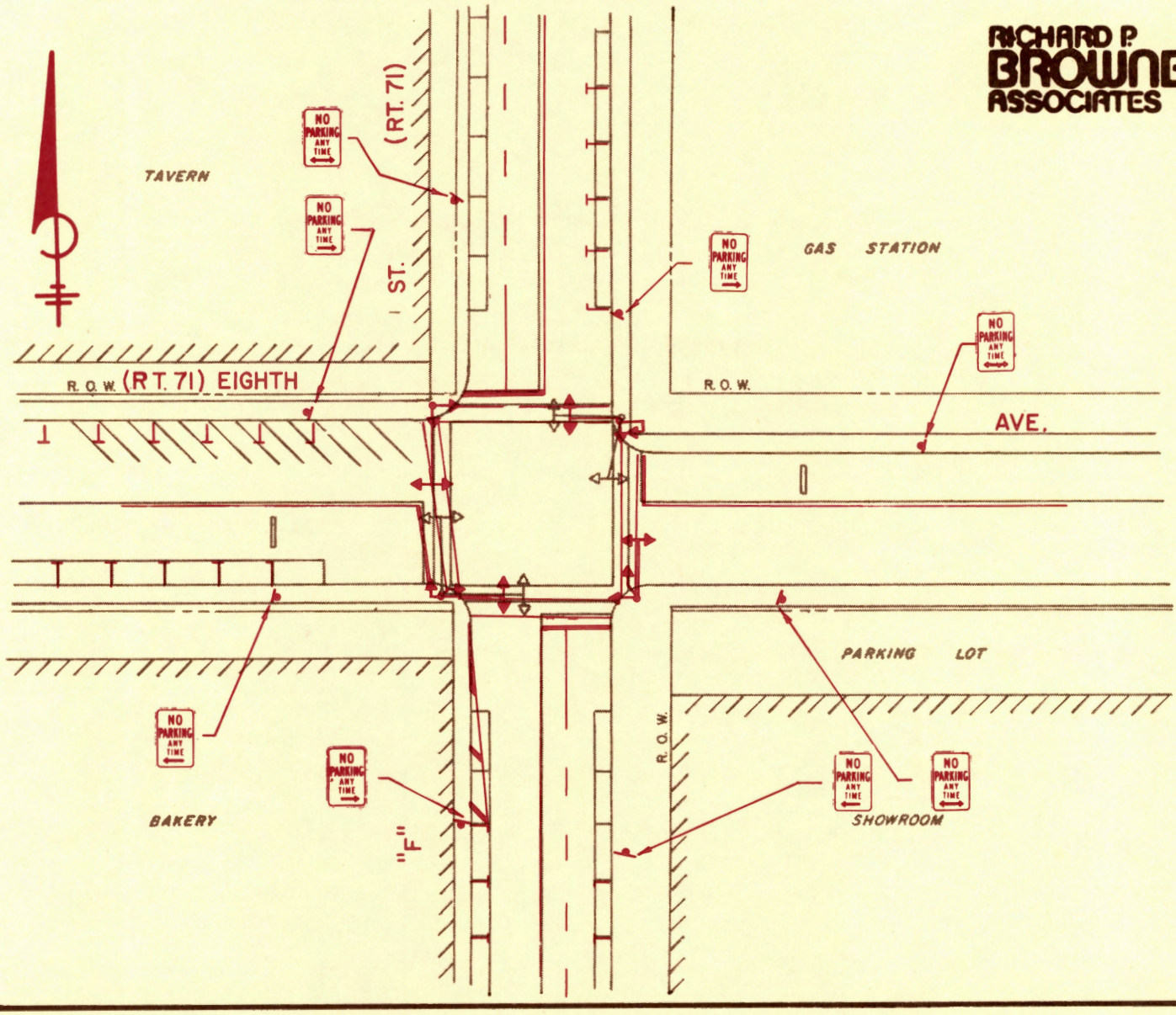
Elimination of all parking immediately adjacent to the intersection and angle parking on Eighth Avenue (Route 71) is recommended. Modification of the signal layout to improve its visibility is also recommended.

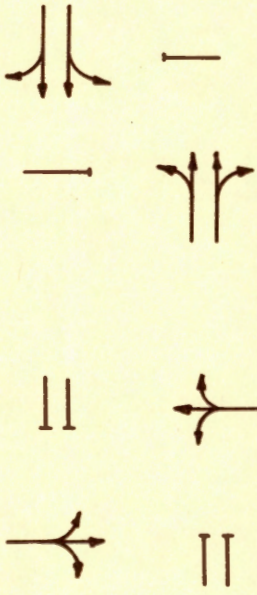
Benefits

The safety and operational characteristics of this location will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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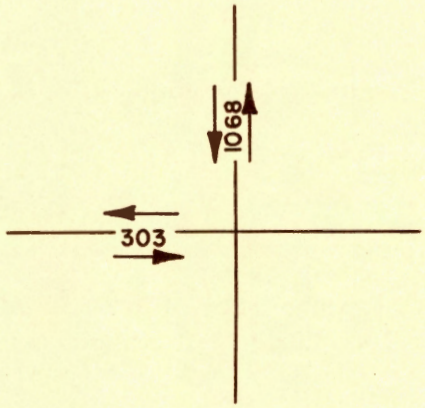
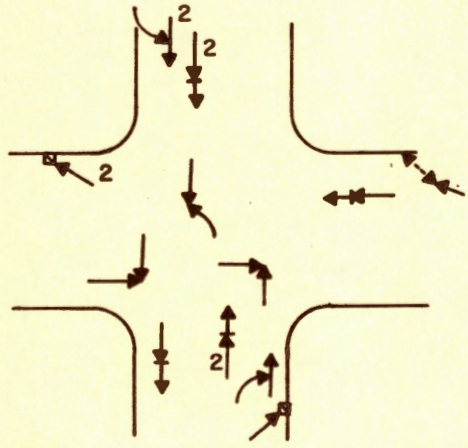


PEAK HOUR VOLUME
4:30-5:30 PM



ACCIDENT SUMMARY—3 YR. PERIOD
3 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-12

6-13 N.J. ROUTE 35 AND HIGGINS AVENUE BRIELLE

Higgins Avenue is a collector roadway for part of downtown Brielle and also functions as a jughandle for turning movements from N.J. Route 35 southbound. This location is controlled by a semi-actuated traffic signal.

Problems

Both approaches on Route 35 are down hill approaches. A considerable number of right angle and rear end collisions are experienced at this location. At the entrance to the Ramp A jughandle vehicles lose control and run off the road.

Recommendations

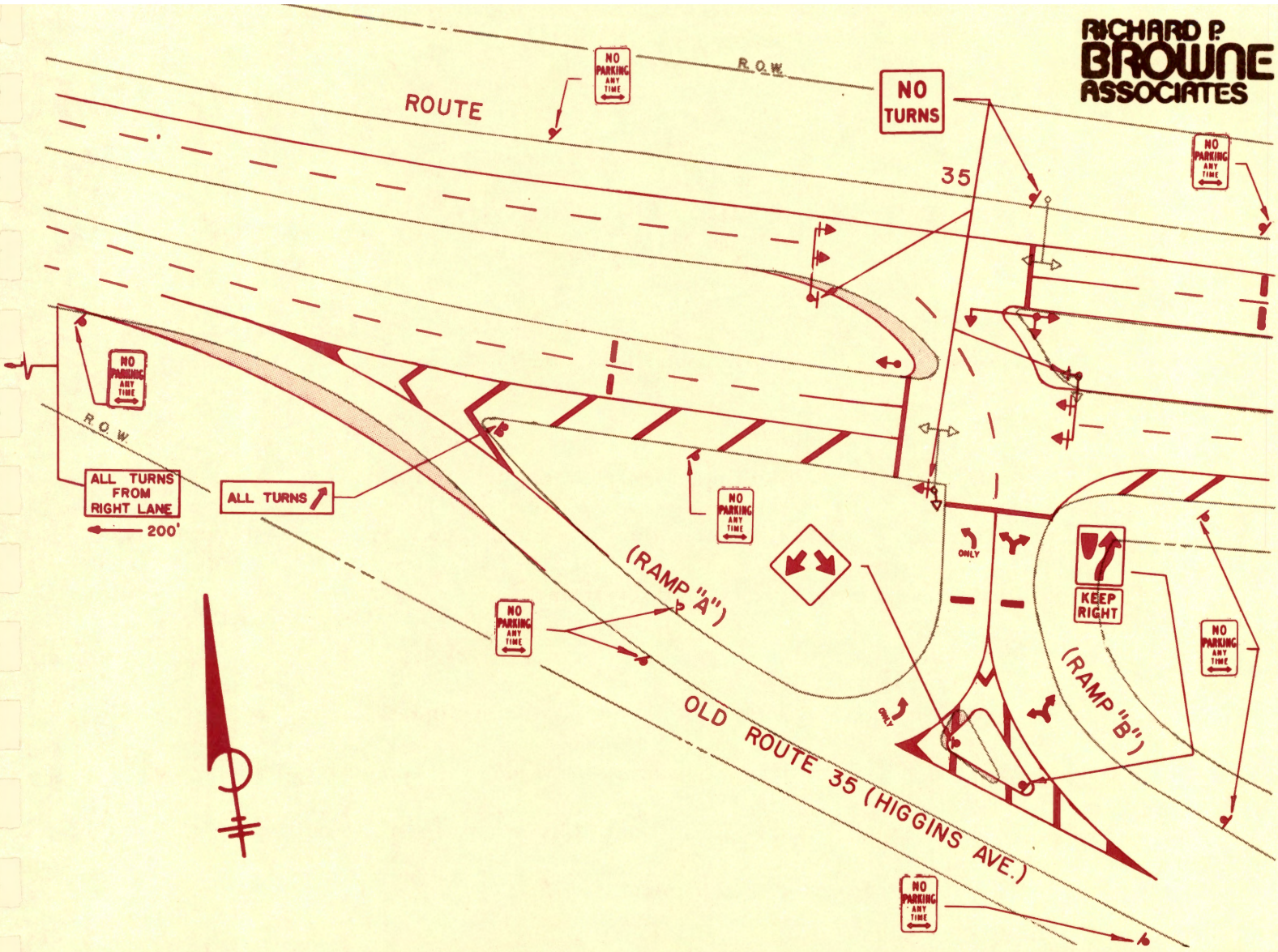
Minor modification to the entrance of Ramp A is recommended along with modification to the center divider on N.J. Route 35. Modification to the signal layout is recommended to increase its visibility and modification to the controller is recommended to provide for full actuation. All red clearance intervals are recommended for both signal phases.

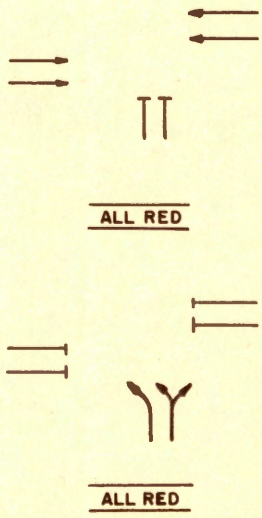
Benefits

The safety and operational characteristics of this location will be improved by this recommendation.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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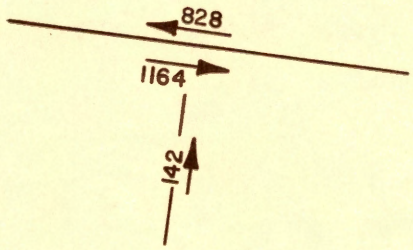
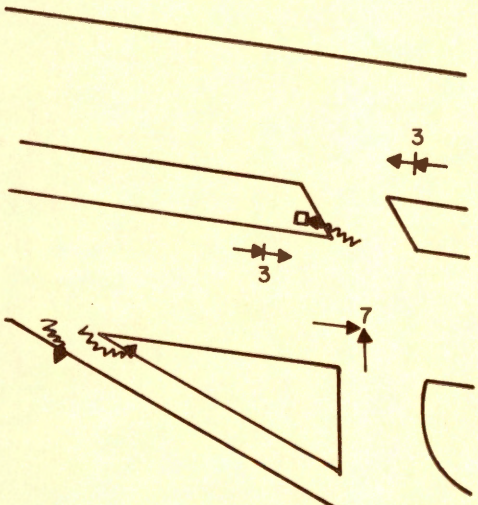


PEAK HOUR VOLUME
4:30-5:30 PM



ACCIDENT SUMMARY - 3 YR. PERIOD

0 60 120

Scale : 1" = 60'

PROPOSED IMPROVEMENT 6-13

6-14 N.J. ROUTE 71 AND FIFTH AVENUE
BELMAR

This intersection is located on the northern fringe of the Belmar central business district. It is presently controlled by a semi-actuated traffic signal.

Problems

This location has insufficient curb turning radii on the northwest and southeast corners. Insufficient lane width exists due to parking. The west approach of Fifth Avenue is offset from the east approach.

Recommendations

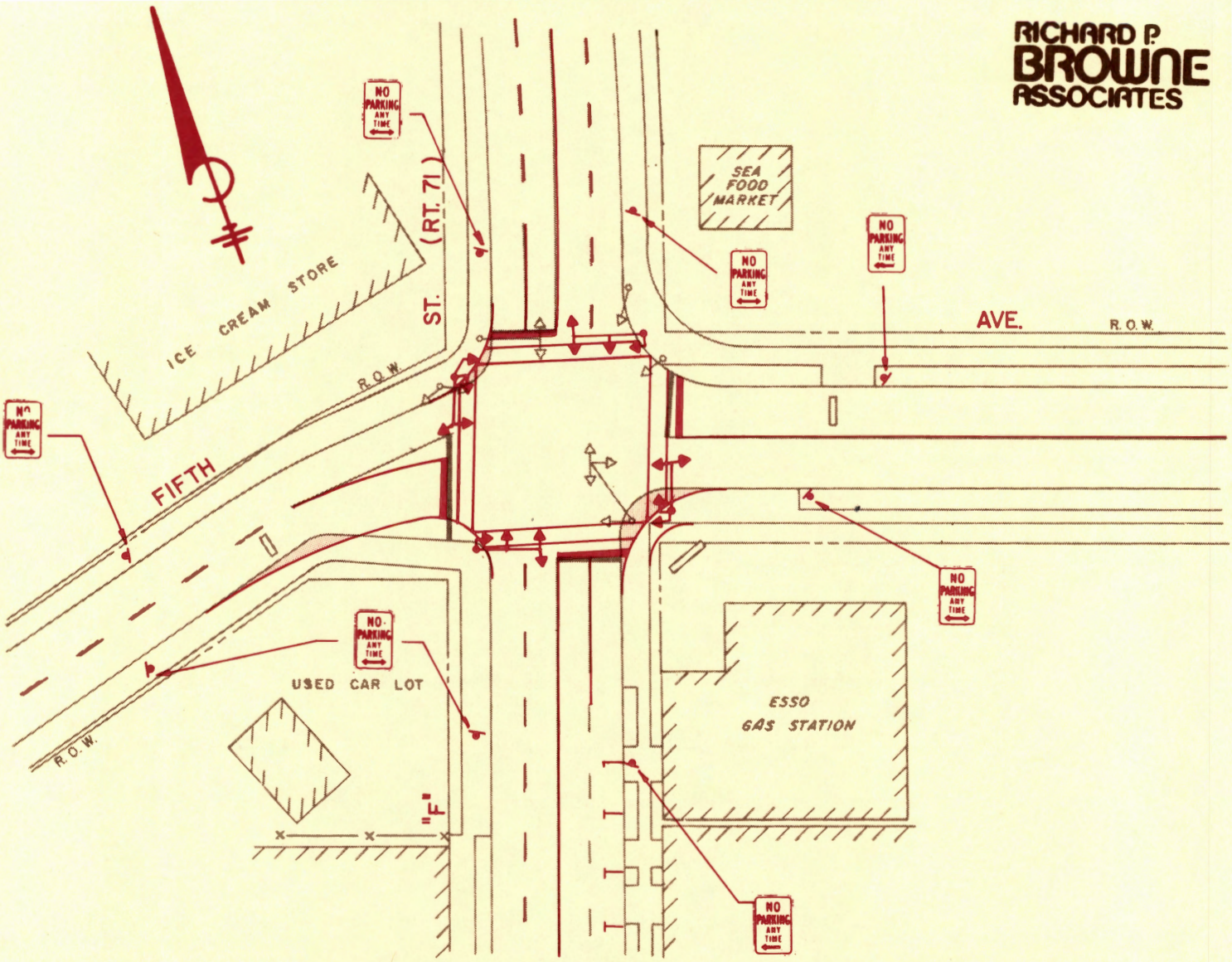
Modification to the curb turning radii on the northwest and southeast corner is recommended along with minor modification of the west approach of Fifth Avenue. Elimination of parking at the intersection is also recommended. Modification to the signal layout is recommended to increase its visibility.

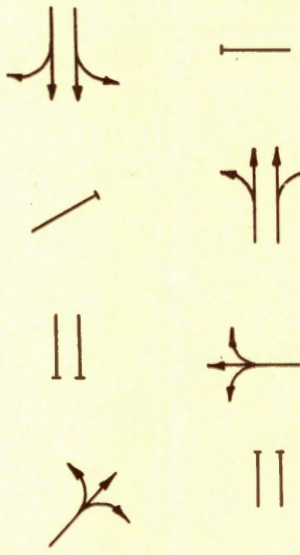
Benefits

The capacity, safety, and operational characteristics of this location will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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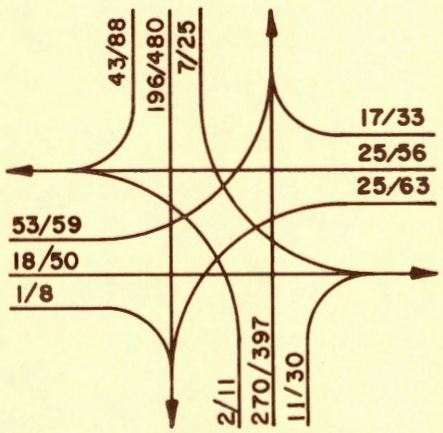
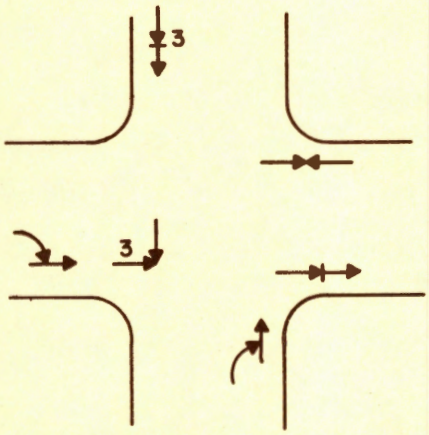


PEAK HOUR VOLUME
7:45-8:45 A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY—3YR. PERIOD
5 NOT SHOWN

0 60 120

Scale: 1" = 60'

PROPOSED IMPROVEMENT 6-14

6-15 SOUTH STREET AND MARCELLUS AVENUE MANASQUAN

This is the intersection of two collector roadways. It is presently controlled by stop signs and a flashing signal.

Problems

This location has insufficient turning radii and a considerable number of right angle accidents are experienced.

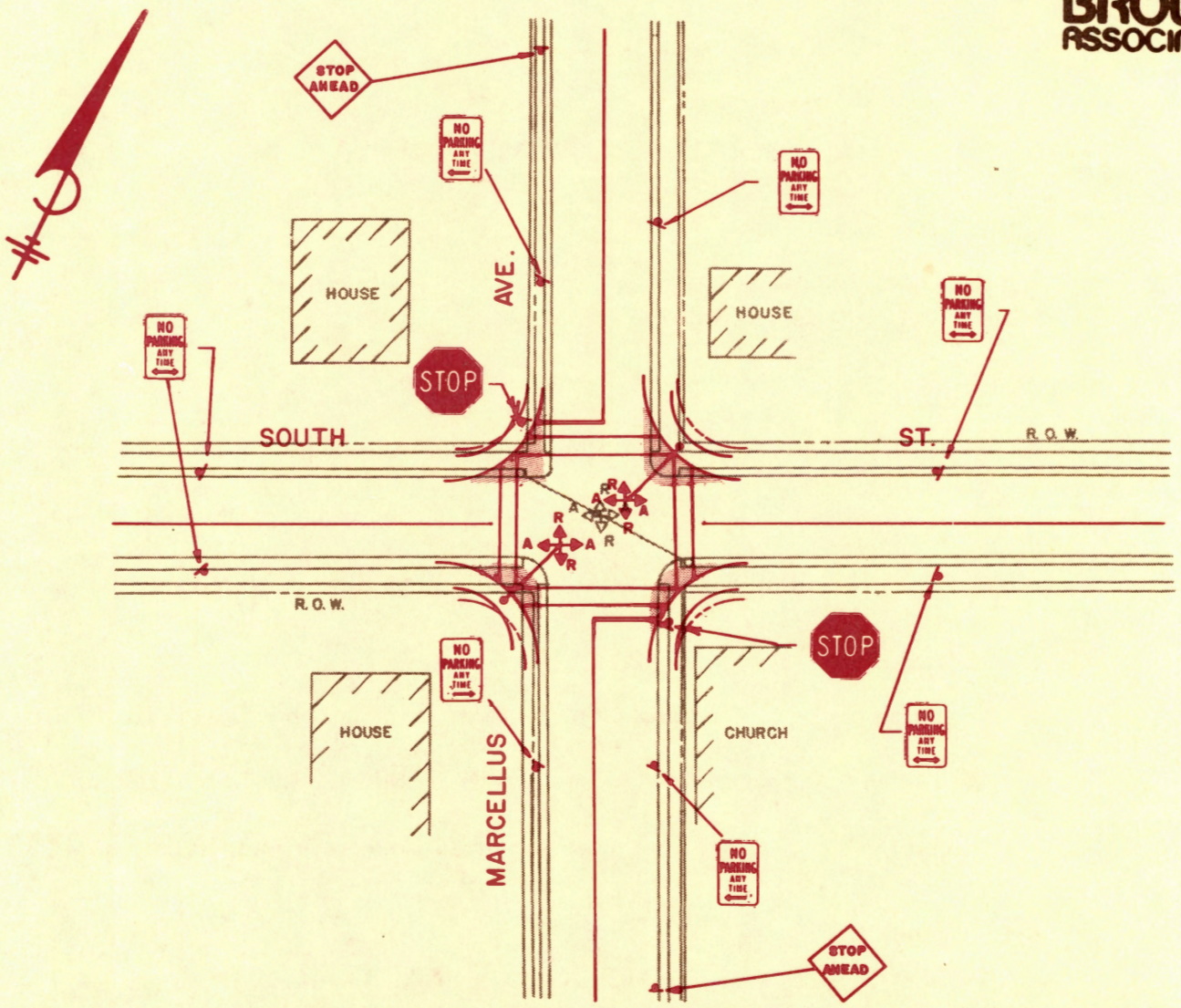
Recommendations

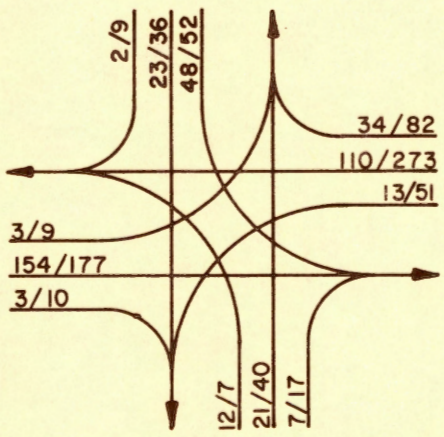
Installation of oversized stop signs is recommended along with Stop Ahead signs. Modification of the flashing signal is also recommended to provide two signal faces for each direction. Curb turning radii should also be improved.

Benefits

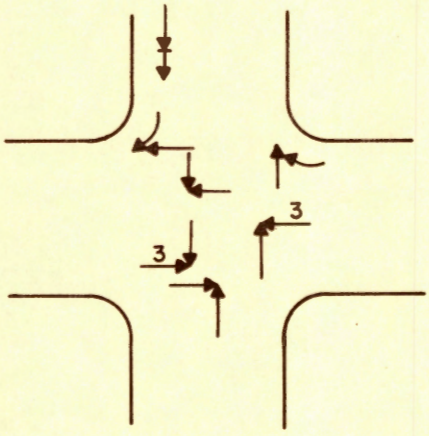
The safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
8:00-9:00 A.M./4:45-5:45 P.M.



ACCIDENT SUMMARY — 3 YR. PERIOD
2 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-15

6-16 N.J. ROUTE 35 AND WARREN AVENUE WALL TOWNSHIP

Warren Avenue connects Routes 35 and 71. The location is presently controlled by a semi-actuated traffic signal.

Problems

Route 35, south of the intersection, has insufficient width to allow its lanes to merge safely and to form two approach lanes at the intersection. Because of commercial development along Route 35 it is difficult to distinguish the signals.

Recommendations

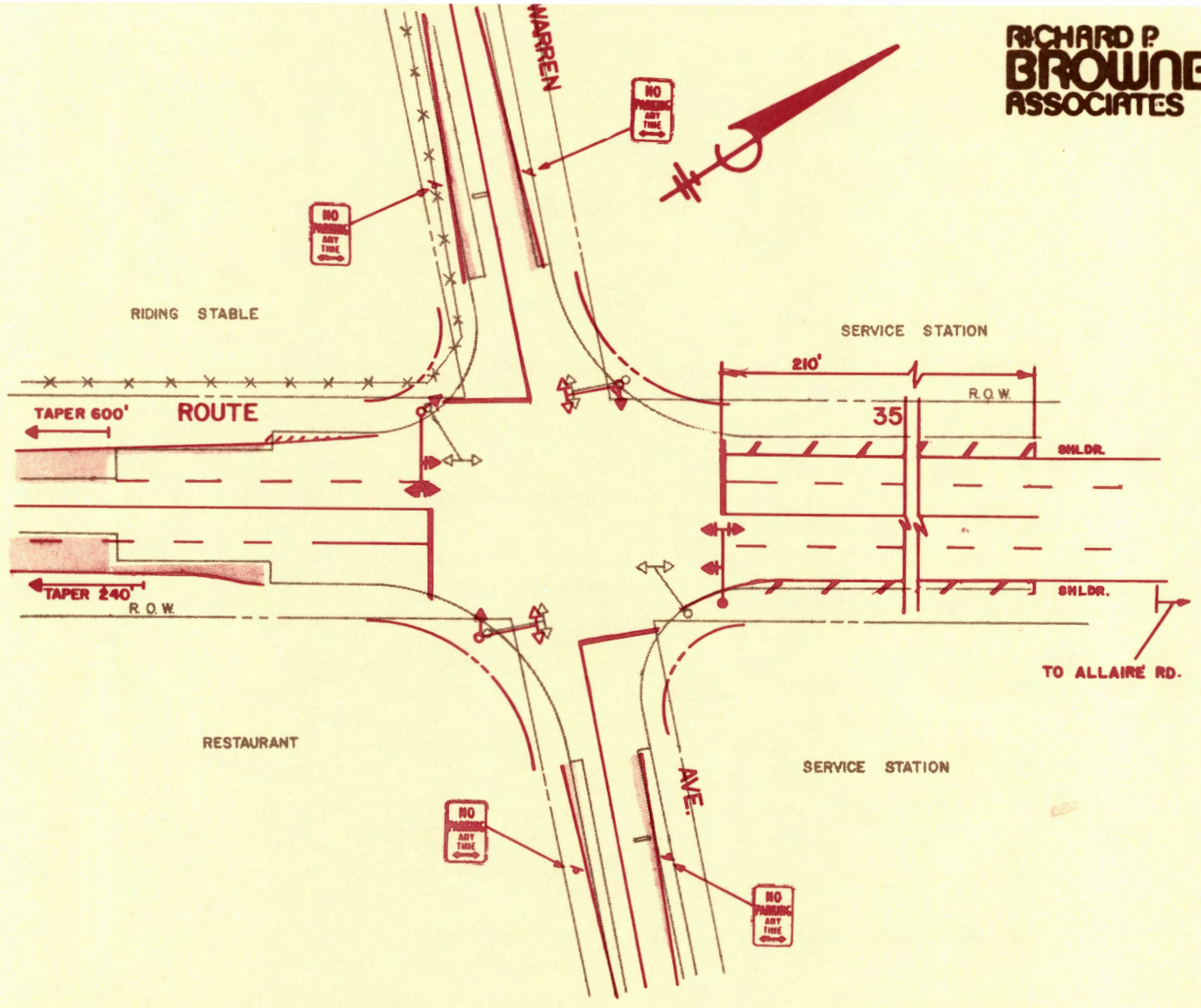
Widening of the south approach of Route 35 is recommended. Modification to the signal layout is recommended to improve its visibility. The installation of back plates on the signal heads is also recommended to improve their target value.

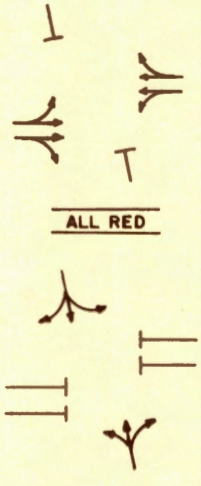
Benefits

The safety and operational characteristics of this location will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





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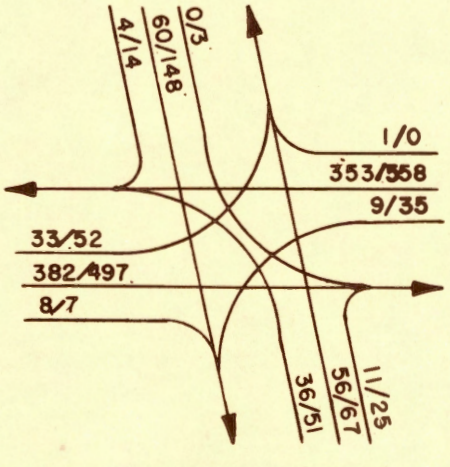
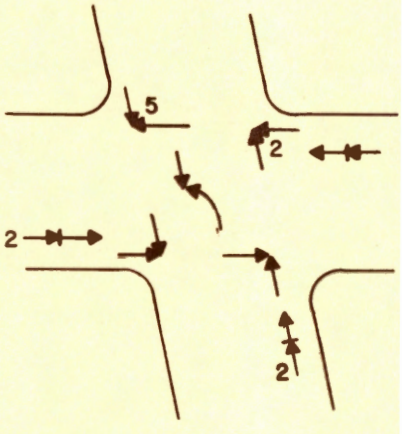


PEAK HOUR VOLUME
8:15-9:15A.M. / 4:30-5:30 P.M.



ACCIDENT SUMMARY 3 YR. PERIOD

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 6-16

6-17 MAIN STREET AND ATLANTIC AVENUE MANASQUAN

This is the intersection of two collector roadways for the surrounding area. This location is presently controlled by stop signs and a signal flasher.

Problems

There are inadequate curb turning radii on all corners. The high right turn movement on the west approach of Atlantic Avenue and the high left turn movement on the south approach of Main Street require separate turn lanes. Consequently, these turn approaches should be widened.

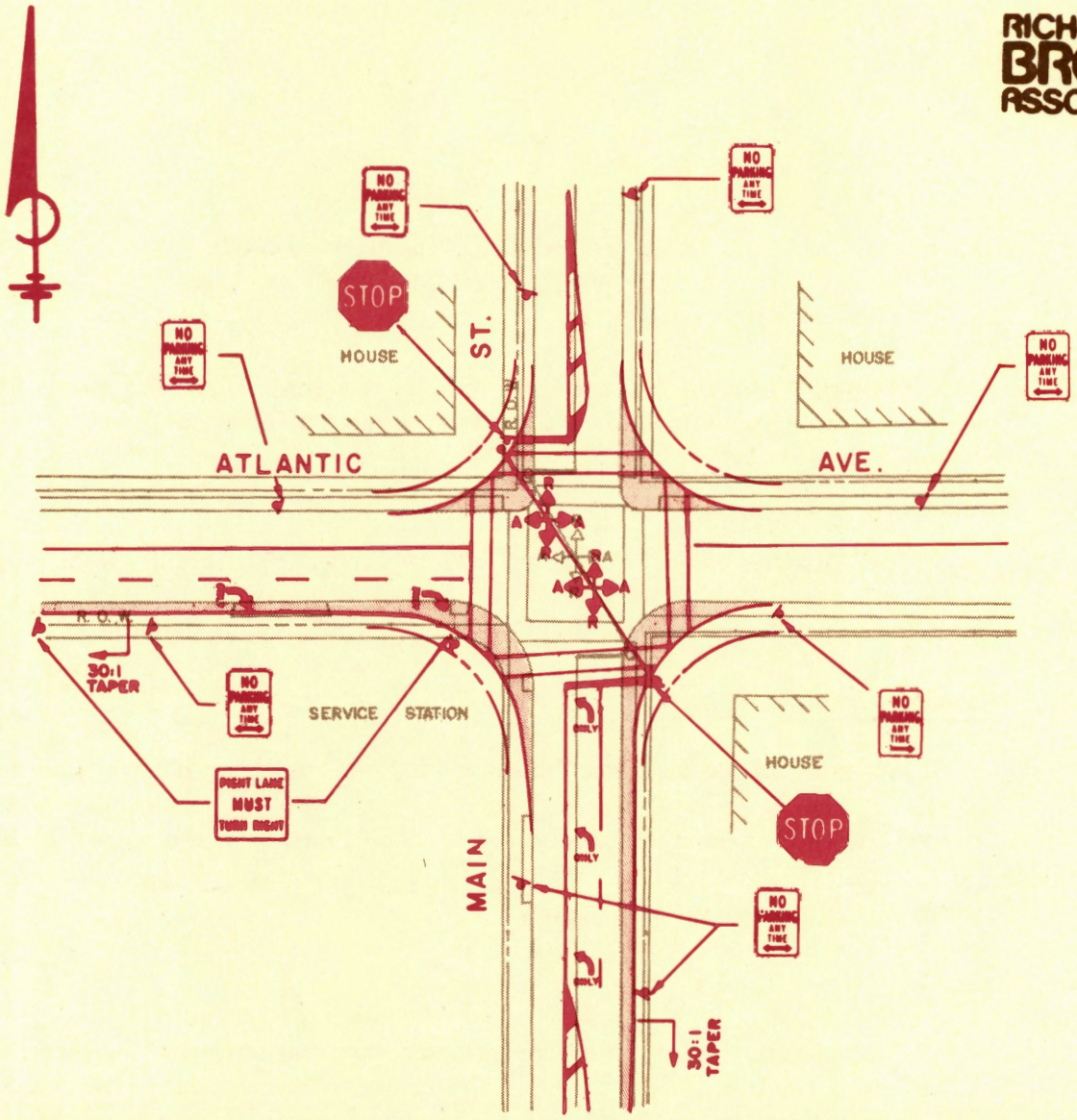
Recommendations

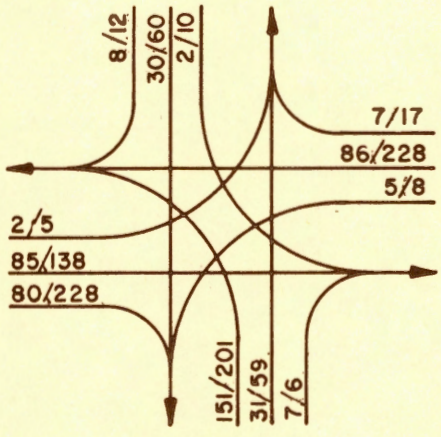
Widening of the west and south approaches is recommended along with separate turn lanes to accommodate their particular heavy turn movements. Installation of additional signal faces is also recommended.

Benefits

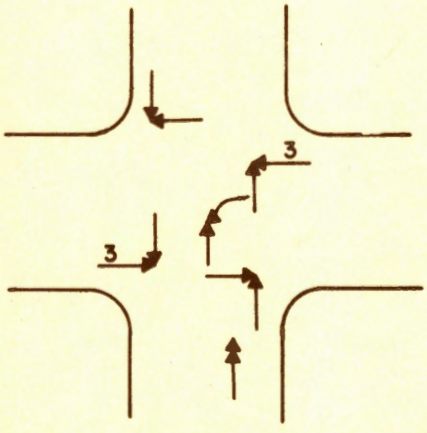
The capacity, safety, and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
8:00-9:00 A.M./4:30-5:30 P.M



ACCIDENT SUMMARY-3 YR. PERIOD

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-17

6-18 N.J. ROUTE 71 AND SIXTEENTH AVENUE WALL TOWNSHIP

Sixteenth Avenue is a collector roadway for the surrounding area. The location is presently controlled by a semi-actuated traffic signal.

Problems

This location has considerable traffic volume, insufficient widths exist on the N.J. Route 71 approaches, and curb turning radii are inadequate.

Recommendations

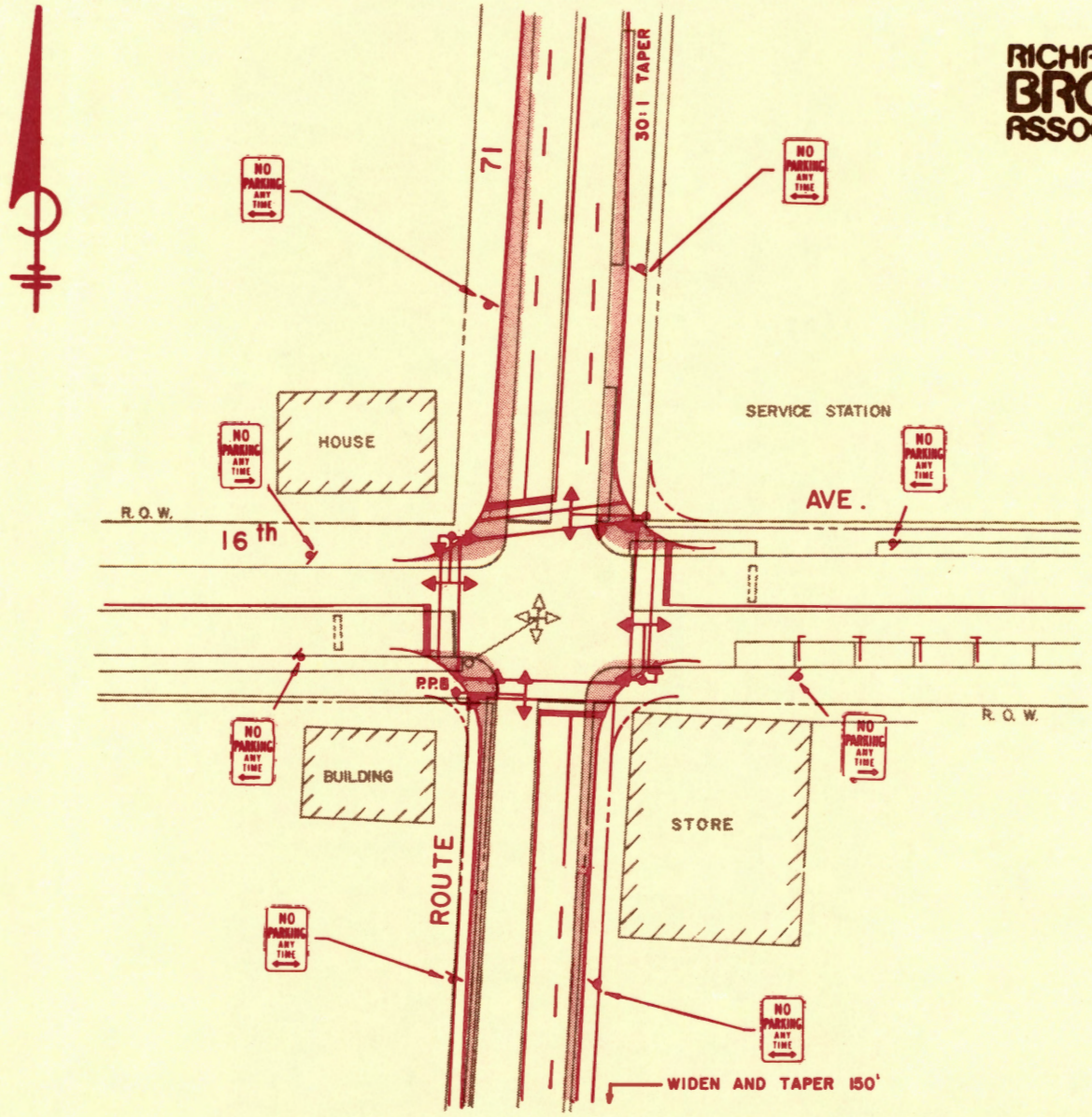
Widening of the approach lanes on N.J. Route 71 is recommended along with modification of the curb turning radii. Modification of the signal layout is recommended to increase its visibility.

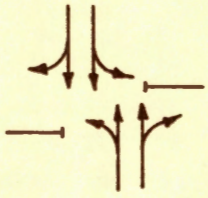
Benefits

The capacity, safety, and operational characteristics will be improved by these recommendations.

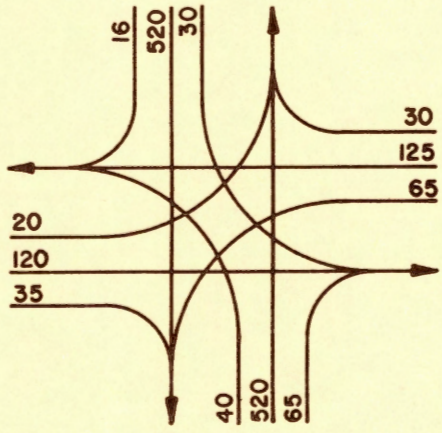
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

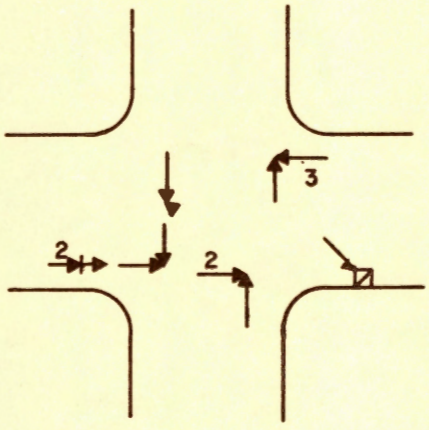




PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
4:30 - 5:30 P.M.



ACCIDENT SUMMARY—3 YR. PERIOD
1 NOT SHOWN

0 60 120

Scale: 1"= 60'

PROPOSED IMPROVEMENT 6-18

REGION 7

REGION VII - MONMOUTH COUNTY TOPICS

Regional Setting

Region VII is made up entirely of the Borough of Freehold which along with part of Freehold Township is a small urban area, in an otherwise rural location. The surrounding rurual area does not meet Federal population density requirements for TOPICS funding, therefore, Region VII is completely separated from the other six regions of this study as shown on PLATE 1 . Being the County seat, Freehold is the location of the County's governmental offices. It has a downtown central business district made up of approximately eight irregularly shaped blocks with a variety of stores and the usual commercial type office buildings.

Freehold Raceway is located in this area and during racing season, this facility generates significant event loadings to the surrounding roadway system.

PLATE 7 - 1 shows the Region VII study system along with the proposed Federal Aid System. TABLE 7 - 1 summarizes the mileage of the existing Federal-Aid System and the proposed additions. Highways 33 and 79 pass through the Borough, the latter passing directly through the central business district. Route U.S. 9 passes through a small portion of the Borough, where it has one grade separated connection with the street system. Several other arterial roadways in the Borough connect to Route U.S. 9 outside the Borough at intersection locations.

Freehold has no rail passenger or local bus service. The Borough is, however, served by five bus companies, several of which provide additional seasonal service. These carriers provide service south to Cape May and north to Paterson and New York City where connections are available by most transport modes to any part of the country. The Freehold bus station is located on the site of the Freehold Railroad Station with routes emanating from this point as shown on PLATE 7 - 2 . All carriers pick up passengers anywhere along these routes. There is only one marked bus stop in the Borough located on New Jersey Route 33 at Stillwell Place. Carriers also service the routes between Freehold and Asbury Park and Freehold and Trenton. The equipment is generally modern and in good condition and headways provide excellent commuter service.

General Problems

The Borough's basic roadway network consists of a series of arterials emanating from the central business district. The irregularly of the downtown street system prevents the development of any comprehensive one-way street pattern, rather the existing one-way street system developed to solve specific local operational problems.

The major roadway in the Borough is New Jersey Route 79 which passes through the central business district. In this area there are two signalized intersections. One operates as a three phase semi-actuated traffic signal, the other is a three phase fixed time signal. There signals are not physically interconnected.

EXISTING AND PROPOSED FEDERAL-AID SYSTEMS MILEAGE TABLE 7 - 1

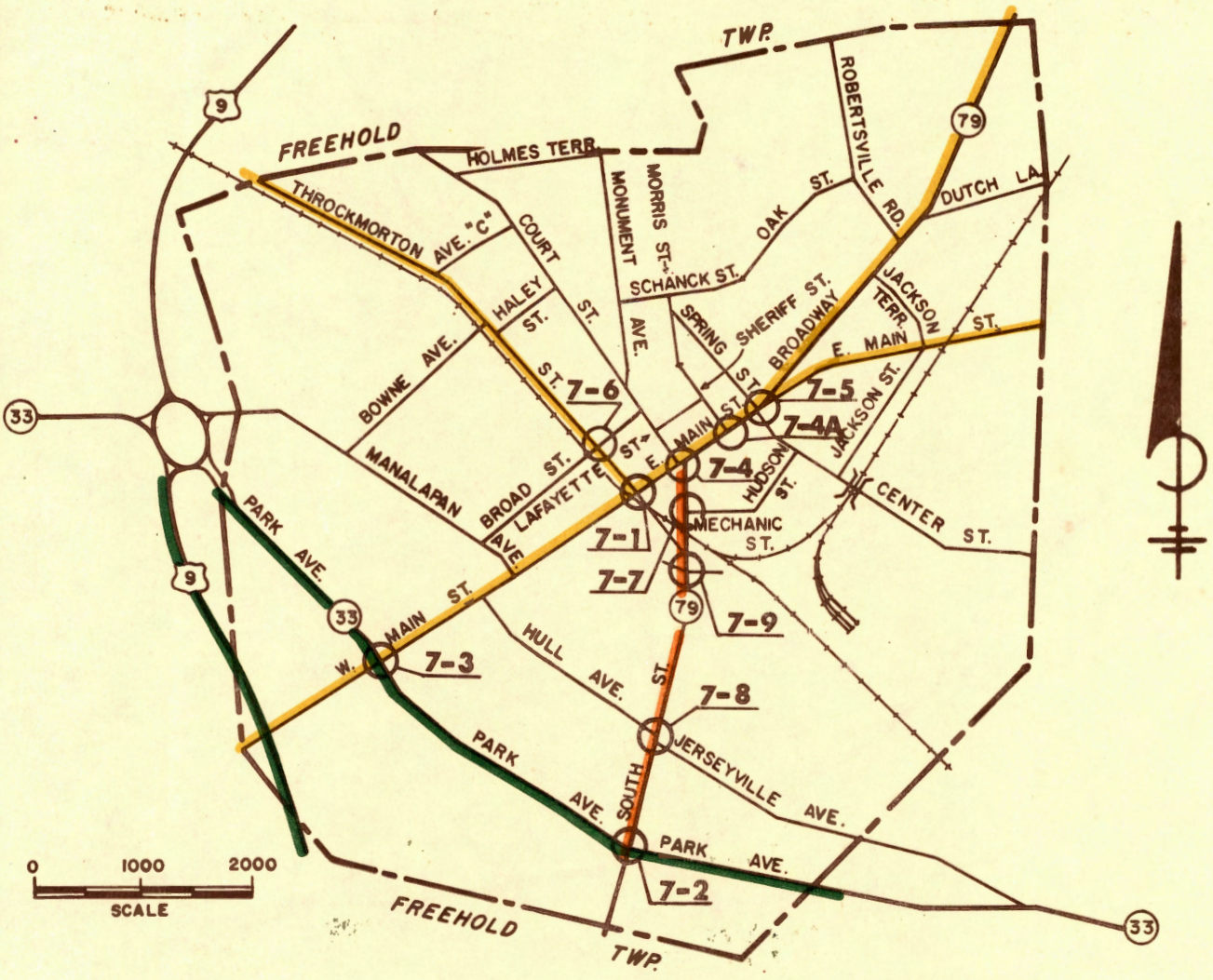
EXISTING	MILES
Federal Aid Primary Type I	2.10
Federal Aid Secondary	3.02
PROPOSED ADDITIONS	
Federal Aid Primary Type II	0.63

T-4001(16)

BOROUGH OF FREEHOLD

MONMOUTH COUNTY, N.J.

RICHARD P. BROWNE ASSOCIATES



LEGEND

- TOPICS STUDY SYSTEM STREETS
- FEDERAL AID PRIMARY TYPE I
- FEDERAL AID SECONDARY
- PROPOSED FEDERAL AID PRIMARY TYPE II
- IMPROVEMENT LOCATION X-X

REGION VII
STUDY SYSTEM
PROPOSED FEDERAL AID SYSTEM
IMPROVEMENT LOCATIONS

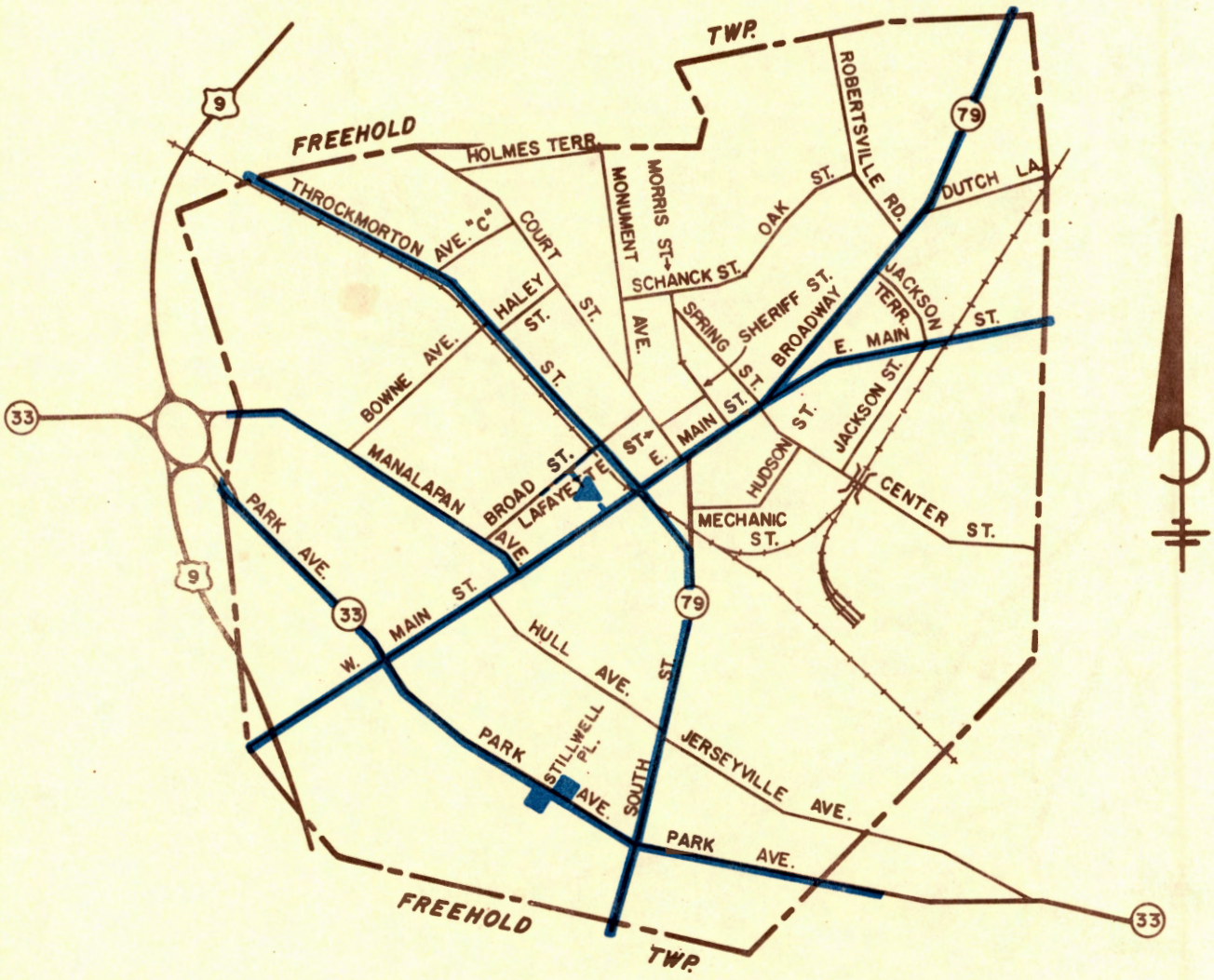
PLATE 7-1

T-4001 (16)

BOROUGH OF FREEHOLD

MONMOUTH COUNTY, N.J.

RICHARD P. BROWNE ASSOCIATES



LEGEND

- BUS ROUTE
- BUS STOP
- BUS STATION

NOTE: BUSES PICK UP PASSENGERS ANYWHERE.
NO LOCAL SERVICE.

REGION VII PUBLIC TRANSPORTATION

PLATE 7-2

Roadway widths generally are narrow and turning radii insufficient. Parking interference contributes to operational difficulties and intersection misalignments also contribute to problems produced by the absence of a regular downtown street grid.

Accident Information

The Freehold Police Department accident files for the years 1968, 1969, and 1970 were analyzed and high accident locations were identified. These are shown on PLATE 7 - 3 and tabulated on TABLE 7 - 2.

The location with the highest number of accidents is at West Main Street and Throckmorton Street. The New Jersey Department of Transportation has given Freehold Borough permission to design a traffic signal at this location, which is presently controlled by a stop sign. Improvement Number 7 - 1 of this report shows a proposed improvement design.

TABLE 7 - 2 indicates that the location with the highest accident rate in Freehold Borough is on Center Street at the railroad bridge. This roadway is narrow and carries low volumes of traffic. The location is complicated by a railroad overpass with a low clearance. A considerable number of the accidents are a result of large trucks hitting the overhead structure. This situation is further complicated by the fact that Center Street is located in an industrialized portion of the city and hence many trucks must use it. Factories built many years ago have loading docks at curbside and thus receiving and shipping operations go on with the trucks parked parially or entirely in the travelled portion of the roadway. Some of the traffic presently using this roadway use this street as an alternate for South Street, a somewhat parallel roadway. It is felt that this part of the traffic volume will be diverted back on to South Street when the improvements recommended in this section of the report are implemented. It is also felt impractical to attempt to make any improvements within the scope of the TOPICS program to correct the remaining problems. For this reason no recommendations other than advance signing for the low clearance will be made.

Traffic Volumes

Turning movement counts and automatic traffic recorder counts were made at various locations in the region. These were supplemented by traffic volume information supplied by the New Jersey Department of Transportation and the Monmouth County Engineer's Office. This data was analyzed and the traffic volume map on PLATE 7 - 4 was developed. The information was further analyzed and projected into the future producing the design year volumes shown on PLATE 7 - 5.

Capacity Analysis

Turning movement count information was used to calculate the theoretical capacity at various locations. The results of this analysis are presented as levels of service on PLATE 7 - 6.

ACCIDENT INFORMATION SUMMARY

TABLE 7 - 2

LOCATION	NUMBER OF ACCIDENTS*	ACCIDENT RATE**	PRIORITY INDEX
West Main St. and Throckmorton St.	79	46.6	520
South St. (N.J. Route 79), East Main St. (N.J. Route 79), West Main St. and Court St.	57	30.5	425
Park Ave. (N.J. Route 33) and South St. (N.J. Route 79)	53	19.2	420
Park Ave. (N.J. Route 33) and West Main St.	49	21.4	400
Broadway (N.J. Route 79), East Main St. (N.J. Route 79), East Main St., Center St., and Spring Street	34	19.8	353
South St. (N.J. Route 79) and Mechanic St.	32	26.6	265
Throckmorton St. and Broad St.	28	22.7	255
South St. (N.J. Route 79), Jerseyville Ave., and Hull Ave.	28	18.7	245
East Main St. and Sheriff St.	23	13.6	220
South St. (N.J. Route 79), McLean St., and Marcy St.	20	13.2	205
Center St. and Railroad Bridge	12	48.9	

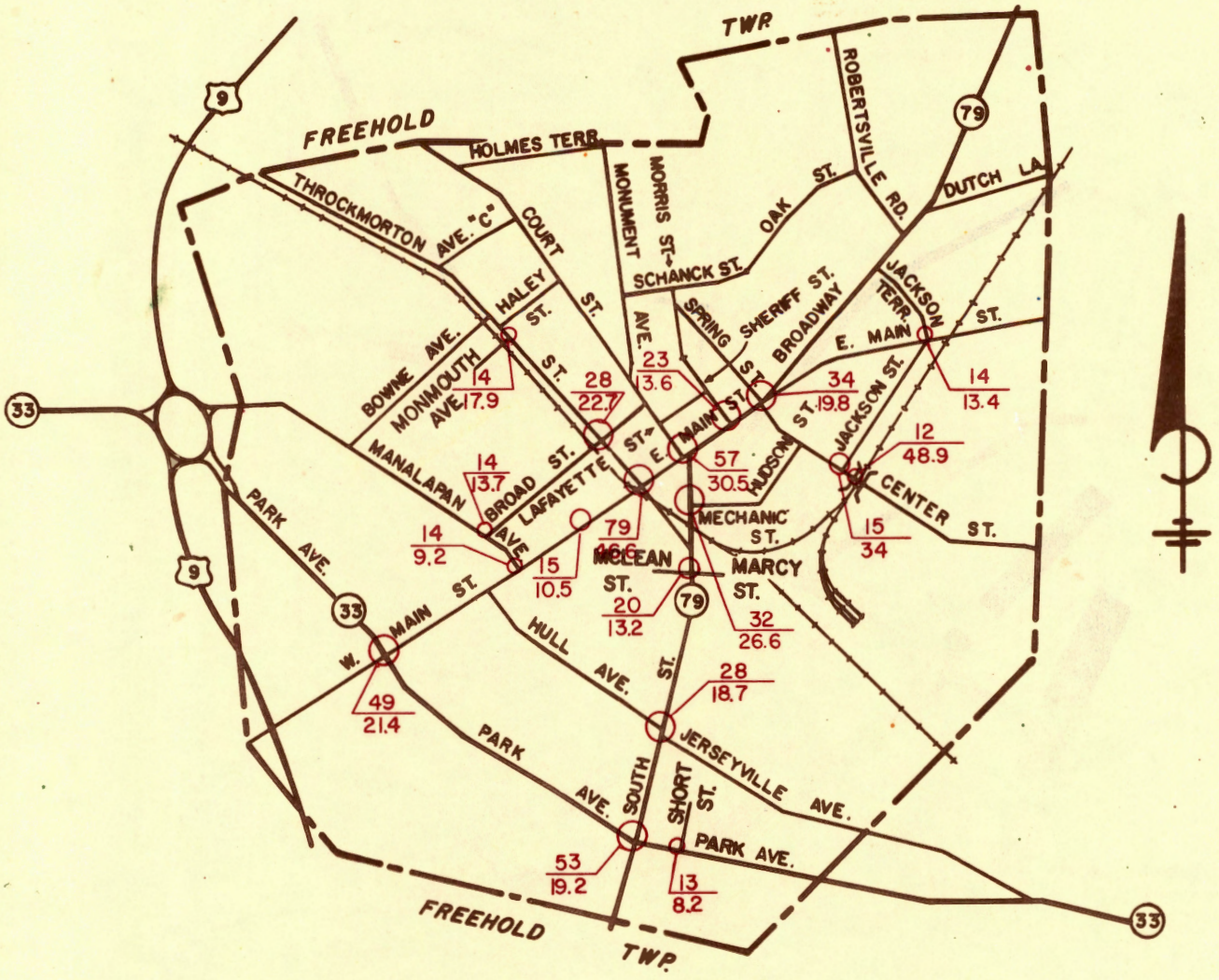
* Per Three Years (1968-1970)
** Per Ten Million Vehicles

T-4001 (16)

BOROUGH OF FREEHOLD

MONMOUTH COUNTY, N. J.

RICHARD P. BROWNE ASSOCIATES



LEGEND

NUMBER OF ACCIDENTS

- ○ 12 - 14
- ○ 15 - 20
- ○ 21 OR MORE
- XX / XXX NUMBER OF ACCIDENTS / ACCIDENT RATE PER 10 MILLION VEHICLES

REGION VII ACCIDENT LOCATIONS 1968 - 1970

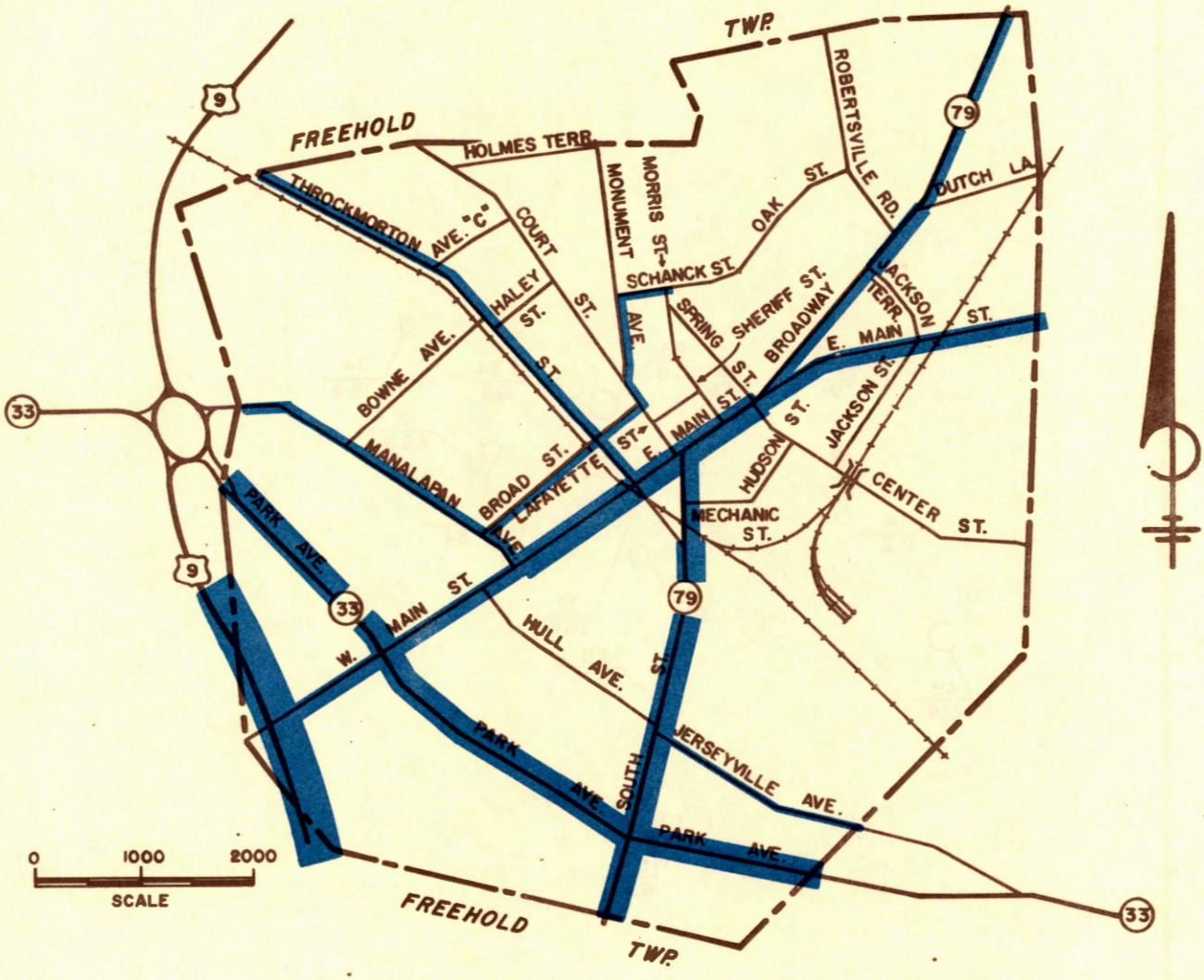
PLATE 7-3

T-4001 (16)

BOROUGH OF FREEHOLD

MONMOUTH COUNTY, N.J.

RICHARD P. BROWNE ASSOCIATES



LEGEND

	3 000 – 5 000
	5 000 – 8 000
	8 000 – 12 000
	12 000 – 15 000
	15 000 OR MORE VEHICLES

REGION VII
1971
TRAFFIC VOLUMES

AVERAGE DAILY TRAFFIC

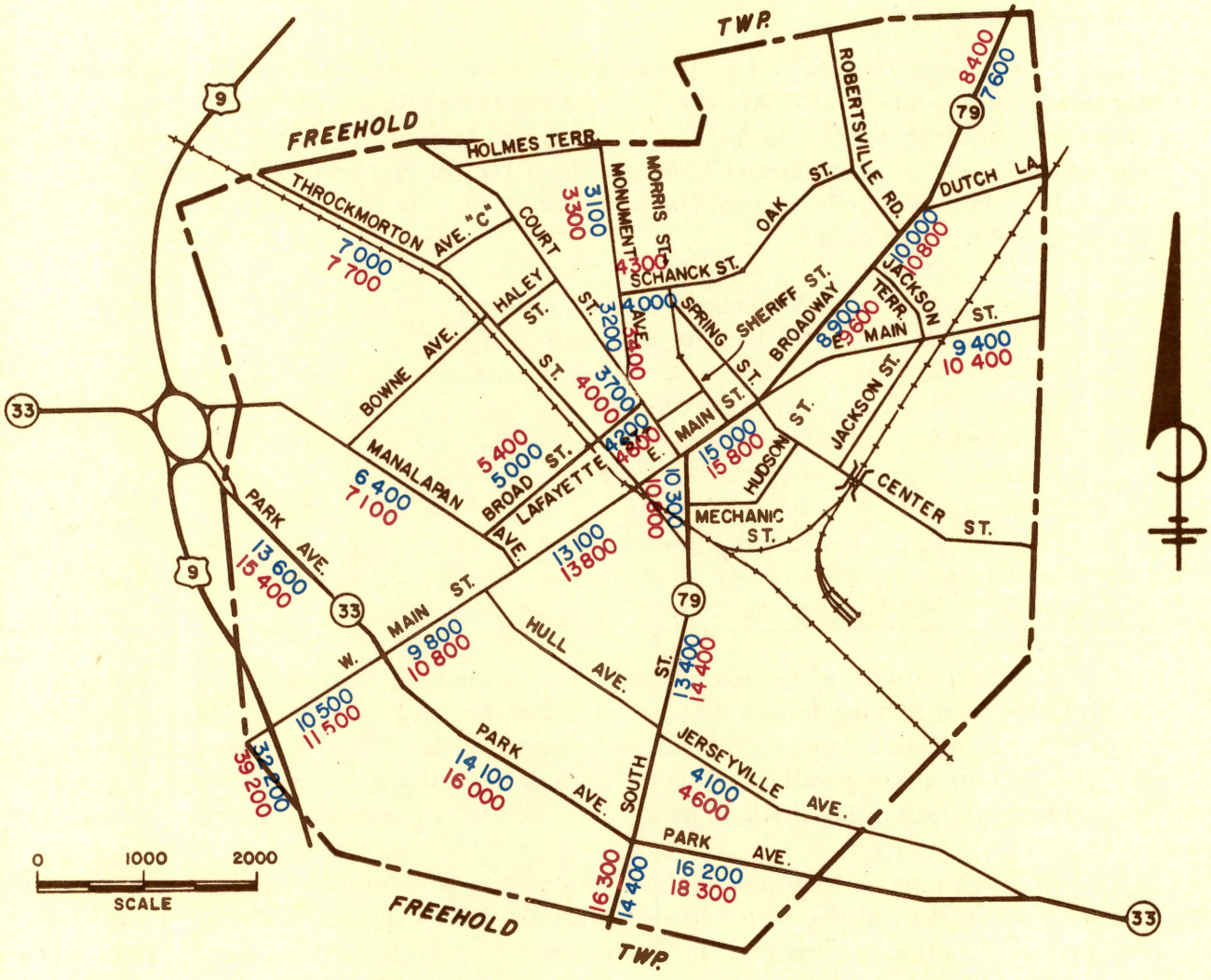
PLATE 7-4

T-4001 (16)

BOROUGH OF FREEHOLD

MONMOUTH COUNTY, N. J.

RICHARD P. BROWNE ASSOCIATES



LEGEND

XXXX 1975

XXXX 1980

REGION VII
1975 - 1980
TRAFFIC VOLUMES

AVERAGE DAILY TRAFFIC

PLATE 7-5

Speed and Delay

Speed and delay data was obtained in Region VII through the use of a data compiler installed in a moving car. Data for on and off peak periods was analyzed and is presented on PLATE 7 - 6.

Traffic Signals

Analysis of all data and projected traffic growth led to the traffic signal system recommendations shown on PLATE 7 - 7. Two additional signals are recommended along with interconntection to form two small signal systems. TABLE 7 - 3 summarizes the recommendations with respect to traffic signals at intersections and indicates the Manual on Uniform Traffic Control Devices warrant or warrents considered. These warrants are as listed below:

Warrant 1:	Minimum Vehicluar Volume
Warrant 2:	Interruption of Continuous Traffic
Warrant 3:	Minimum Pedestrian Volume
Warrant 4:	School Crossing
Warrant 5:	Progressive Movement
Warrant 6:	Accident Experience
Warrant 7:	Systems Warrant
Warrant 8:	Combination of Warrants

Curb and Off Street Parking Facilities

Considerable use of the roadway system is made by parked vehicles. There are several off-street parking lots in the central business district having a variety of limitations in terms of time. Parking enforcement personnel, specifically meter maids, enforce the curb and off-street parking ordinances. Their authority does not extend to the statutory parking violations and little is done to enforce this type of regulations.

It is anticipated that approximately 88 curb parking places will be lost in the central business district due to the implementation of the recommendations proposed for that part of the region. This total includes some spaces which will be lost by enforcement of statutory parking regulations. In order to compensate for this loss, off-street parking facilities having 88 parking spaces, should be established close to the locations where the on-street parking is removed. PLATE 7 - 8 indicates the parking to be removed and the proposed replacement.

Maintenance

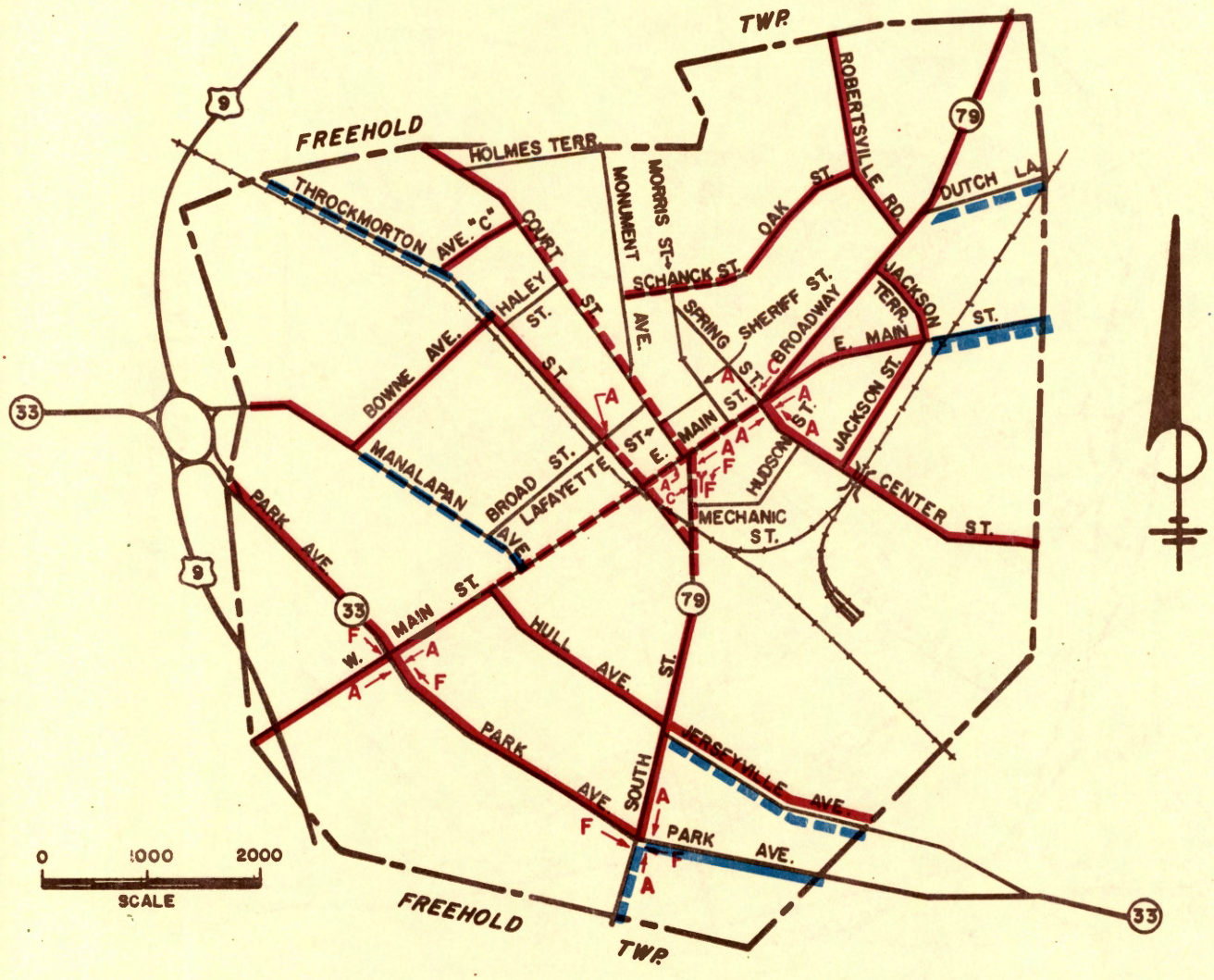
The maintenance of traffic control devices, in good operating condition and appearance, is most important if they are to command the respect that is necessary to insure good driving habits. Signal maintenance becomes a difficult problem, when a municipality is too small to support its own full time maintenance unit. Most of the traffic signals in the Borough of Freehold are on roadways under state jurisdiction, and consequently the state maintains these. It is suggested that the remaining two be maintained by the county or on a contract or agreement basis. Signs and pavement markings should also be maintained in a similar manner.

T-4001 (16)

BOROUGH OF FREEHOLD

MONMOUTH COUNTY, N. J.

RICHARD P. BROWNE ASSOCIATES



LEGEND

- 5 – 19 M.P.H.
- 20 – 29 M.P.H.
- 30 – 39 M.P.H.
- 40 – 50 M.P.H.

THESE SPEEDS REFLECT AN AVERAGE OF PEAK HOUR AND OFF PEAK HOUR CONDITIONS

A REPESENTS THE LEVELS OF SERVICE

REGION VII AVERAGE TRAVEL SPEEDS AND LEVEL OF SERVICE

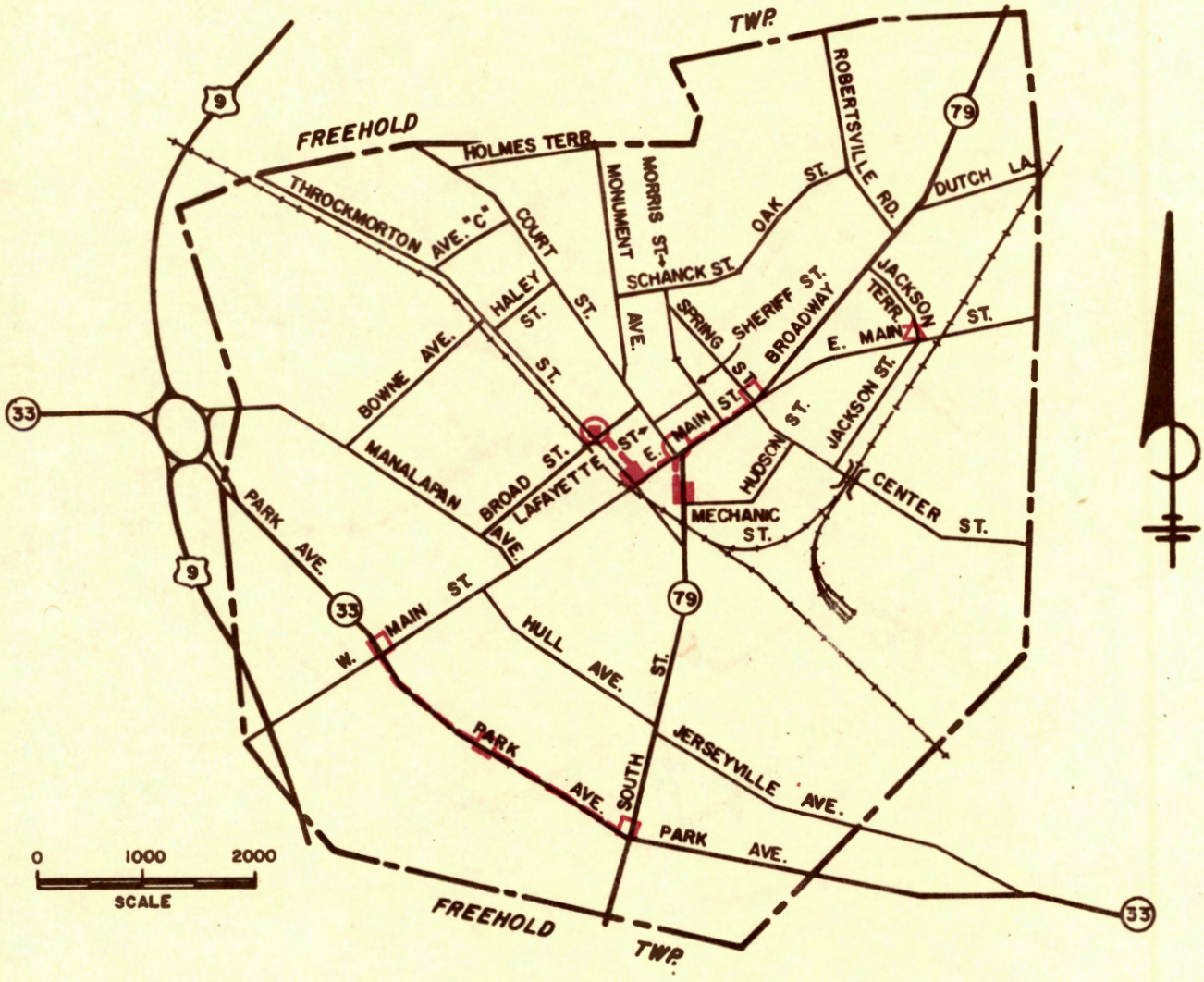
PLATE 7-6

T-4001 (16)

BOROUGH OF FREEHOLD

MONMOUTH COUNTY, N. J.

RICHARD P. BROWNE ASSOCIATES



LEGEND

EXISTING

- SEMI-ACTUATED SIGNAL - APPROVED
- FIXED TIME SIGNAL - APPROVED
- FLASHING OPERATION - APPROVED
- FLASHER - NOT IN OPERATION

PROPOSED

- SEMI-ACTUATED SIGNAL
- INTERCONNECTION

REGION VII TRAFFIC SIGNAL LOCATIONS

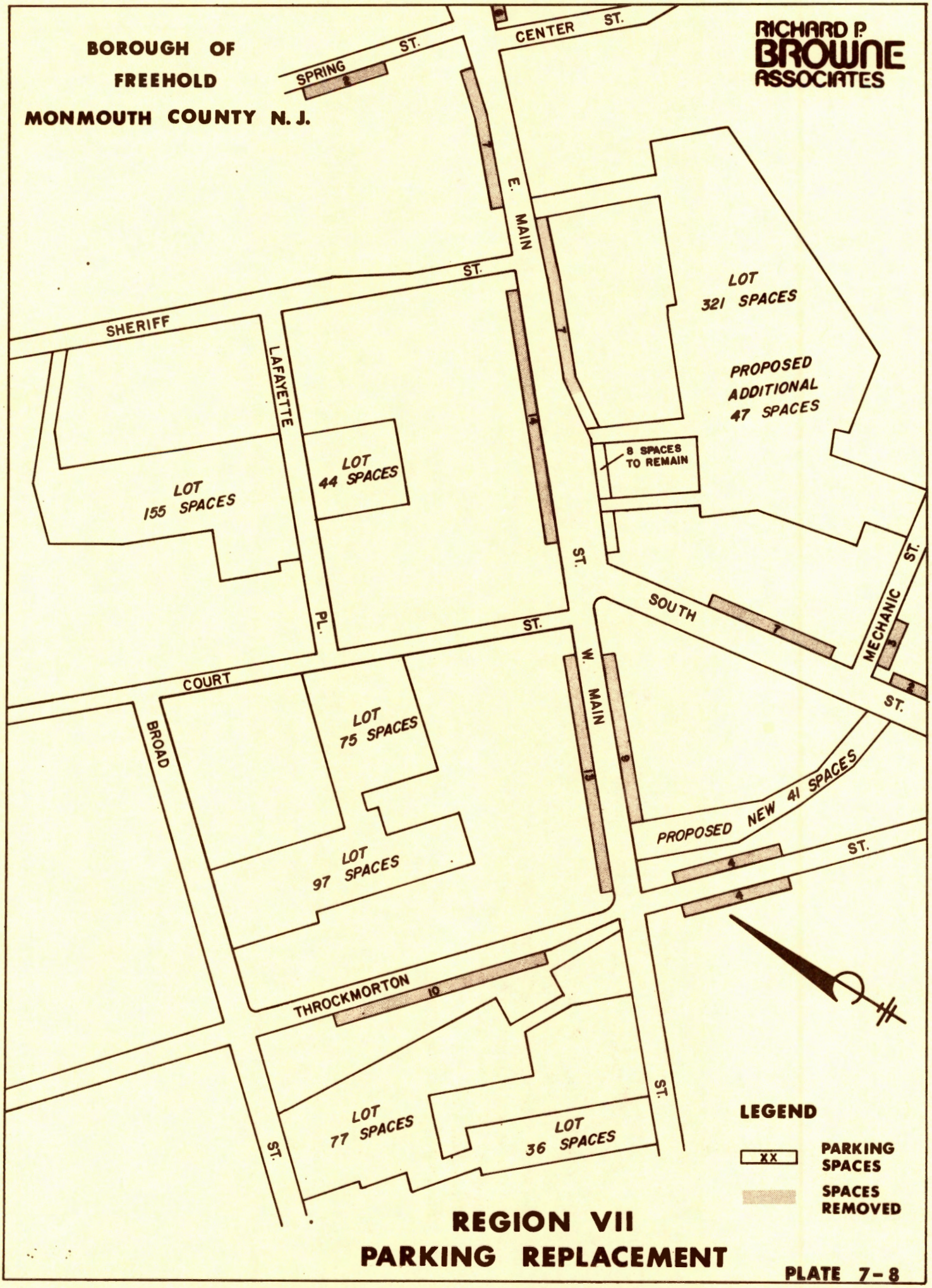
PLATE 7-7

EXISTING AND PROPOSED TRAFFIC SIGNALS

TABLE 7 - 3

LOCATION	MUNICIPALITY	OPERATION	RECOMMEN-DATION	N.J.D.O.T. APPROVED	WARRANT*
Park Ave. (N.J. Route 33) and West Main St.	Freehold Borough	Semi-Actuated	Retain	Yes	1
Park Ave. (N.J. Route 33) and Kiawah Avenue	Freehold Borough	Semi-Actuated	Retain	Yes	4
West Main St. and Throckmorton Street	Freehold Borough	Semi-Actuated	Install	No	1
Broad St. and Throckmorton St.	Freehold Borough	Fixed-Time/ Semi-Actuated	Retain	Yes	7
East Main St. (N.J. Route 79) and South Street (N.J. Rt. 79)	Freehold Borough	Fixed Time/ Semi-Actuated	Modify	Yes	1
East Main St. (N.J. Route 79) and Broadway (N.J. Route 79)	Freehold Borough	Semi-Actuated	Retain	Yes	1
South St. (N.J. Route 79) and Mechanic St.	Freehold Borough	Semi-Actuated	Install	Yes	8,(1,6)
East Main St. and Jackson St.	Freehold Borough	Flasher (non-operating)	Remove	No	

* Numbers shown refer to warrant numbers 1 through 8 as contained in the Manual on Uniform Traffic Control Devices.


BOROUGH OF
FREEHOLD
MONMOUTH COUNTY N. J.
RICHARD P. BROWNE ASSOCIATES
SPRING ST.
CENTER ST.
E. MAIN ST.
SHERIFF ST.
LAFAYETTE PL.
COURT ST.
W. MAIN ST.
SOUTH ST.
MECHANIC ST.
BROAD ST.
THROCKMORTON ST.
LOT
321 SPACES
PROPOSED
ADDITIONAL
47 SPACES
8 SPACES
TO REMAIN
LOT
155 SPACES
LOT
44 SPACES
LOT
75 SPACES
LOT
97 SPACES
PROPOSED NEW 41 SPACES
LOT
77 SPACES
LOT
36 SPACES
LEGEND
XX PARKING SPACES
SPACES REMOVED
REGION VII
PARKING REPLACEMENT
PLATE 7-8

Recommendations

The downtown street system in Freehold Borough is sufficiently compact to cause difficulties between traffic signals, which are not coordinated. Storage capacity between intersections is limited requiring proper offset alignment to reduce congestion. For this reason interconnection of the downtown traffic signals as indicated on PLATE 7 - 7 is recommended.

The improvement recommendation for South Street (New Jersey Route 79) at McLean and Marcy Streets, requires that Marcy Street be made on-way westbound for one block. In connection with this improvement, it is further recommended that Elm Street, one block north of Marcy Street, be made one-way eastbound for one block creating a small one-way couple.

Interconnection of the three signals on New Jersey Route 33 is also recommended in order to produce smooth platoon operation at desirable speeds and to avoid having the school guard at the intersection of New Jersey Route 33 and Kiawah Avenue upset the platoons by pre-empting that signal for school children.

Improvement Projects

Improvement recommendations for specific locations are shown on the following pages. TABLE 7 - 4 lists the projects and their locations. Also shown are project sequence and cost estimates.

At all improvement locations, recommendations include upgrading as necessary of traffic signs and pavement markings in accordance with the requirements defined in the current Manual on Uniform Control Devices.

Evaluation

In order to identify locations where traffic operational improvements are required, use was made of accident experience, average travel speeds on routes, congestion and delay at intersections, and the level of service provided. To measure the success of this program requires an in depth analysis of traffic conditions before and after implementation. This study provides the necessary data to evaulate a location as it now exists before the operational improvements have been implemented. Some additional speed and delay runs can be conducted to increase the reliability of our sample but other than this the necessary information has been inventoried.

After a reasonable period of time has elapsed, similar studies regarding accident experience, speed and delay runs and locations of congestion and delay can be conducted along selected routes where early implementation projects have been completed. Comparison of traffic conditions before and after improvements should be made to insure that the desired benefits are being achieved.

IMPROVEMENT PROJECT SEQUENCE AND FINANCIAL PROGRAM
FREEHOLD BOROUGH

TABLE 7 - 4

YEAR	LOCATION	IMPROVEMENT NO.	ESTIMATED COST
1973	West Main St. and Throckmorton St.	7 - 1	$30,000.00
1974	Park Ave. (N.J. Route 33) and South St. (N.J. Route 79)	7 - 2	38,500.00
	Park Ave. (N.J. Route 33) and West Main St.	7 - 3	25,500.00
1975	South St. (N.J. Route 79) and East Main St.	7 - 4	50,000.00
	East Main St. (N.J. Route 79) and Sheriff St.	7 - 4 A	(1)
	Broadway (N.J. Route 79), East Main St., Spring St., and Center St.	7 - 5	40,000.00
1976	Throckmorton St. and Broad St.	7 - 6	28,000.00
	South St. (N.J. Route 79) and Mechanic St.	7 - 7	20,000.00
1977	South St. (N.J. Route 79), Hull Ave., and Jerseyville Ave.	7 - 8	5,900.00
	South St. (N.J. Route 79), McLean St., and March St.	7 - 9	2,300.00

(1) Cost included in estimates for 7-4 and 7-5.

REGION 7 INTERSECTION IMPROVEMENTS

Improvement Number	Location	Municipality	Page No.
7 - 1	West Main Street and Throckmortion Street	Freehold	7 - 18
7 - 2	Park Avenue (N.J. Route 33) and South Street (N.J. Route 79)	Freehold	7 - 20
7 - 3	Park Avenue (N.J. Route 33) and West Main Street	Freehold	7 - 22
7 - 4	West Main Street, East Main Street (N.J. Route 79) and South Street (N.J. Route 79)	Freehold	7 - 24
7 - 4A	East Main Street (N.J. Route 79) and Sheriff Street	Freehold	7 - 26
7 - 5	N.J. Route 79, Broadway, Spring Street and Center Street	Freehold	7 - 28
7 - 6	Throckmorton Street and Broad Street	Freehold	7 - 30
7 - 7	South Street, N.J. Route 79, and Mecanic Street	Freehold	7 - 32
7 - 8	South Street, N.J. Route 79 at Hull Avenue	Freehold	7 - 34
7 - 9	South Street, N.J. Route 79 at McLean Street and Marcy Street	Freehold	7 - 36

LEGEND FOR IMPROVEMENTS



EXISTING SIGNAL HEAD



PROPOSED SIGNAL HEAD



EXISTING STANCHION, PROPOSED SIGNAL HEAD

THUS: ONLY OPEN SIGNAL HEADS OR STANCHIONS INDICATE AN EXISTING CONDITION. SOLID SIGNAL HEADS OR STANCHIONS INDICATE A PROPOSED CONDITION.



ROADWAY WIDENING

RIGHT OF WAY

BUILDING LINE

SIGN POST

GUARD RAIL

SIGNAL DETECTOR



PEDESTRIAN HEAD

NOTE : DARK LINES INDICATE PROPOSED CONDITIONS. SCREENED OR LIGHT LINES INDICATE EXISTING CONDITIONS.

7-1 WEST MAIN STREET AND THROCKMORTON STREET FREEHOLD BOROUGH

This location is the intersection of two major roadways in the area. The intersection is traversed diagonally by a freight railroad line. The intersection is presently controlled by stop signs. The Borough of Freehold has State approval to design a traffic signal at this location.

Problems

This location has high traffic volumes with considerable turning movements. The location has narrow pavement widths complicated by parked vehicles. Turning radii are inadequate. This location is the highest accident location in Region VII.

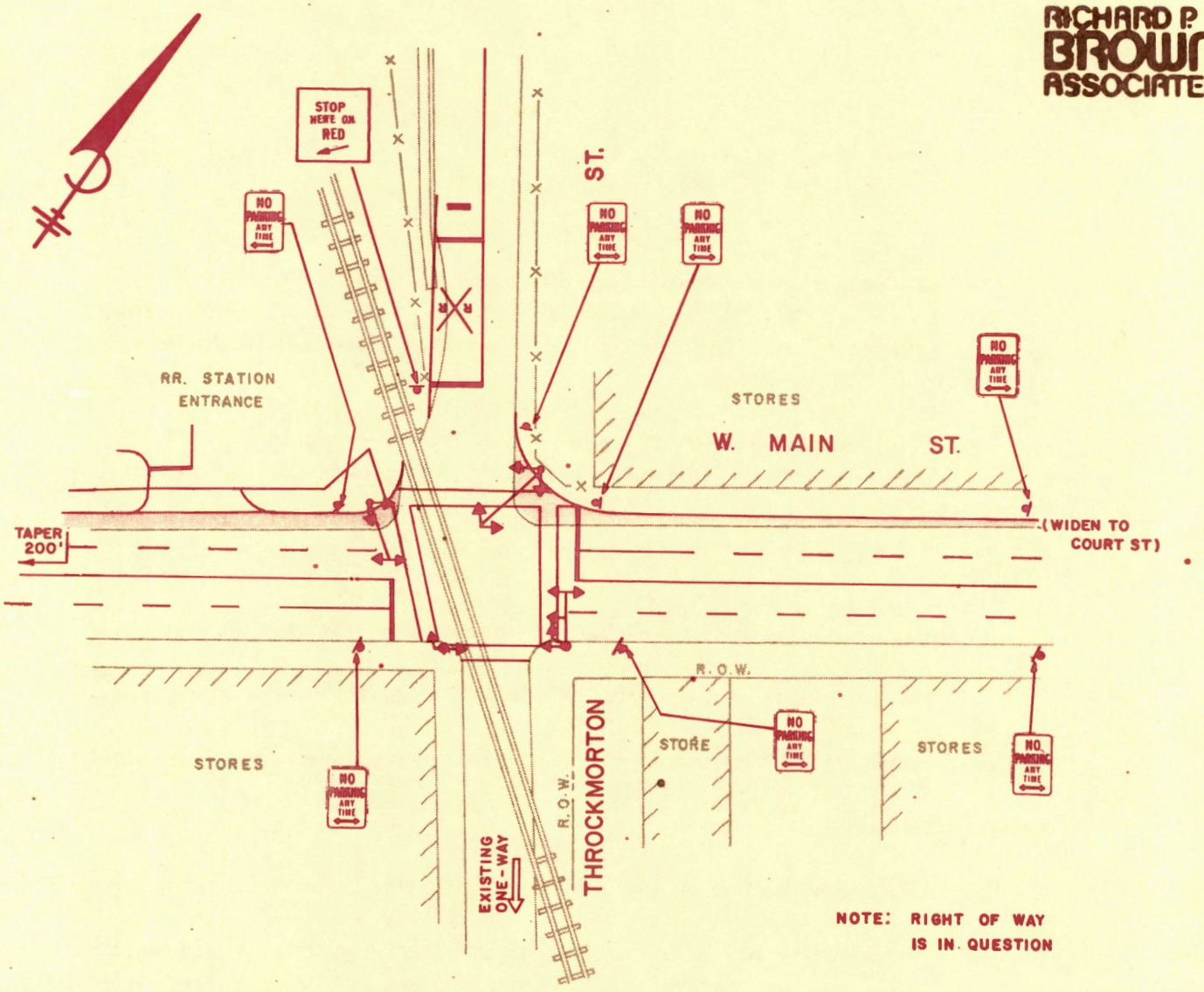
Recommendations

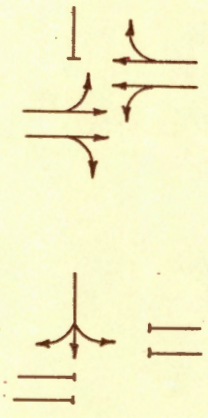
Minor widening and modification to the turning radii is recommended along with elimination of all parking. The installation of a semi-actuated traffic signal is recommended.

Benefits

The safety and operational characteristics of this location will be improved by these recommendations.

RICHARD P. BROWNE ASSOCIATES





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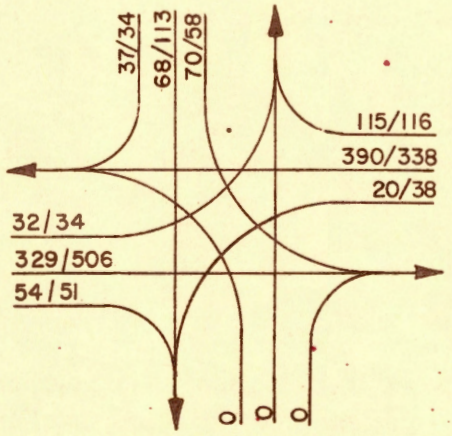

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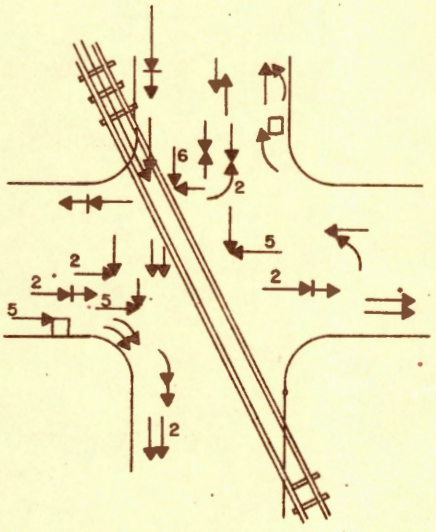


ACCIDENT SUMMARY - 3 YR. PERIOD

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 7-1

7-2 PARK AVENUE (N.J. ROUTE 33) AND SOUTH STREET (N.J. ROUTE 79), FREEHOLD BOROUGH

Park Avenue (New Jersey Route 33) is a main east-west roadway in this part of the County. South Street (New Jersey Route 79) connects points north of Freehold with New Jersey Route 9 south of Freehold. It passes through the Freehold central business district.

This intersection, presently controlled by a semi-actuated traffic signal, is a school crossing and normally has a school crossing guard posted at appropriate times.

Problems

This location has a high left turn movement from westbound to southbound.

There are insufficient approach widths and receiving lane widths.

A considerable number of rear end and left turn accidents are experienced.

Recommendations

Provision for the left turn lane for the high turning movement is recommended.

Minor widening of the approach lanes and receiving lanes is also recommended along with modification to the traffic signal to increase its visibility. Pedestrian signals should also be installed.

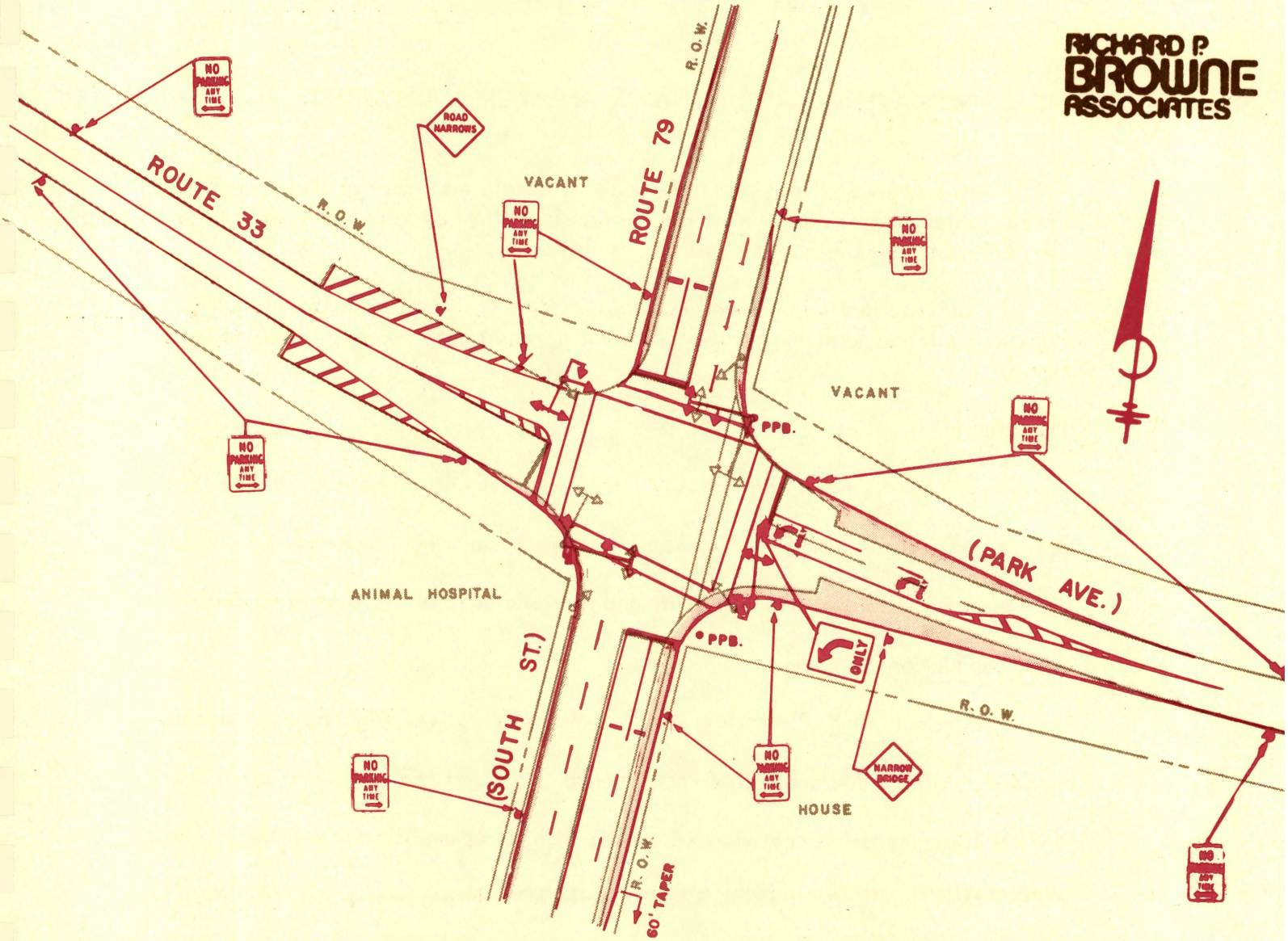
Benefits

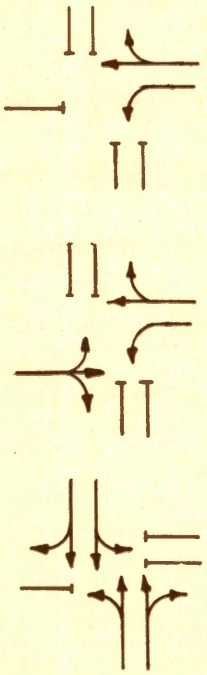
Widening and provision for the left turn lane should increase the capacity at this location.

The left turn lane and improved signal visibility should also reduce the accident experience.

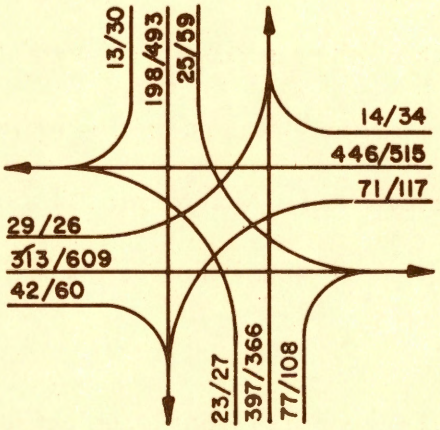
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





PROPOSED SIGNAL SEQUENCE



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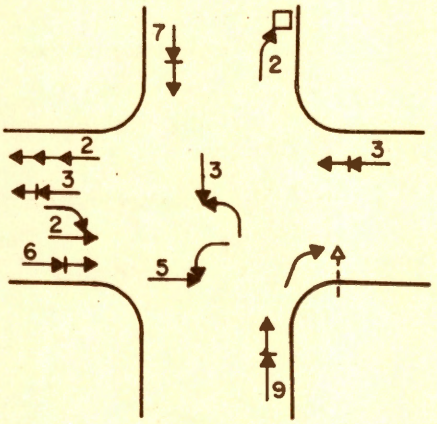
7:30-8:30 A.M.-4:30-5:30 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD

0 60 120

Scale : 1"= 60'

PROPOSED IMPROVEMENT 7-2

7-3 PARK AVENUE (N.J. ROUTE 33) AND WEST MAIN STREET FREEHOLD BOROUGH

Park Avenue (New Jersey Route 33) is a main east-west roadway in this part of the County. West Main Street carries considerable traffic volumes and connects the center of Freehold Borough with Route 33.

This intersection, presently controlled by a semi-traffic actuated traffic signal, is a school crossing and normally has a school guard posted at appropriate times.

Problems

This location has considerable left turn movements on both West Main Street approaches. Turning radii and approach widths are somewhat reduced. A considerable number of right angle, left turn, and rear end accidents are experienced.

Recommendations

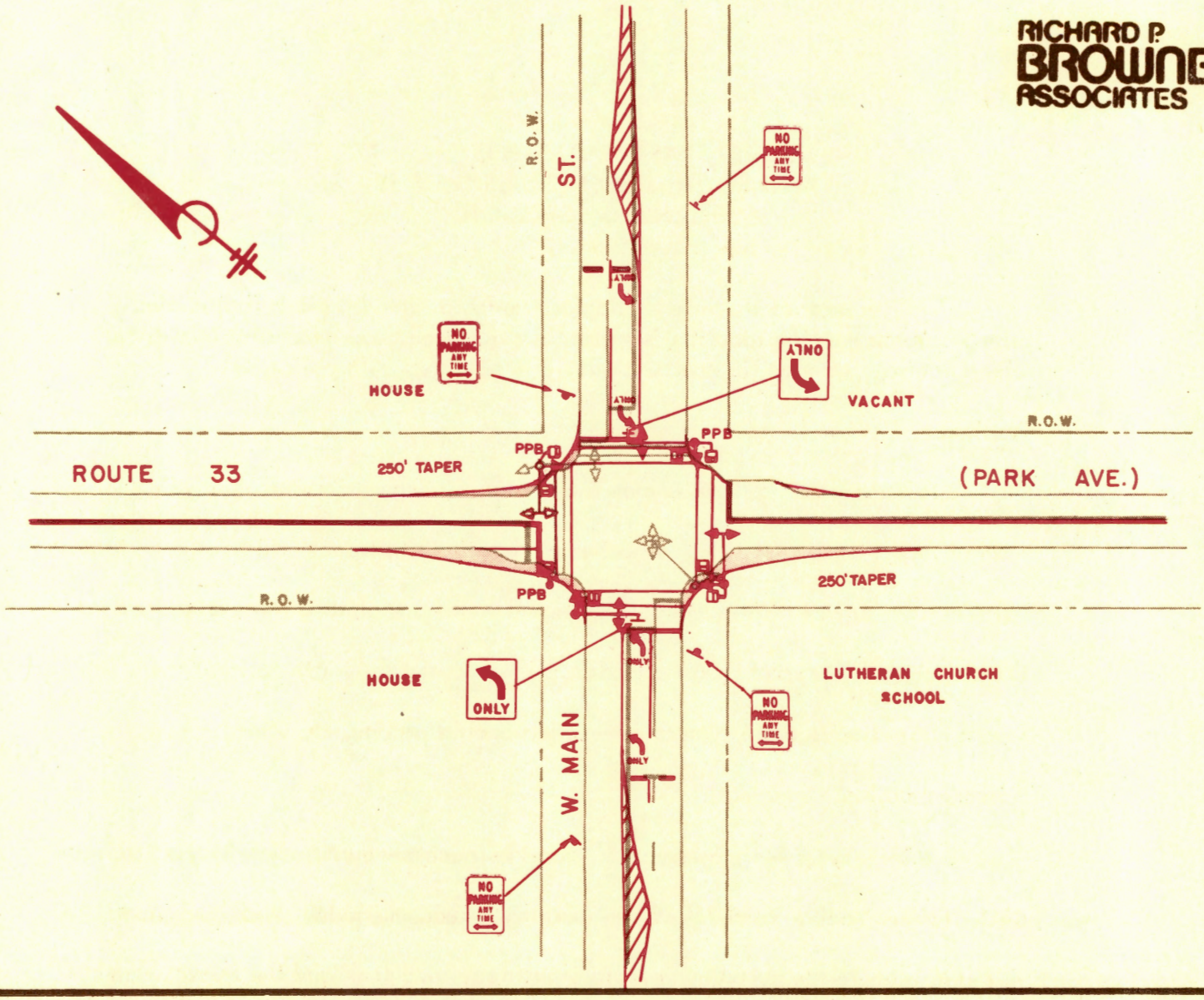
Provision for left turn lanes on the West Main Street approaches is recommended. Minor widening of the Park Avenue (New Jersey Route 33) approach lanes and receiving lanes is recommended, along with minor modification to the turning radii. Modification to the signal layout and timing to provide an all red clearance interval after both phases is also recommended.

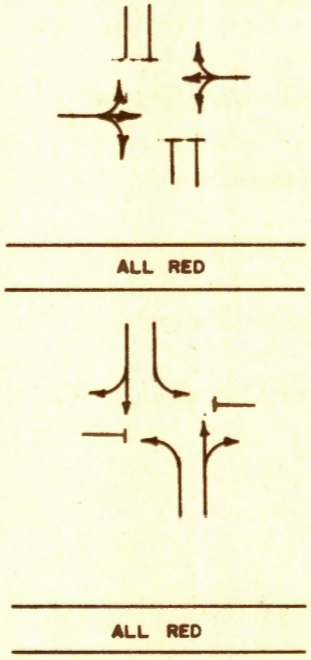
Benefits

Provision for left turn lanes on the West Main Street approaches will allow for improved operation without requiring widening. The left turn, rear end, and side swipe accident on these approaches should also be reduced. Modification of the Park Avenue approach lanes and turning radii should improve operations and reduce accident experience. Modification of the signal layout and timing should increase its visibility and reduce the overall accident experience.

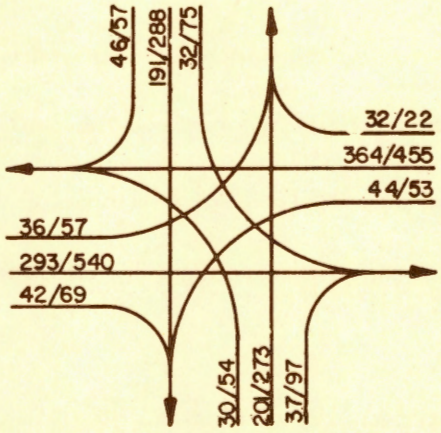
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

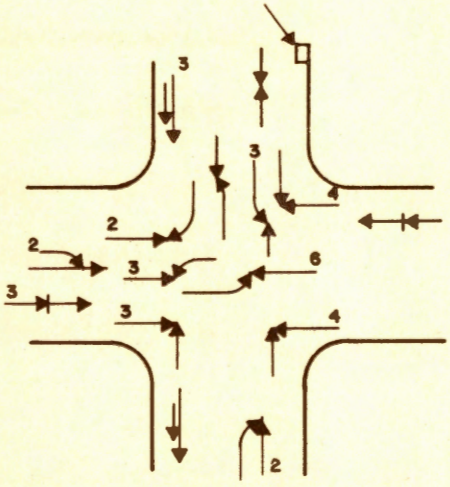




PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
8:15 - 9:15 A.M. / 4:15 - 5:15 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 7-3

7-4 WEST MAIN STREET, EAST MAIN STREET (N.J. ROUTE 79), AND SOUTH STREET (N.J. ROUTE 79) FREEHOLD BOROUGH

This location is the intersection of two major arterial roads in the central business district . The location is presently controlled by a fixed time controller which, during peak traffic hours, is manually operated by a policeman.

Problems

This location has high volumes with high turning movements. Level of service "F" exists on several approaches. Inadequate approach widths exist. Parking practices further reduce capacity. Signal timing, including the present pedestrian scramble interval requires modification. Pavement width north of the intersection is wide and irregular generating double parking violations.

Recommendations

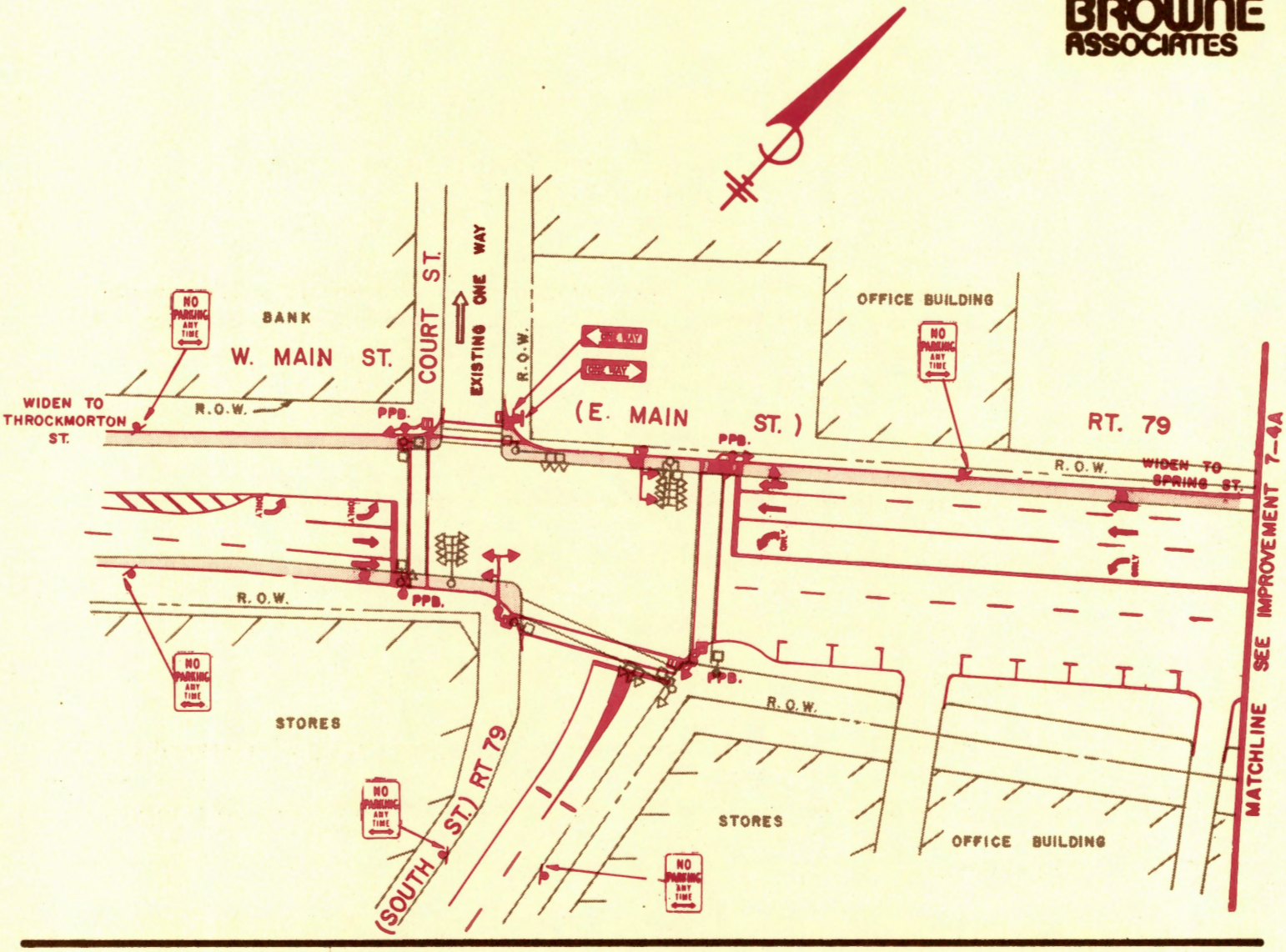
Widening on Main Street approaches is recommended along with modification of the turning radii. Removal of most parking is recommended. Widening of the sidewalk area on the northbound Main Street receiving lane and the establishment of short term curb parking there is recommended. Modification of the signal timing is recommended including removal of the pedestrian scramble interval. Modification of the signal layout to improve its visibility is also recommended.

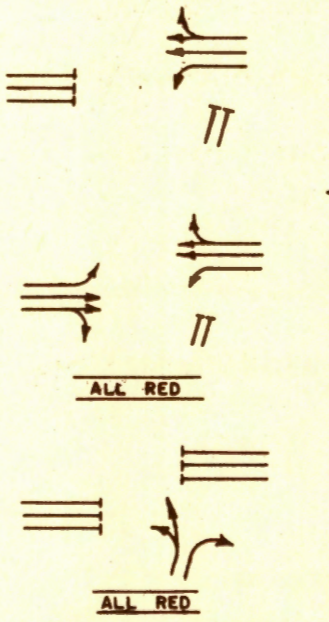
Benefits

Widening and provision for adequate lane arrangements along with adjustments in timing and parking removal will improve capacity. Signal modification will combine with the above to reduce the accident experience.

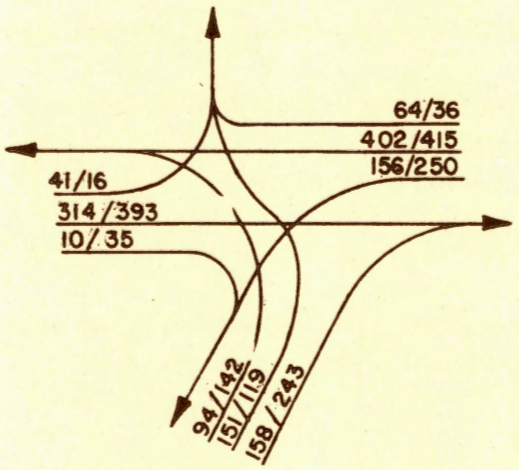
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

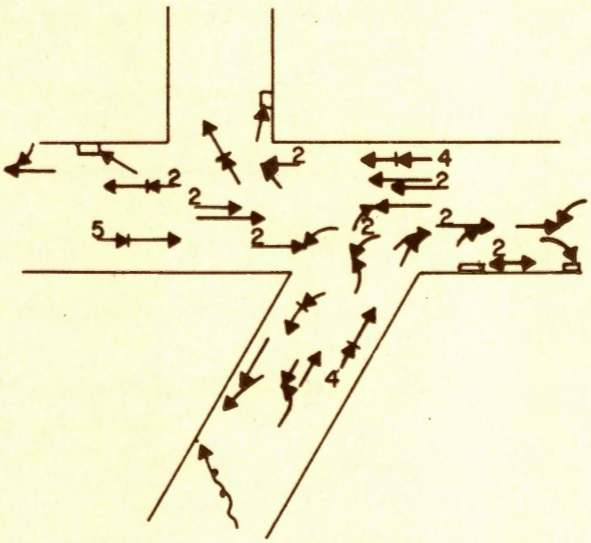




PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
8:00-9:00 A.M.-4:15-5:15 P.M.



ACCIDENT SUMMARY-3 YR. PERIOD

0 60 120

Scale : 1"=60'

PROPOSED IMPROVEMENT 7-4

7-4A EAST MAIN STREET (N.J. ROUTE 79) AND SHERIFF STREET FREEHOLD BOROUGH

East Main Street is a major arterial roadway in the Freehold Borough central business district. Sheriff Street provides access to this arterial from a number of parking lots behind the buildings on East Main Street. During the afternoon peak period, Sheriff Street is closed to traffic.

Problems

East Main Street has high traffic volumes on an inadequate roadway width where parking is allowed. Sheriff Street traffic conflicts with East Main Street traffic causing excessive delays for both movements.

Recommendations

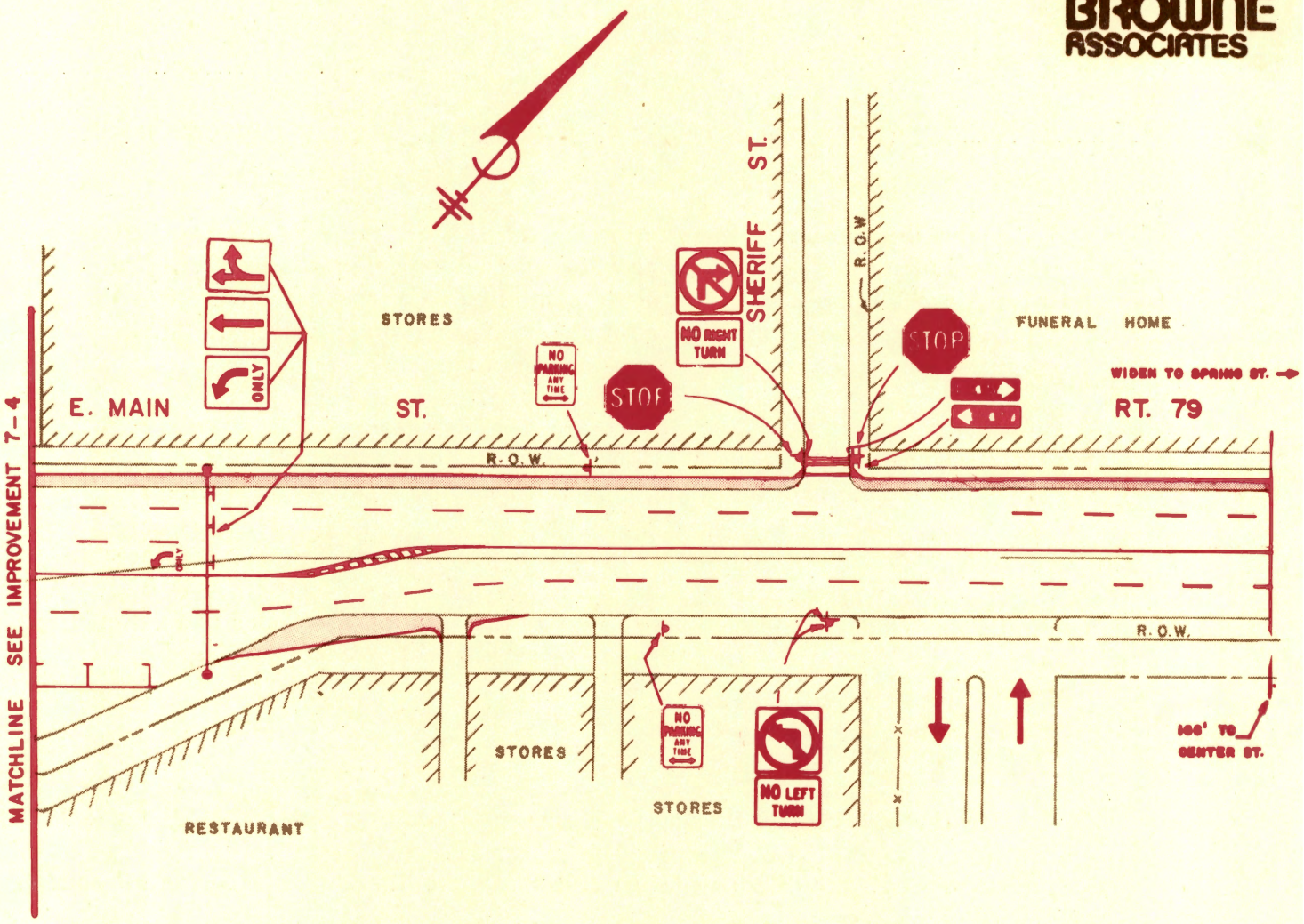
Minor widening of East Main Street is recommended along with removal of parking. Sheriff Street should be kept open to traffic but left turns out of it should be prohibited.

Benefits

Widening and parking removal on East Main Street will improve capacity. Turn prohibitions at Sheriff Street will improve operational characteristics while maintaining some circulation from the nearby parking lots. Accident experience will be improved by the reduction of conflicts.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES



0 60 120

Scale : 1" = 60'

PROPOSED IMPROVEMENT 7-4A

7-5 N.J. ROUTE 79, BROADWAY, SPRING STREET, AND CENTER STREET

This location is the intersection of a N.J. State Highway and East Main Street, a major county road. Spring Street and Center Street are two collector roadways. The intersection is presently controlled by a semi-actuated traffic signal with actuation on the East Main Street - Spring Street and Center Street approaches.

Problems

This location has insufficient approach widths, receiving lane widths, and inadequate curb turning radii. There is high traffic volumes with considerable turning movements. Long clearance intervals are required after each of the signal phases.

Recommendations

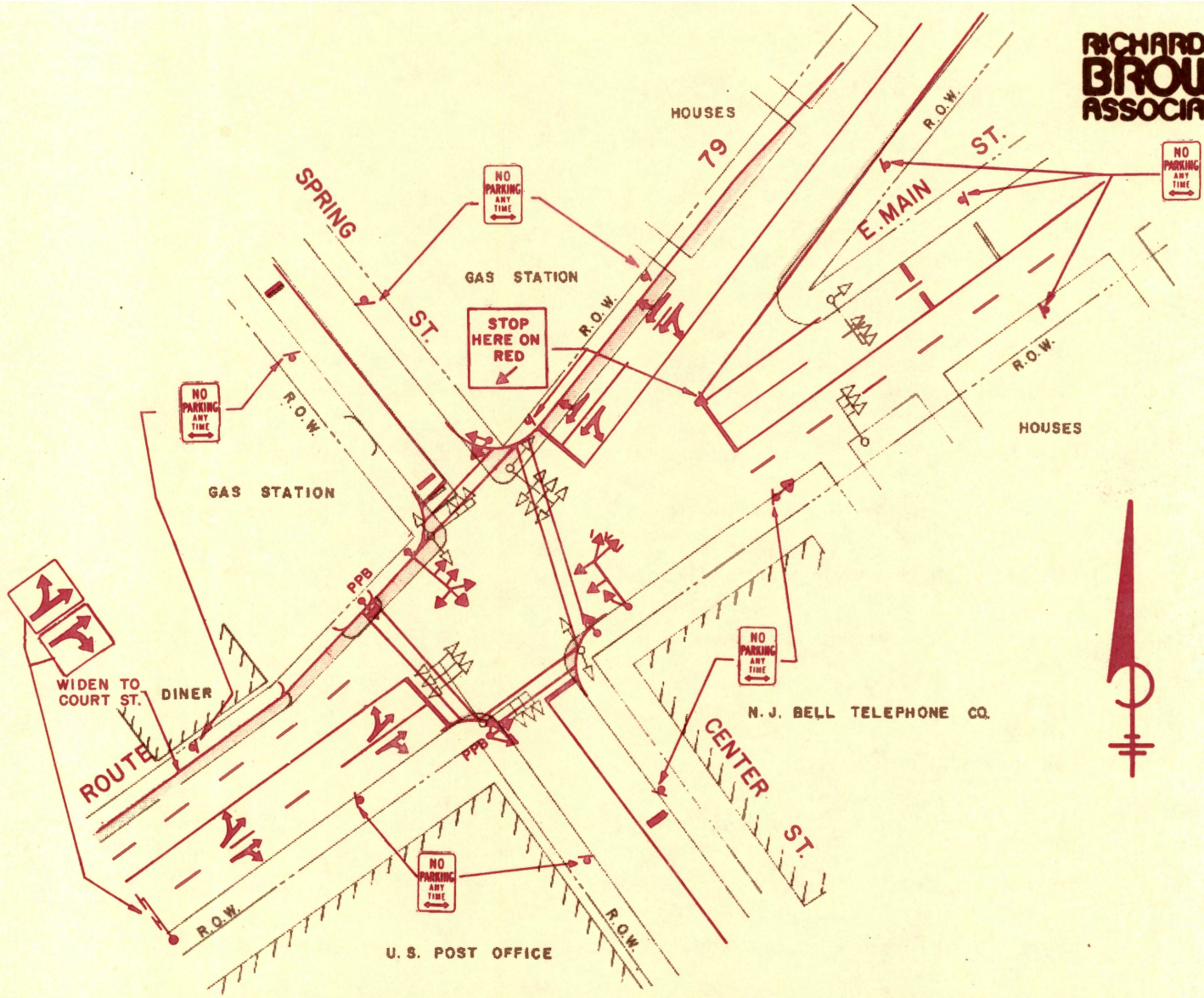
Minor widening of the approach lanes and receiving lanes on N.J. Route 79 is recommended. Modification to the curb turning radii and elimination of all parking on the main roadways is also recommended. Extension of the sidewalk area adjacent to the approach lanes on East Main Street is recommended in order to reduce the stop bar distance. Modification of the signal layout is recommended.

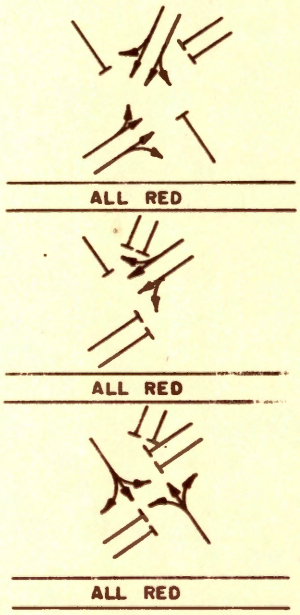
Benefits

Widening of the approach and receiving lanes, modification of the turning radii and compaction of the intersection will increase the capacity and operational characteristics of this location and, combined with the modification of the signal layout, should improve safety.

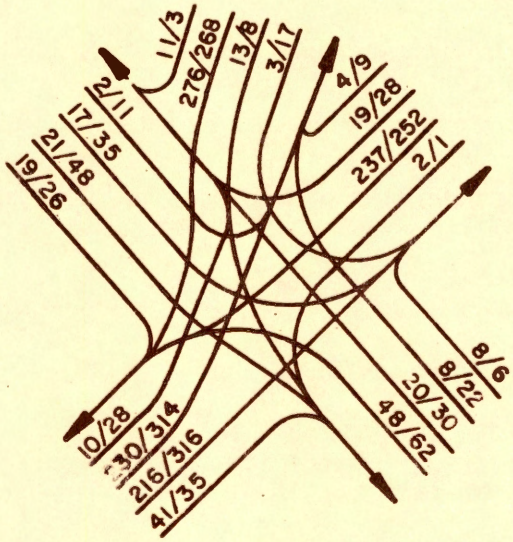
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

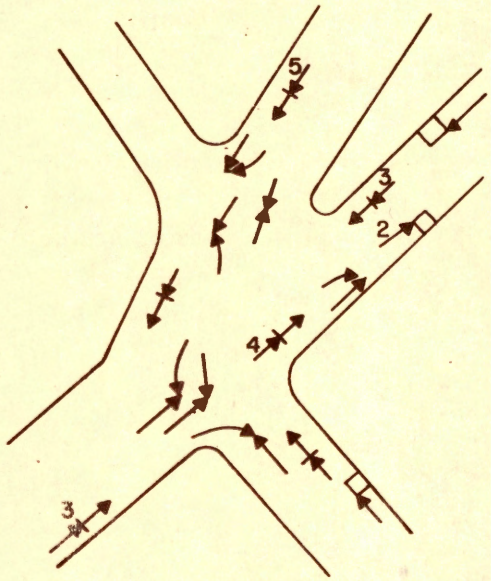




PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
7:15 - 8:15 A.M. / 4:30 - 5:30 P.M.



ACCIDENT SUMMARY - 3 YR. PERIOD
3 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 7-5

7-6 THROCKMORTON STREET AND BROAD STREET FREEHOLD BOROUGH

This location is the intersection of two major collector roadways serving the surrounding area. It is presently controlled by a fixed-time traffic signal.

Problems

Curb turning radii are inadequate. The location has a significant number of right angle and pedestrian accidents. Signal visibility is poor for some of the pedestrian movements. Cars turning left on Broad Street into the A & P driveway block traffic.

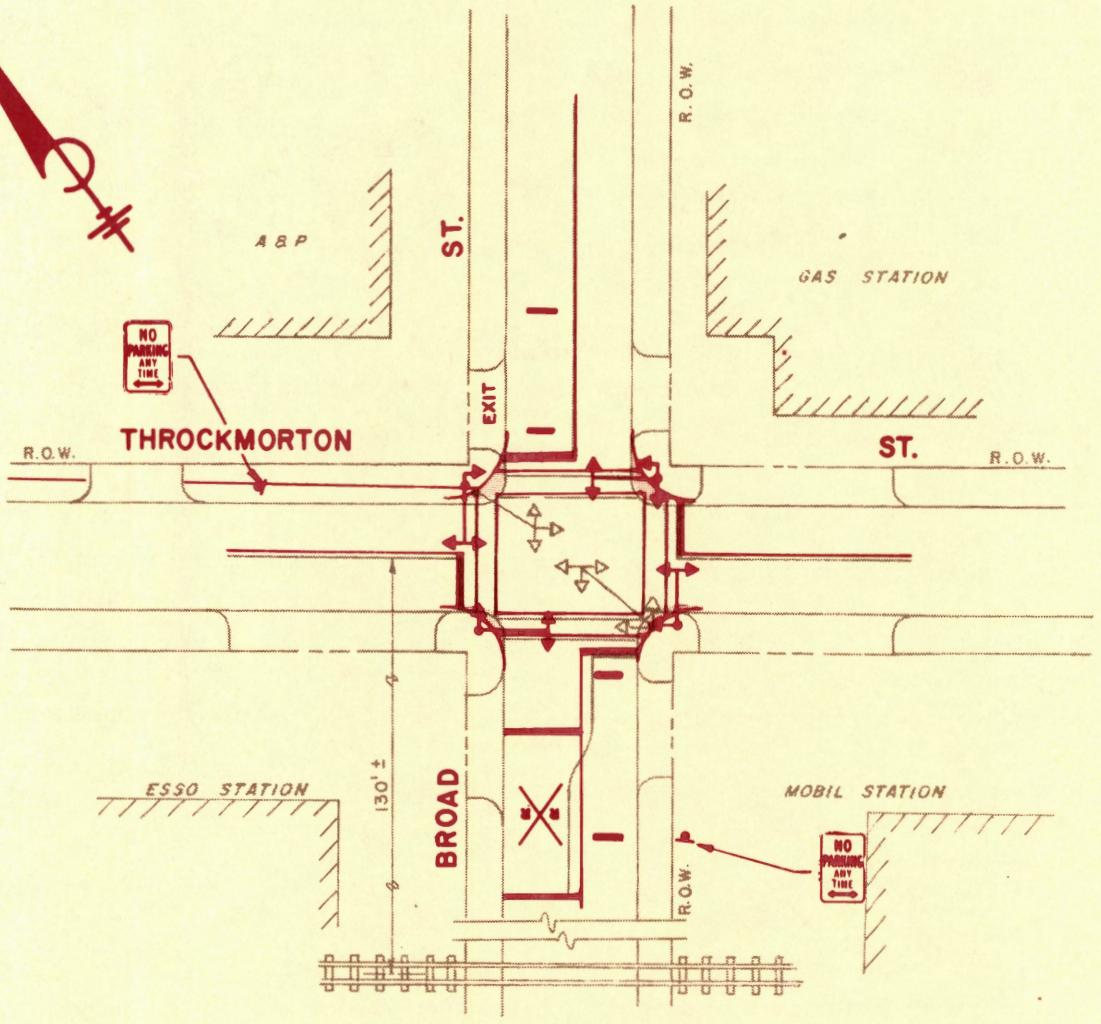
Recommendations

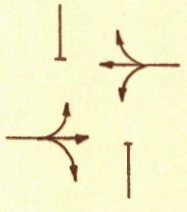
Modification to the curb turning radii is recommended. The A & P store driveway on Broad Street, should be restricted to exit movements only. Modification to the signal layout is recommended to increase its visibility. Convert signal to semi-actuated type.

Benefits

Control of driveway movements at the A & P exit to Broad Street, will reduce conflicts here and combine with curb turning radii to increase the capacity and operational characteristics of this location. The safety of this location will also be improved.

RICHARD P. BROWNE ASSOCIATES





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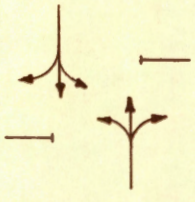
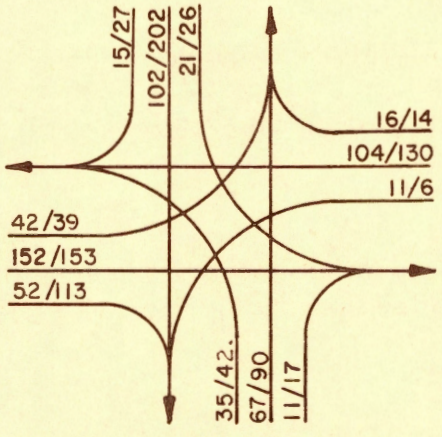
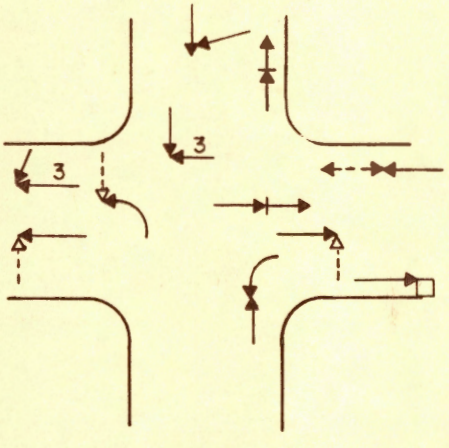




PEAK HOUR VOLUME
8:30-9:30A.M.-4:15-5:15 P.M.



ACCIDENT SUMMARY – 3 YR. PERIOD

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 7-6

7-7 SOUTH STREET, N.J. ROUTE 79, AND MECHANIC STREET FREEHOLD BOROUGH

Mechanic Street is a major collector roadway serving the main exit from the major parking lot in the Freehold central business district. The intersection is presently controlled by a stop sign.

Problems

This location has considerable traffic volumes and traffic volume increases are anticipated on the side street due to other recommendations in connection with the Region VII TOPICS improvement program. Roadway widths are insufficient and further reduced by parking. Curb turning radii are inadequate. A number of pedestrian accidents have occurred.

Recommendations

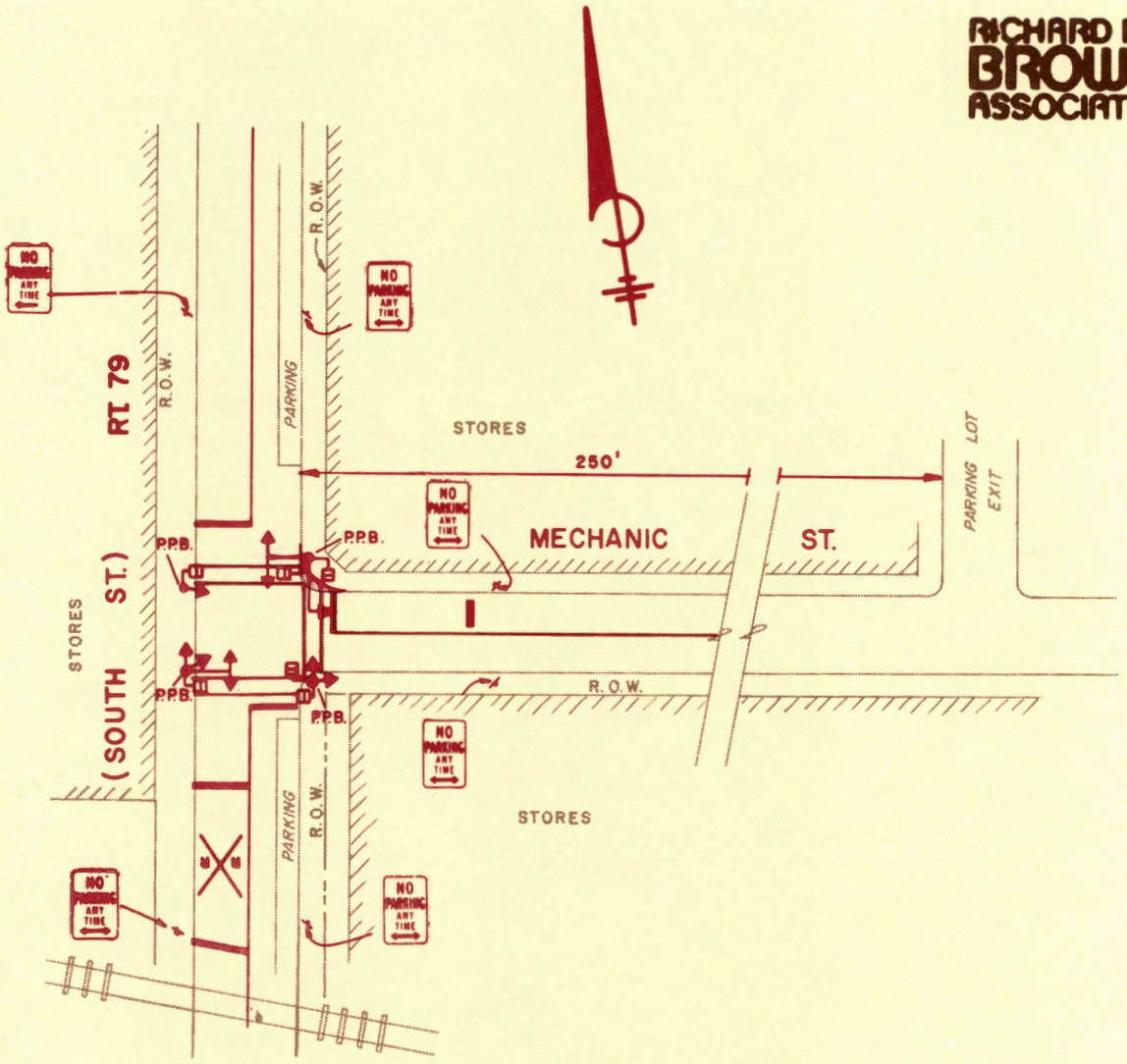
Modification to the curb turning radii is recommended along with elimination of parking. Installation of a semi-actuated traffic signal is recommended including provisions for Walk-Don't Walk signal heads.

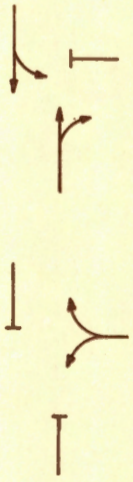
Benefits

Elimination of parking and modification of the turning radii will increase the capacity and improve the operational characteristics of this location. The installation of a semi-actuated traffic signal and Walk-Don't Walk signals should improve vehicular and pedestrian accident experience.

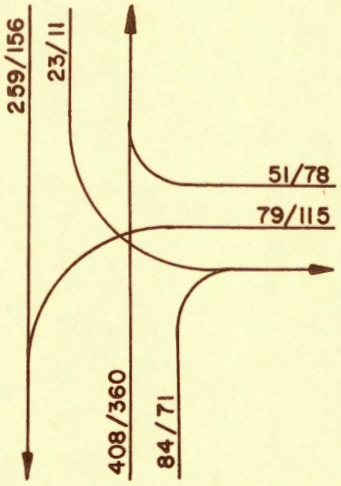
NOTE: The need for a signal and proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES

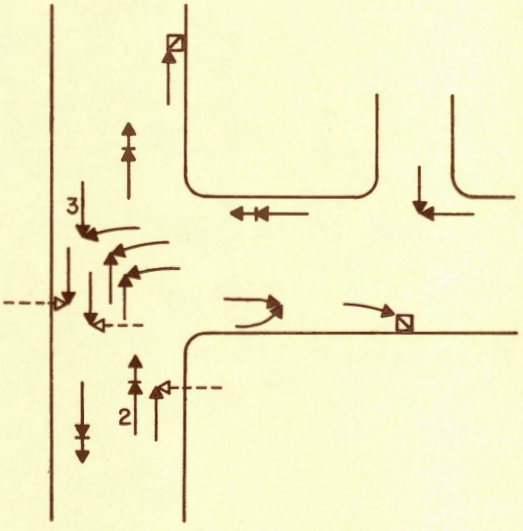




PROPOSED SIGNAL SEQUENCE



PEAK HOUR VOLUME
8:00 – 9:00 A.M/4:15 – 5:15 P.M.



ACCIDENT SUMMARY — 3 YR. PERIOD
10 NOT SHOWN

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 7-7

7-8 SOUTH STREET, N.J. ROUTE 79 AT HULL AVENUE AND JERSEYVILLE AVENUE FREEHOLD BOROUGH

Hull Avenue is a collector roadway for the surrounding area. Jerseyville Avenue is a collector roadway for adjacent industrial area and a connecting roadway for shortcut route between N.J. Route 79 and N.J. Route 33. The location is presently controlled by stop signs.

Problems

This location has considerable traffic volumes with a considerable amount of truck turning movements from Jerseyville Avenue. Approach widths are narrow and curb turning radii inadequate. A considerable amount of right angle turning movement and fixed object accidents are experienced.

Recommendations

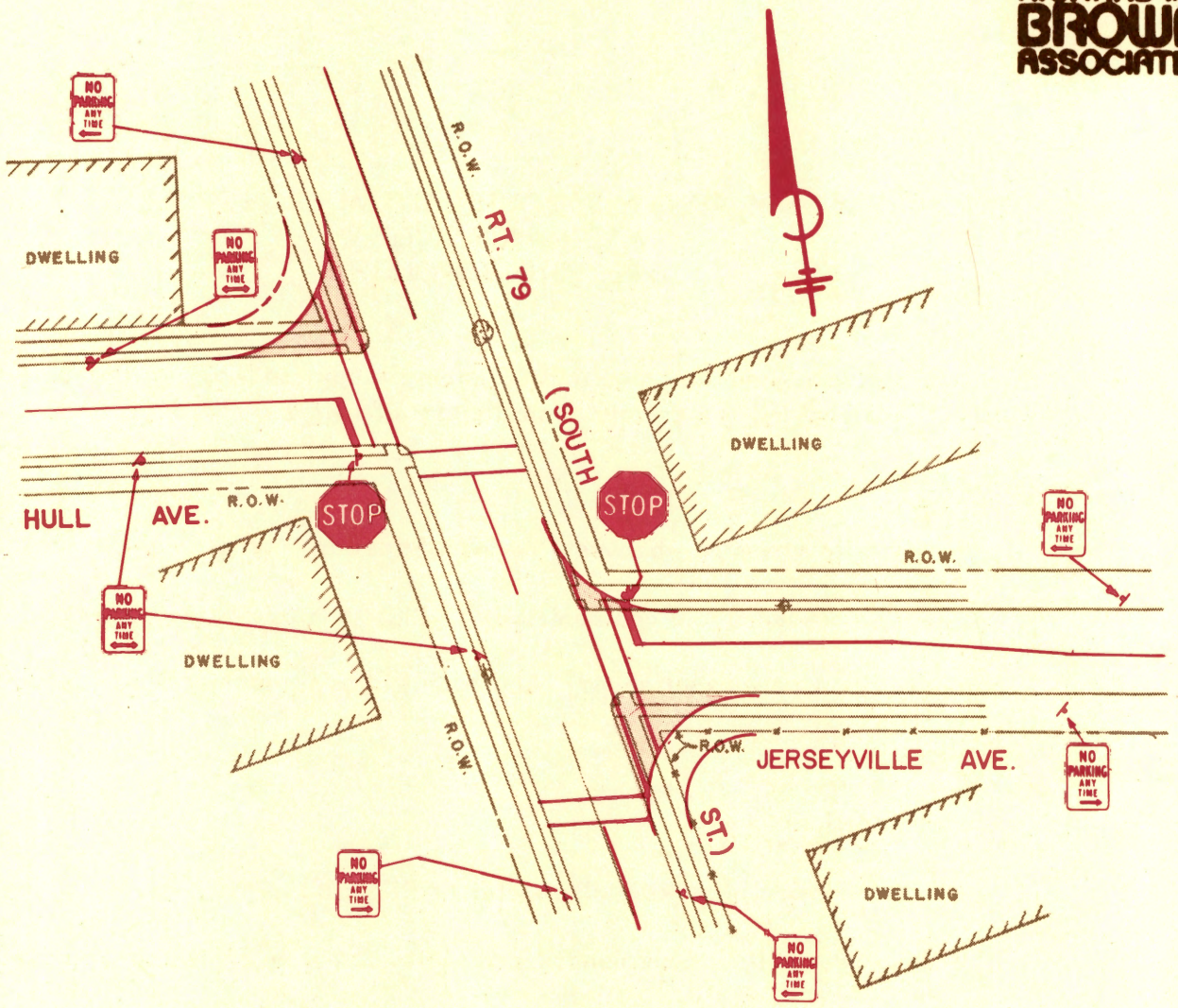
Modification to the curb turning radii are recommended along with the elimination of parking at the intersection.

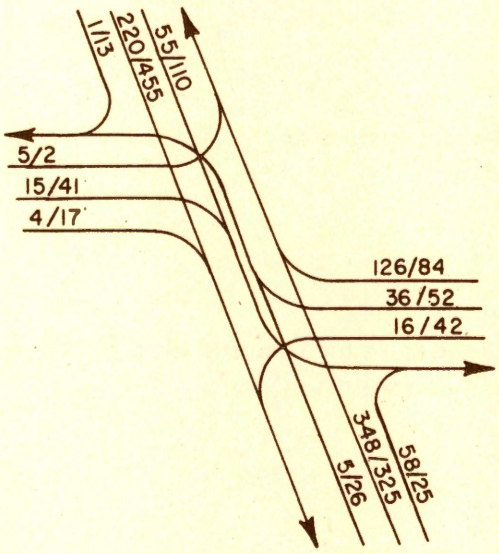
Benefits

The capacity and safety of this location will be improved by these recommendations.

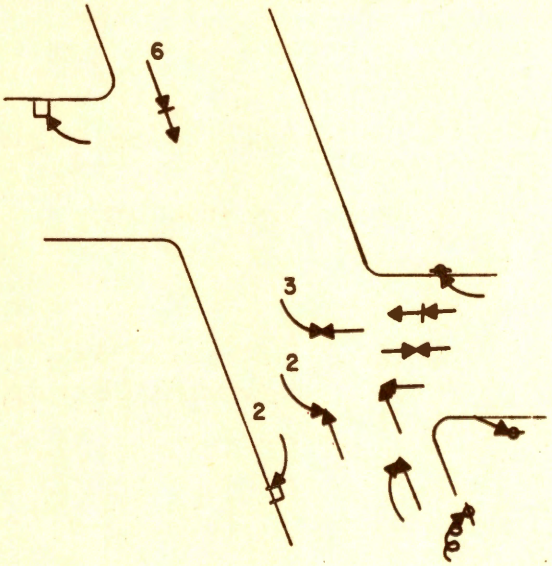
NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





PEAK HOUR VOLUME
7:45-8:45 A.M.- 4:15-5:15 P.M



ACCIDENT SUMMARY-3 YR. PERIOD

0 60 120
Scale : 1" = 60'

PROPOSED IMPROVEMENT 7-8

7-9 SOUTH STREET, N.J. ROUTE 79 AT MC LEAN STREET AND MARCY STREET FREEHOLD BOROUGH

McLean Street and March Street are collector roadways for the surrounding area. This location is presently controlled by stop signs.

Problems

Traffic movements between Mc Lean Street and Marcy Street at this intersection are hazardous and conflicting. Right angle, rear end and fixed object accidents are experienced. Approach widths are narrow and curb radii inadequate.

Recommendations

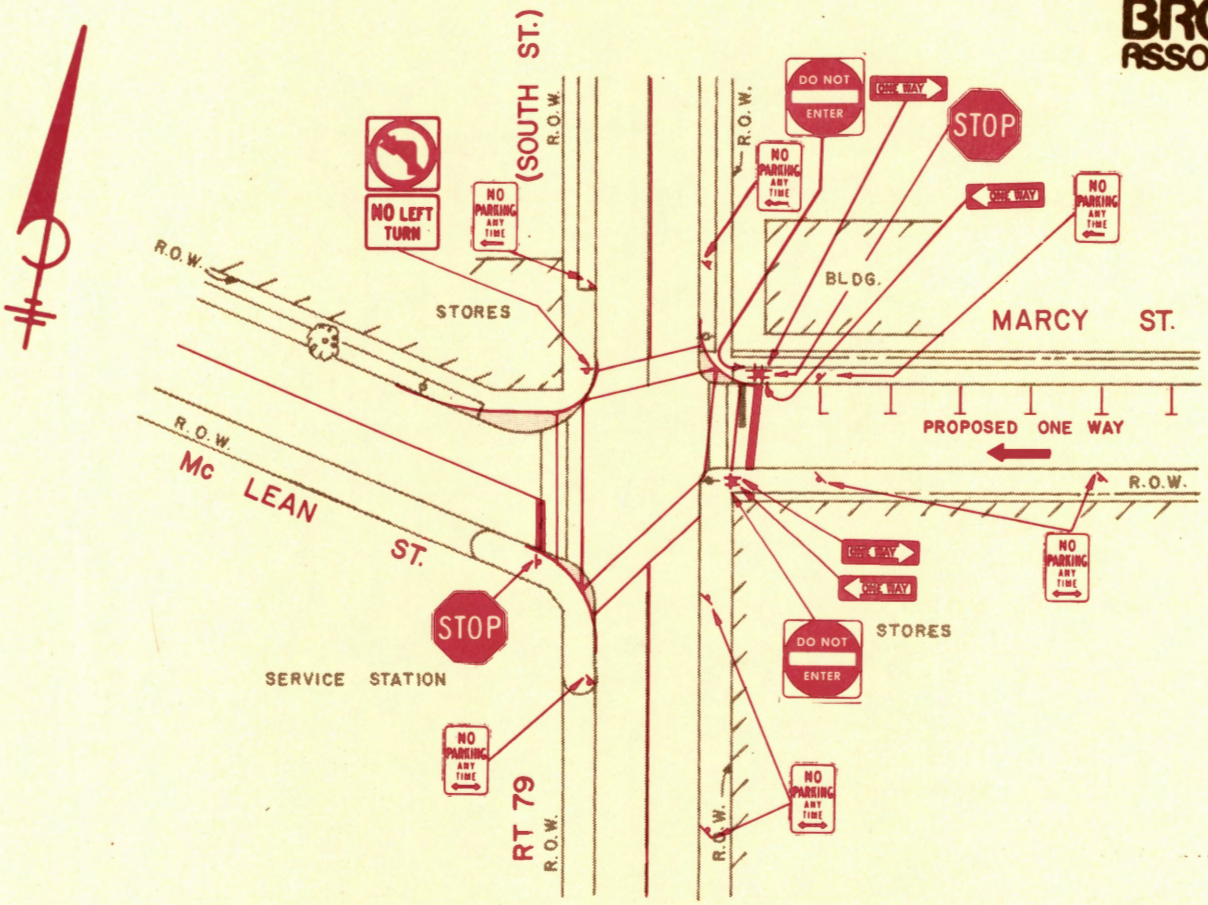
Elimination of parking along with modification to the curb turning radii is recommended. It is recommended that Marcy Street be made one-way towards the intersection for one block in order to minimize the effect of the offset in the intersection.

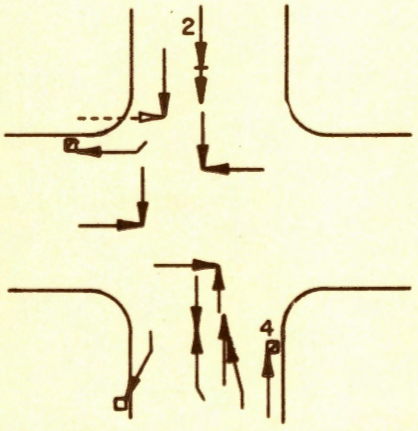
Benefits

The safety and operational characteristics of this location will be improved by these recommendations.

NOTE: The proposed layout is subject to revision based on a detailed study by the New Jersey Department of Transportation.

RICHARD P. BROWNE ASSOCIATES





ACCIDENT SUMMARY - 3 YR. PERIOD
4 NOT SHOWN

0 60 120
Scale: 1"= 60'

PROPOSED IMPROVEMENT 7-9

STUDY PARTICIPANTS

MONMOUTH COUNTY

William Cokelet	Assistant County Engineer
Richard Sweet	Assistant Traffic Engineer
Jerry Canter	Assistant Traffic Engineer

NEW JERSEY DEPARTMENT OF TRANSPORTATION

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George Collins	Assistant Chief Engineer
Raymond J. Malone	Supervising Engineer
George Horner	Chief - Bureau of Local Federal Aid
Alan Abronski	Highway Engineer
Joseph O'Brien	Highway Engineer
Norman Matheson	Principal Engineer

FEDERAL HIGHWAY ADMINISTRATION

William Schmitt, Jr.	Planning and Research Engineer
John Ryan	Area Engineer

RICHARD P. BROWNE ASSOCIATES

James R. Gage	Director of Traffic and Transportation Planning
Stanley Dorman	Project Engineer
George Kammoun	Traffic Engineer
Tu-Jung Weng	Traffic Engineer
Moshe Herzog	Traffic Engineer
Dana Kasdan	Traffic Engineer
Peter Hogrefe	Traffic Engineer
Phyllis Hugo	Secretary - Typist
Jerry Rasmussen	Chief Draftsman
Micheal De Feo	Draftsman
Trudy Morgan	Draftswoman
Dominic Termott	Draftsman
Andre Groenhoff	Senior Technician
William Wennberg	Technician
Ed Gary	Technician