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NEW JERSEY

PUBLIC TRANSPORTATION STUDY

PHASE B

IT-09-0031 TS F110

URBAN CORE
JERSEY CITY AND BAYONNE
FINAL REPORT

MAY 1976

New Jersey Department of Transportation

New Jersey State Library

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FINAL REPORT

MAY 1976

Prepared For

New Jersey Department of Transportation

in cooperation with:

URBAN MASS TRANSPORTATION ADMINISTRATION, USDOT
TRI-STATE REGIONAL PLANNING COMMISSION
DELAWARE VALLEY REGIONAL PLANNING COMMISSION
N.J. DEPARTMENT OF COMMUNITY AFFAIRS

Wilbur Smith and Associates
FORD, BACON & DAVIS, INC.

Wilbur Smith and Associates

CABLE WILSMITH
TELEX 87-2439

155 WHITNEY AVENUE
P.O. BOX 1809
New Haven, Conn. 06507
PHONE (203) 865-2191

May 18, 1976

Mr. Douglas R. Webb, Director
Division of Transportation Systems Planning
New Jersey Department of Transportation
1035 Parkway Avenue
Trenton, New Jersey 08625

Dear Mr. Webb:

We are pleased to transmit herewith the final report on our studies of the Urban Core - Jersey City-Bayonne as part of the New Jersey Public Transportation Study-Phase B. As you know, this study was undertaken in accord with our Agreement dated March 3, 1975.

The study has addressed the optimization of public transit facilities in the urban core and presents a number of proposals for minor modifications to the services provided in the core. Among some of the more important proposals are the rationalization of fare structure within the Corridor with a basic 40-cent first-zone fare applied to all local carriers. A transfer system for inter-company application throughout the urban core is also proposed, facilitating movement from one carrier to another throughout Jersey City and Bayonne.

Modification of the service provided by TNJ's Route 14-Greenville service to eliminate the direct competition between that route and Lafayette and Greenville buses between Greenville and Exchange Place is recommended. This modification would result in improved service for Bayonne residents and would provide a direct access between the north end of Bayonne and the Grove Street-Exchange Place area on a more regular basis than at present. Coordination would also be provided between Route 14 and the new express service along TNJ's No. 7-Jackson route during peak hours so that improved connections would be available between Bayonne and the Journal Square Transportation Center.

Additional proposals have been made concerning operations of a crosstown bus service linking the north end of Bayonne and the south end of Jersey City. A program of bus shelter development, improved time tables, bus stop signing and marking, and a major related marketing effort are also outlined in this report.

We look forward to the opportunity to review this report with the Technical Committee on this study at the earliest convenient date.

Respectfully submitted,

WILBUR SMITH AND ASSOCIATES

E. M. Whitlock
Senior Vice President

Registered Professional Engineer
State of New Jersey No. 1503

EMW:rmm

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SUMMARY OF RECOMMENDATIONS

URBAN CORE

SUMMARY OF RECOMMENDATIONS

This study has identified that one of the major needs in the Urban Core area is greater coordination along carriers and the removal of cost and convenience barriers to circulation within the community on the transit system. It was found that one or more operating groups providing service on the same or similar alignments did not necessarily constitute competitive service. However, similar services found to be competitive in nature were recommended for modification. With this as a central objective, the following recommendations have been developed based on the data assembled as a part of this study:

Recommended Operating Modifications

1. Integration of the operations of the P.U.C. and C.O.A. in the regulation of bus services in New Jersey within the Department of Transportation as proposed in earlier reports in this series. (Page 10-2)

2. All independent, non-subsidized bus operators in the study area be authorized by joint agreement of the Board of Public Utility Commissioners and the Commuter Operating Agency of the Department of Transportation to increase their base or first-zone fare from 35 to 40 cents as a base for the formulation of an inter-company transfer program. (Page 7-5)

3. Initiate an inter-company transfer program when all companies initiate 40 cent first-zone fares. The transfers should be priced similarly to TNJ's intra-company transfers of 10 cents within the first-zone or 25 cents to the second-zone. Regulations concerning implementation of this program should be drawn up so that all operating companies participate and the cost of program administration

is deducted from transfer receipts each month as a part of the clearing house function, to be performed under the direction of the Commuter Operating Agency of the New Jersey Department of Transportation. (Page 7-6)

4. Eliminate TNJ Route 14-Greenville service along Ocean Avenue between Gates Avenue and Old Bergen Road and on Montgomery Street and Grove Street in Downtown Jersey City and add to present service to provide a twenty-minute headway on Route 14 in Bayonne and also add hourly express service from Bayonne to Downtown Jersey City over the express route via New Jersey Turnpike. (Page 7-15)

5. Increase local bus operations on the Lafayette and Greenville independent bus line along Ocean Avenue in Jersey City to compensate for the reduction in service resulting from No. 4 above. (Page 7-16)

6. Introduce limited express service on TNJ Route 7 - Jackson Avenue between TNJ's Greenville Garage at Gates Avenue and Old Bergen Road and Journal Square during morning and evening peak hours. (Page 7-19)

7. Initiate a proposed new crosstown bus service between the Grove Street PATH Station in Downtown Jersey City and the Broadway (Bayonne) Bus Terminal on J.F.K. Boulevard and 60th Street in Bayonne with intermediate stops at the Route 440 shopping centers in Jersey City and access to all north-south bus lines in the Greenville and Bergen areas of Jersey City. (Page 7-29)

8. As a part of the previous recommendation, eliminate service on the A&C Marion Line which presently serves part of the area, during morning peak hours only, to be served by the Crosstown route. (Page 7-29)

9. Modify the bus schedule and route of the Broadway (Bayonne) bus service to provide direct access to senior citizen housing at Avenue A and 23rd Street and at J.F.K. Boulevard and 2nd Avenue, every 30 minutes weekdays between 9:00 A.M. and 7:00 P.M. and hourly on weekends between 11:00 A.M. and 7:00 P.M. (Page 7-33)

10. Senior citizen ridership should be encouraged through improvements to regular route bus service as outlined herein, particularly as it affects Bayonne and through the adoption of the transfer program which provides more travel opportunity. (Refers to previous recommendations)

11. Remaining routes of both TNJ and independent bus companies in the urban core be retained at their present service levels to ascertain whether changes in schedule affected in February, 1976, have been effective in achieving operating efficiencies and also maintaining adequate passenger service. (Chapter 7, various pages)

Recommended Capital Improvements

12. Extend the bus purchase program initiated by the New Jersey Department of Transportation by maintaining the objective of replacing all buses 12 years old or older during the coming five years. (Page 8-2)

13. Build upon the program started by the City of Jersey City and extend it to Bayonne so that bus shelters and bus signs can be installed at key bus stop locations throughout the urban area over the five-year short-range planning period. (Page 8-4)

Recommended Administrative Support

Organize and initiate a strong market development program, oriented toward making residents of the Urban Core fully advised on the public bus service presently available through the use of all types of public media programs, printing of timetables or schedules for all bus services and the marking and identification of stop locations. (Chapter 9)

Chapter 1
INTRODUCTION

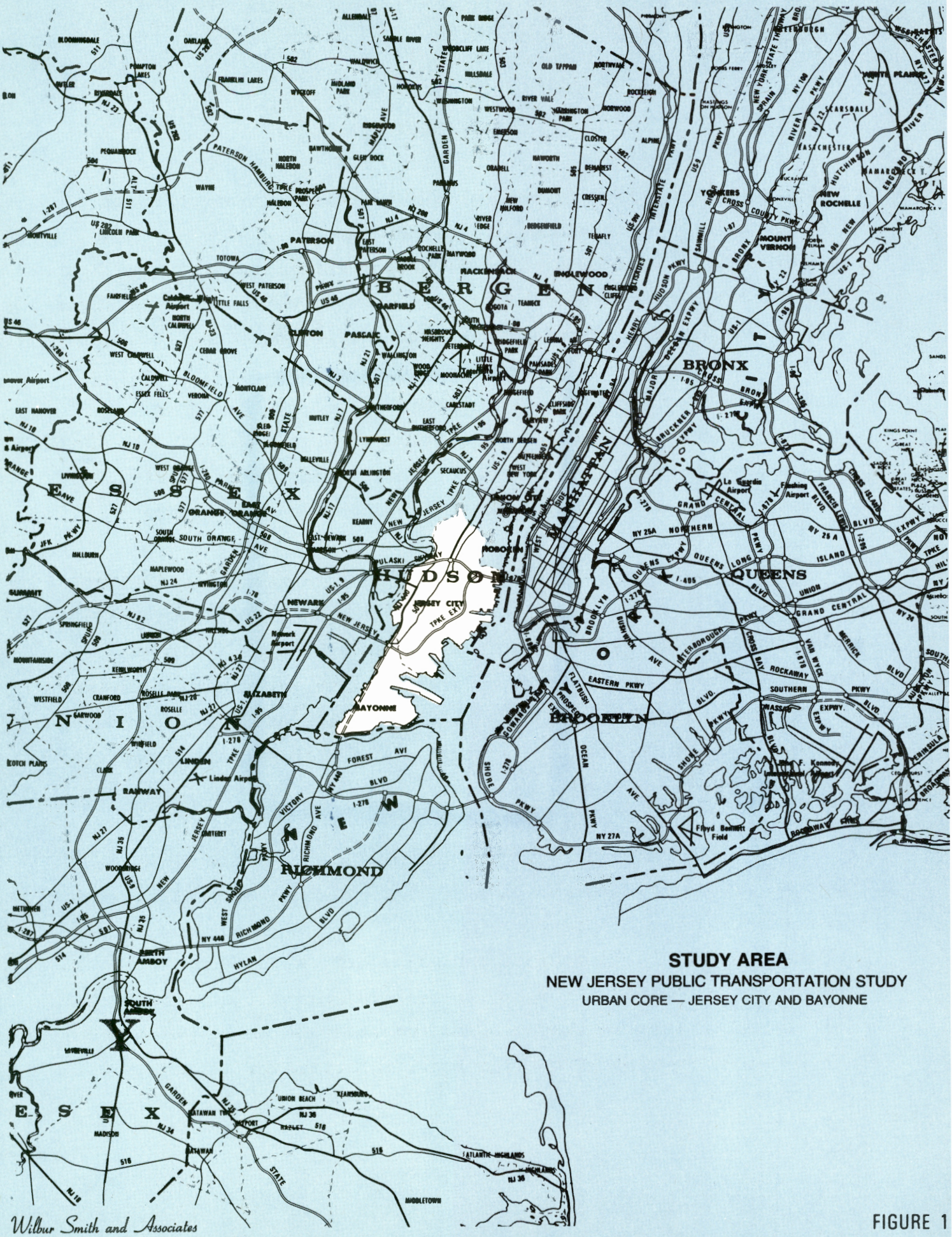
Chapter 1

INTRODUCTION

The Jersey City-Bayonne area is located at the approximate center of the Tri-State Region of New Jersey, New York, and Connecticut. Because of several unique conditions, such as high population density, above average percentages of senior citizens, and bus coverage under different ownerships, this Corridor was selected for study of methods of improving bus service in the New Jersey portion of the urban regional core. As shown in Figure 1, this area, which is located between Newark and Manhattan, has ready access to highways and public transportation facilities serving major destinations, both in and beyond the Region.

Jersey City, the largest city in Hudson County, with a 1970 population in excess of 260,000 persons, and Bayonne, with 73,000 people, have not received sufficient attention to their public transportation needs in recent years. This is primarily the result of a strong regional focus on transportation studies which do not generally provide detailed evaluation of problems within individual cities or neighborhoods.

Terminal facilities, major corridors, and other components of Jersey City's transportation studies have received consideration, but local problems, such as bus operations, parking, and traffic controls, need to be updated and given further evaluation. This study was conceived, in part, to give attention to the high level of bus operations in the area and to ascertain steps which should be taken to develop an optimum bus-rail interface in Jersey City and Bayonne.



STUDY AREA

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 1

Problem Statement

Persons 62 or older, and 18 or younger, are generally considered to be captive users of mass transportation. These two groups represent 44 percent of the population in Jersey City and Bayonne. This high percentage of potential users, combined with a low registration of motor vehicles in this area (1970 Census data indicate that approximately 90 percent of all families in the study area own only one or no vehicles)suggest the need for well-coordinated public transportation service.

Bus service in the corridor presently focuses on the Journal Square and Exchange Place areas. All local service is supplies by either Transport of New Jersey or one of several independent bus owners associations. There is service on virtually every major north-south street in the corridor, and at reasonable intervals on the crosstown east-west streets in Jersey City. Because of this high level of coverage in the area, limited coordination of schedules and competition between various bus lines have become major problems.

Study Objectives and Goals

It is the objective of this study to review the bus service within the study area from two points of view:

1. As an integrated service throughout the corridor; and,
2. As a series of independent operations with unique service areas and problems.

It is hoped that by relating these two perspectives, existing bus schedules can be adjusted and coordinated among the various bus companies. The overall objective would, therefore, be a more coordinated system providing better service.

In order to achieve these goals, several analyses were undertaken. First, demographic and economic characteristics of the study area were analyzed to provide a basis for relating travel patterns and transportation needs to residents. Second, since this corridor is important, both as an employment center and as a place of residence for commuters to other employment centers, analyses of historical trends in commuter patterns were conducted and possible improvement of accessibility to existing facilities was considered.

Finally, existing bus lines serving the study area and present usage of these lines were thoroughly analyzed to determine present corridor demands. Of major importance were on-off patterns and their relation to existing land use, comparisons of heavy and low volume lines, analyses of competitive lines with respect to area and population served, and determination of important connection or transfer points between services.

Study Limits

The Jersey City-Bayonne Corridor consists of about 20 square miles of densely developed, heavily populated land. It is a peninsula, bounded on the south by Kill Van Kull, on the east by the Hudson River, on the west by Newark Bay and the Hackensack River, and on the north by Union City and Hoboken.

Jersey City, the northern portion of the corridor, is 14.6 square miles in area and is about seven miles long and 1.5 to 3.5 miles wide. Bayonne is approximately four miles long, ranges in width from one to 2.5 miles, and covers an area of nearly 5.4 square miles.

Good access to neighboring major cities is provided by the Holland and Lincoln Tunnels to New York City and by several bridges spanning Newark Bay and the Hackensack River to Newark. The PATH system provides public transportation service to both areas.

Population and Land Use

The Jersey City-Bayonne Corridor is situated in one of the most densely populated areas in the East. Hudson County, with an overall average of 13,000 persons per square mile, has the second greatest population density in the Tri-State Region, with only New York City more densely populated.

The combined population of Jersey City and Bayonne is approximately 333,000 persons. This figure is about equal to the population of the area in 1910 and 18 per cent below 1930's population. In the early 1930's, population in the corridor, as well as Hudson County, began to decline as the migration to the suburbs began.

A high percentage of the study area residents are senior citizens over 62 years old, youth under 18 years old, and minority groups of Negro, Puerto Rican, or foreign ancestry. The 1970 census data show that 14 per cent of all Jersey City and Bayonne residents were 62 years old, or older, and about 30 per cent were under 18 years old. Also, approximately 17 per cent were of the Negro race, five per cent Puerto Rican, and about 34 per cent of foreign ancestry. Of the people of foreign ancestry, most were of Italian, Polish or Irish origin. Hudson County had a similar distribution of population.

Three major land-use types cover about three-fourths of the study area land. Industrial and related land uses, residential, and commercial, take 40, 25, and 8 per cent of the land, respectively.

Most of the residential development is on the high ground along the center of the Jersey City-Bayonne Corridor and is generally separated from the waterfront areas both east and west by various types of industrial land use. Strip commercial development abuts major roadways throughout the study area with heavy concentrations in the Journal Square and Downtown Jersey City areas.

Chapter 2
EXISTING PUBLIC TRANSPORTATION

Chapter 2

EXISTING PUBLIC TRANSPORTATION

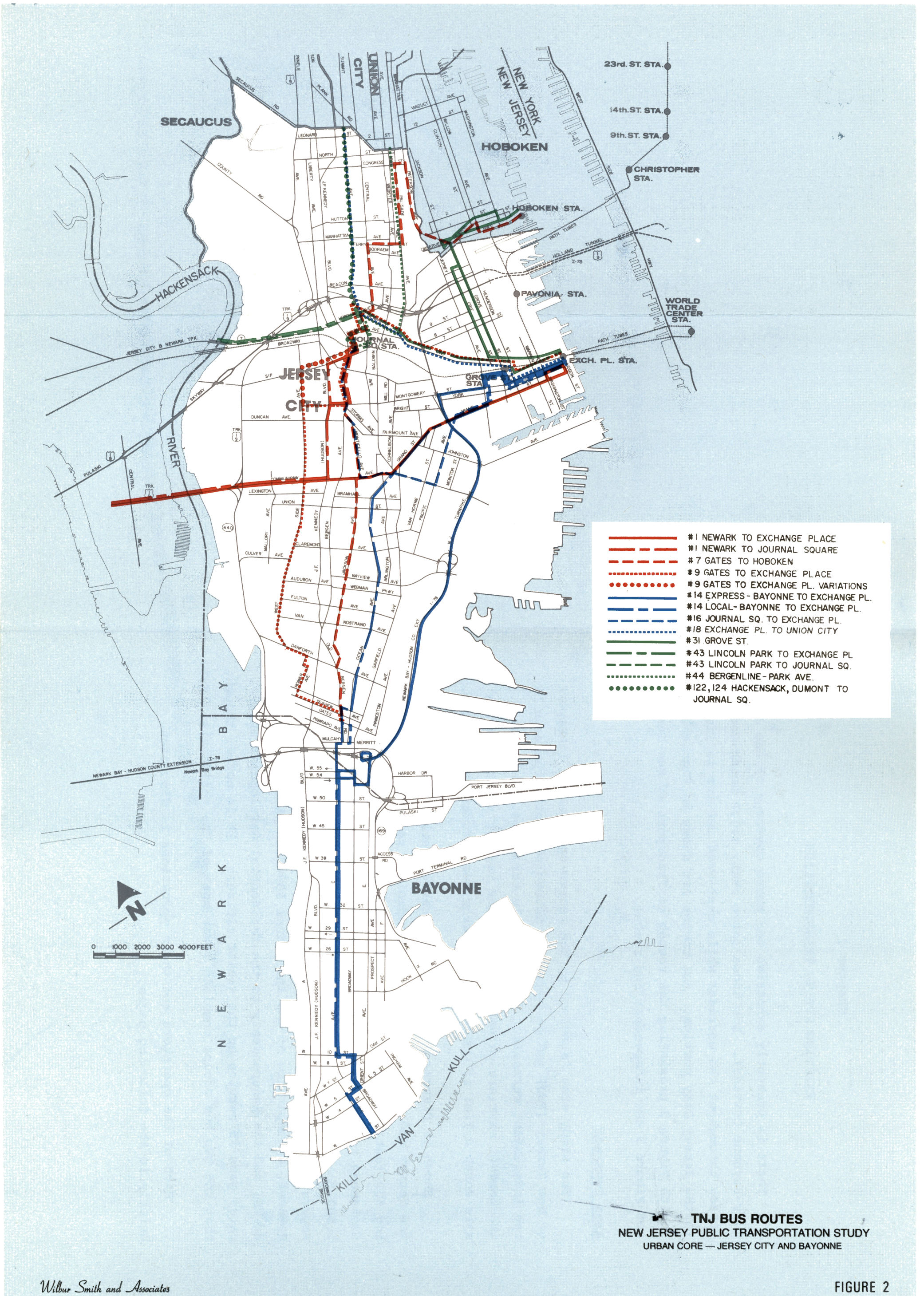
There is presently extensive bus route coverage of the Jersey City-Bayonne Corridor. Bus lines serve every major north-south street throughout the corridor while east-west service is limited to the Jersey City portion. Bus routes are shown in Figure 2 and 3 with Figure 2 presenting the routes of Transport of New Jersey and Figure 3 the independent bus routes.

Area Coverage

The study area is served by ten routes operated by Transport of New Jersey (TNJ) and 14 regularly scheduled routes operated by ten independent carriers. Several daily trips are run by the independent carriers on variations of the regular routes. Table 1 sets forth a list of companies providing bus service in the area.

Shown in Figures 4 and 5 are the service areas of Transport of New Jersey and the independent bus companies, respectively, utilizing 500 feet (senior citizens) and 1,500 feet as acceptable walking distances to bus stops. As shown, a comparison of the individual 1,500-foot service areas of TNJ and the independent operators separately cover all of the existing residentially developed land. However, a comparison of the individual 500-foot wide service areas of TNJ and the independents to the residential development indicates gaps in service to the senior citizens. It is noted, though, that the two bus groups combined cover most of the residential land.

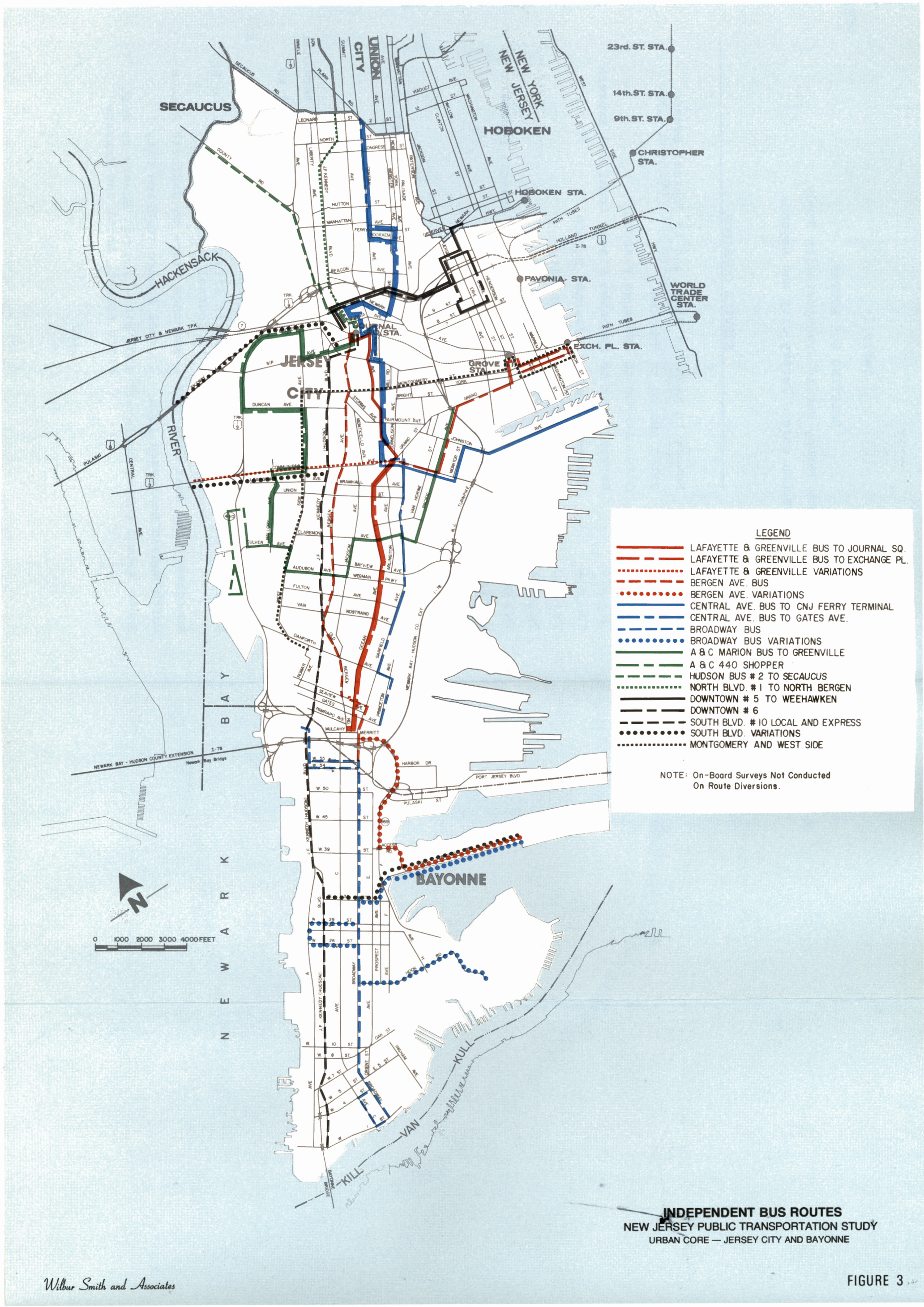
Each of the operators and their operations is discussed briefly in the following pages.



TNJ BUS ROUTES
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

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FIGURE 2



INDEPENDENT BUS ROUTES
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

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FIGURE 3

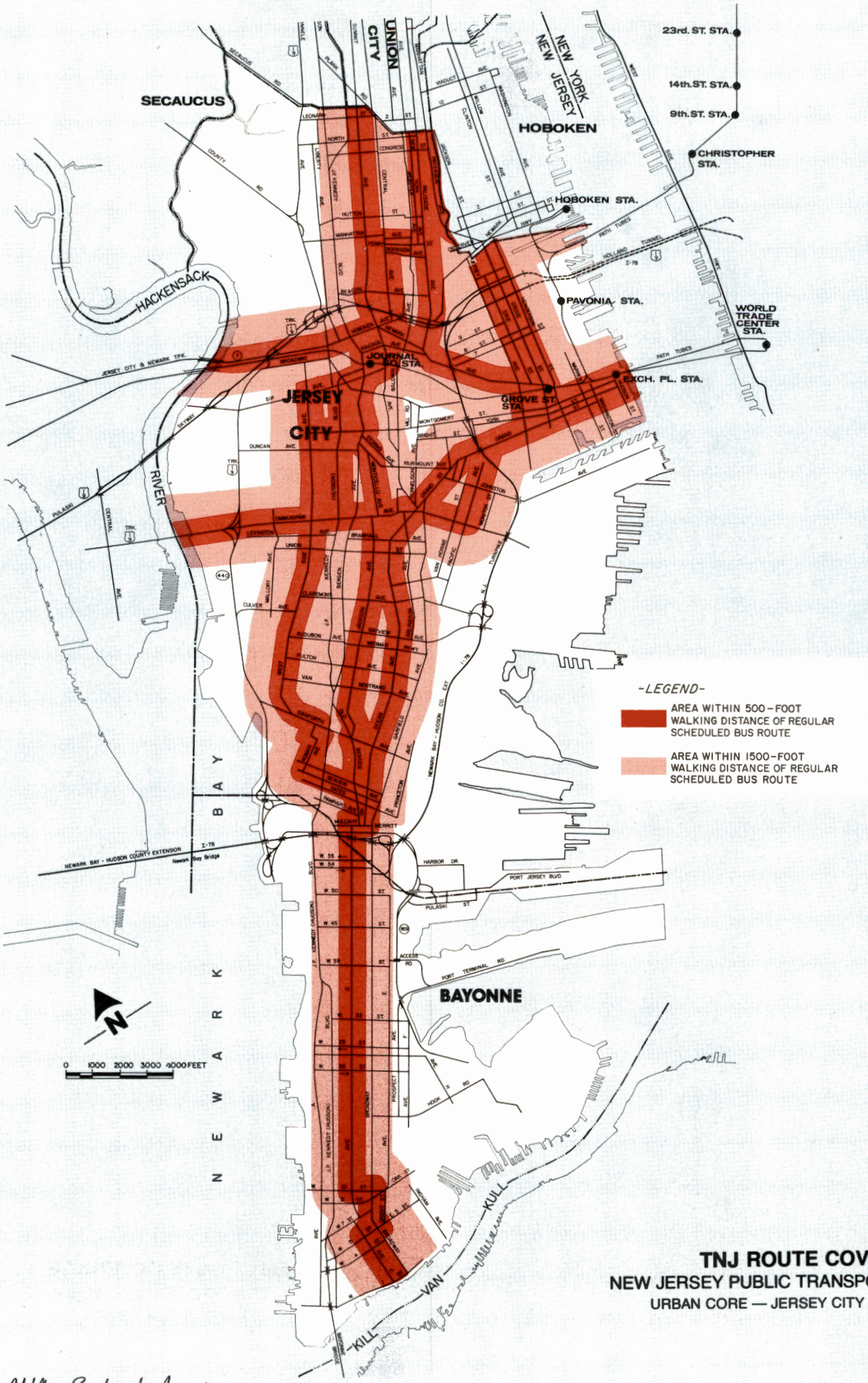
Table 1

EXISTING BUS ROUTES

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ROUTE	SERVICE CORRIDOR
TNJ Routes	
TNJ #1	Newark to Exchange Place and to Journal Square
TNJ #7	Gates Avenue to Hoboken
TNJ #9	Gates Avenue to Exchange Place
TNJ #14	Bergen Point to Exchange Place, Local and Express
TNJ #16	Exchange Place to Journal Square
TNJ #18	Exchange Place to Union City
TNJ #31	Exchange Place to Hoboken
TNJ #43	Newark to Exchange Place and to Journal Square
TNJ #44	Journal Square to North Bergen
TNJ #122/124	Journal Square to Hackensack
Independent Operators	
A&C IBOA Marion and Shopper	Journal Square to Grand Street and to Great Eastern
Bergen Avenue IBOA	Journal Square to Garfield Avenue
Broadway IBOA	JFK Boulevard and 55th Street to First Street
Central Avenue IBOA	Union City to Gates Avenue and to C.N.J. Terminal
Downtown Bus Company #5 and #6	Journal Square to Hoboken and to Downtown Jersey City
Hudson Bus Transportation Company #2	Journal Square to Secaucus
Lafayette and Greenville IBOA	Merrit Street to Exchange Place and to Journal Square
Montgomery and West Side IBOA	Exchange Place to Danforth Avenue
North Hudson Boulevard IBOA	Journal Square to Union City
South Hudson County Boulevard IBOA #10	Journal Square to West First Street, Local and Express



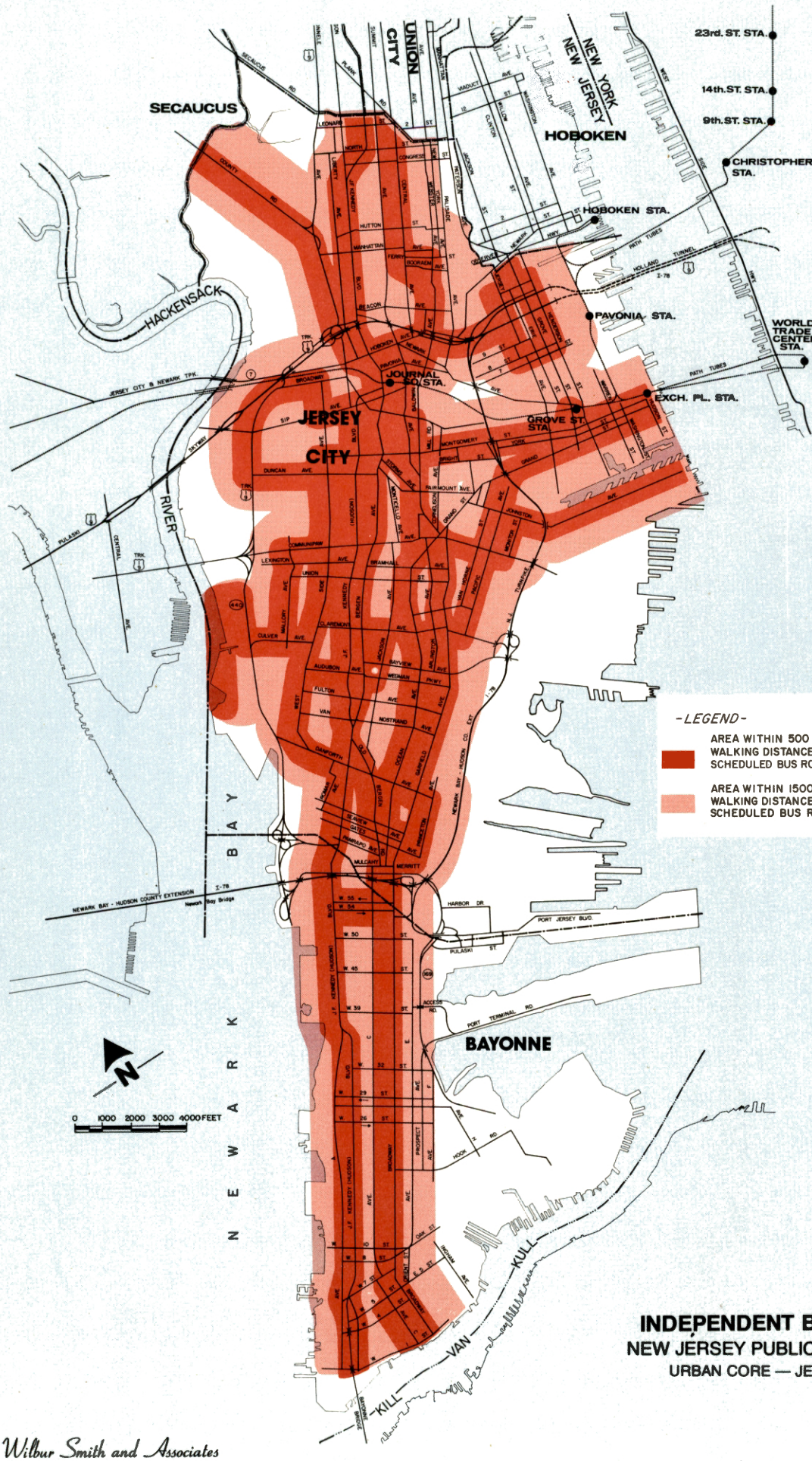
TNJ ROUTE COVERAGE

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 4



INDEPENDENT BUS ROUTE COVERAGE
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 5

Transport of New Jersey (TNJ)

Transport of New Jersey, the largest bus carrier in New Jersey, was created in 1971 by the reorganization of the Public Service Coordinated Transport. The Company presently operates 116 routes throughout New Jersey and carries nearly 50 percent of the State's bus passengers. TNJ's ten bus routes in the corridor operate out of garages located in the Greenville section of Jersey City, in Union City, and the Hilton garage at TNJ's Maplewood headquarters.

All major repairs to vehicles, as well as mechanical maintenance to major vehicle parts used throughout the TNJ system, are made at the major maintenance facility in Newark, New Jersey. At this site repairs are made to transmissions, engines, air conditioners, as well as other components, such as electric motors, fare boxes, and speedometers. These units are generally removed from buses at the Division garages and sent to the Newark shop for repair and reassembly. All body repairs, paint work, and seat upholstery repairs are also done at this location. Minor repairs and maintenance are generally done at the Division garages.

Until recently, TNJ operated one other major facility in this corridor, the Journal Square Bus Terminal. This terminal was closed and the routes served by the TNJ terminal are now served by the terminal facilities of the Port Authority's new Journal Square Transportation Center.

Bus Service - The Greenville Garage supplies most of the buses for the TNJ-operated routes in the Jersey City-Bayonne Corridor. Routes not operated out of this garage are Nos. 1, 44, and 122/124. The No. 1 route is operated out of the Hilton Garage in Maplewood

and Nos. 44 and 122/124 are operated out of the Union City Garage. In 1973 the Greenville Garage maintained a fleet of 126 buses, of which 80 were transit-type used for local city service. The remaining 46 vehicles were suburban buses used for interstate and charter service. At the same time, the Union City Garage operated 151 buses, of which 76 were transit-type, and the Hilton Garage operated 143 transit and 36 suburban buses. An inventory of the buses operated by these three garages is shown in Table 2. Also shown in Table 2 is an inventory of buses assigned to each local route in the corridor. Most of the buses have a seating capacity of 51 persons and are not air-conditioned. Only the longer Route 122/124 has air-conditioned vehicles assigned. All of the buses are built by General Motors and run on diesel fuel. Routes 1, 7, 9, and 44 operate the greatest number of buses and generally have the most frequent service. As shown in Figure 2, most of the TNJ service in the study area is provided to Jersey City and areas north of it. Only the No. 14 serves Bayonne.

A profile of TNJ operations is presented in Table 3. Shown are brief bus route descriptions, route mileages within the study limits, number of round trips on weekdays and weekends, hours of service, bus headways, average running times, and vehicle speeds.

Route No. 14, running from Bergen Point in Bayonne to Exchange Place in Jersey City, covers the longest distance of any other route within the corridor. Both local and express services are provided by this route, with the local service traveling via several local streets and the express service utilizing the New Jersey Turnpike from the Bayonne City line to Downtown Jersey City. The No. 14 Local provides service seven days a week, making 66 round trips on weekdays from 4:50 A.M. to 12:56 A.M., and has headways averaging 15 minutes during peak hours and 19 minutes

Table 2

INVENTORY OF TNJ OPERATED BUSES

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

GARAGE OR ROUTE NUMBER	NUMBER OF BUSES	MANUFACTURER	FUEL USED	PER CENT WITH A/C	AVERAGE AGE	AVERAGE NUMBER OF SEATS
Greenville Garage[1]						
Transit	80	GMC	D	0	10	51
Suburban	46	GMC	D	100	11	49
Union City Garage[1]						
Transit	76	GMC	D	26	8	50
Suburban	33	GMC	D	100	9	49
Parlor	42	GMC	D	100	10	37
Hilton Garage[1]						
Transit	143	GMC	D	15	12	51
Suburban	36	GMC	D	100	11	49
Individual Route Assignments[2]						
1	32	GMC	D	0	10	51
7	22	GMC	D	0	12	51
9	27	GMC	D	0	11	51
14	26	GMC	D	0	8	51
16	3	GMC	D	0	15	51
18	5	GMC	D	0	10	51
31	7	GMC	D	0	8	51
43	11	GMC	D	0	7	51
44	25	GMC	D	0	8	51
122/124	13	GMC	D	25	11	49

(1) 1973 Inventory Report.
(2) Wilbur Smith and Associates 1975 Field Survey. Some buses were observed on more than one route.

Table 3

TNJ BUS SERVICE PROFILE

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ROUTE NUMBER	GENERAL ROUTE DESCRIPTION	WEEKDAY SERVICE											WEEKEND SERVICE			
		ROUTE MILEAGE (1)	ROUND TRIPS (2)	TOTAL BUS MILES	FIRST BUS	LAST BUS	BUS HEADWAYS (Minutes) Peak	BUS HEADWAYS (Minutes) Off-Peak	RUNNING TIME (Minutes) (3) Peak	RUNNING TIME (Minutes) (3) Off-Peak	AVERAGE SPEED (Miles/Hour) Peak	AVERAGE SPEED (Miles/Hour) Off-Peak	DAY	ROUND TRIPS	FIRST BUS	LAST BUS
TNJ #1 to Journal Square	Newark, Communipaw Avenue, JFK Boulevard, Journal Square	2.6	30	156	5:10 A.M.	1:06 A.M.	30	39	11	11	14.1	14.4	Saturday	22	5:45 A.M.	1:06 A.M.
													Sunday	24	6:15 A.M.	1:06 A.M.
													Holiday	25	5:10 A.M.	1:06 A.M.
TNJ #1 to Exchange Place	Newark, Communipaw Avenue, Grand Street, Exchange Place	3.7	34	252	4:15 A.M.	12:20 A.M.	25	38	16	13	13.9	17.3	Saturday	25	4:15 A.M.	12:20 A.M.
													Sunday	25	4:15 A.M.	12:20 A.M.
													Holiday	29	4:15 A.M.	12:20 A.M.
TNJ #7 Jackson	Gates Avenue, Old Bergen Road, Jackson Avenue, Journal Square, Central Avenue, Hudson Place, Hoboken	7.4	68	1,000	5:00 A.M.	12:45 A.M.	12	15	50	47	8.8	9.5	Saturday	58	5:35 A.M	12:45 A.M.
													Sunday	32	6:00 A.M.	12:45 A.M.
													Holiday	63	5:35 A.M.	12:45 A.M.
TNJ #9	Gates Avenue, Danforth Avenue, West Side Avenue, Journal Square, Newark Avenue, Exchange Place	6.4	117	1,498	4:10 A.M.	1:08 A.M.	10	10	39	37	10.0	10.4	Saturday	72	5:30 A.M.	1:10 A.M.
													Sunday	46	5:30 A.M.	1:10 A.M.
TNJ #14 Greenville Local	Bergen Point, Avenue C, Ocean Avenue, Grand Street, Grove Street, Exchange Place	8.1	66	1,069	4:50 A.M.	12:56 A.M.	16	19	45	42	10.8	11.7	Saturday	47	5:10 A.M.	12:56 A.M.
													Sunday	25	6:30 A.M.	12:40 A.M.
TNJ #14 -Greenville Express	Bergen Point, Avenue C, New Jersey Turnpike, Montgomery Avenue, Exchange Place	8.7	19	331	6:20 A.M.	6:25 P.M.	15	N.S.	37	N.S.	14.3	N.S.	N.S.	-	-	-
TNJ #16 Journal Square	Exchange Place, Grove Street, Grand Avenue, Communipaw Avenue, Monticello Avenue, Journal Square	4.4	8	70	6:00 A.M.	7:00 P.M.	60	N.S.	26	N.S.	10.4	N.S.	Saturday	7	11:00 A.M.	6:00 P.M.
TNJ #18 Hudson	Union City, Summit Avenue, Newark Avenue, Exchange Place	3.9	11	86	6:50 A.M.	5:35 P.M.	30	N.S.	26	N.S.	9.1	N.S.	N.S.	-	-	-
TNJ #31 Grove	Exchange Place, Grove Street, Erie Street, Hudson Place, Hoboken	1.9	30	114	5:40 A.M.	8:40 P.M.	20	37	17	13	7.0	8.7	Saturday	21	7:00 A.M.	8:20 P.M.
TNJ #43- Newark to Exchange Place	Newark, Harrison, Kearny, Jersey Newark Turnpike, Newark Avenue, Exchange Place	3.4	17	116	5:30 A.M.	5:00 P.M.	22	N.S.	17	N.S.	12.4	N.S.	N.S.	-	-	-
TNJ #43- Newark to Journal Square	Newark, Harrison, Kearny, Jersey City-Newark Turnpike, Journal Square	1.7	15	51	8:50 A.M.	12:00 M.	N.S.	45	N.S.	11	N.S.	9.3	Saturday	11	6:00 A.M.	8:43 P.M.
TNJ #44 Bergen Line	North Bergen, Union City, New York Avenue, Journal Square	2.4	118	566	4:47 A.M.	1:35 A.M.	7	10	14	14	10.5	10.6	Saturday	79	4:54 A.M.	1:15 A.M.
													Sunday	58	6:58 A.M.	1:15 A.M.
													Holiday	91	4:47 A.M.	1:15 A.M.
TNJ #122/124 Hackensack	Hackensack, Bogota, Ridgefield Park, North Bergen, Union City, Journal Square	2.2	39	172	5:04 A.M.	11:05 P.M.	18	30	12	12	11.5	10.9	Saturday	14	6:28 A.M.	10:30 P.M.
													Holiday	24	5:05 A.M.	11:05 P.M.

Notes: (1) One-way Route distance within study limits.
(2) Round trip total bus miles of route portion within study limits.
(3) Average time to run one-way on route portion within study limits.
N.S. No Service

during off-peak hours. The No. 14 Express presently provides service during rush hours on weekdays only.

The most frequent service is provided by Routes 9 and 44. The No. 9, traveling from Gates Avenue near the Bayonne-Jersey City line to Exchange Place via Journal Square and Newark Avenue makes 117 round trips per weekday from about 4:00 A.M. to 1:00 A.M. the next day. Headways are about ten minutes during both peak and off-peak hours and take approximately 40 minutes to cover its 6.4 mile route. Weekend service is also provided, although reduced in scale.

The No. 44 line, which makes 118 round trips per day, provides service from Journal Square north to North Bergen via New York Avenue. The distance covered within the study limits is 2.4 miles and headways range from seven minutes during rush hours to ten minutes in off-peak hours. Service is provided seven days a week with weekday hours being from 4:45 A.M. to 1:35 A.M.

The No. 7 line starts at Gates Avenue, travels north on Bergen Avenue to Journal Square and continues onto Hudson Place in Hoboken via Palisade Avenue and Paterson Avenue. Weekday service on this line is also frequent with peak-hour headways averaging 12 minutes and off-peak headways, 15 minutes. There is also reduced weekend service. Service on weekdays is from 5:00 A.M. to 12:45 A.M.

Other TNJ routes in the area providing seven-day service include the Route 1 from Newark to Journal Square and Exchange Place and the Route 122/124 combination from Hackensack to Journal Square. Route 1 travels along Communipaw Avenue to JFK Boulevard, at which point alternate buses turn north to Journal Square or continue on

Communipaw Avenue to Exchange Place. Each variation in the No. 1 line provides about 30 round trips on weekdays from 4:15 A.M. to 1:00 A.M. and has headways ranging from 25 to 39 minutes. The No. 122/124 operates 39 round trips on weekdays from 5:00 A.M. to 11:00 P.M.

Other lines providing less service include the No. 16, with only peak hour service on weekdays from Exchange Place to Journal Square, and limited Saturday service; the No. 18 from Union City to Exchange Place during weekday peak hours only; and the Nos. 31 and 43. Route 31 - Grove operates between Exchange Place and the Erie-Lackawanna Terminal in Hoboken through Downtown Jersey City. Route 43 runs two variations. During the rush hours it operates between Newark and Exchange Place and during the balance of the day it terminates at Journal Square.

Fares - The basic fare structure of the TNJ system is based on a $0.40 one-zone fare. In the densely developed urban areas, such as the study corridor, where an exact fare operation exists, a $0.15 fare is charged for the second zone, and $0.05 for the third and each additional zone. Most of the TNJ service within Jersey City on the heavily traveled routes is on a one-zone fare basis. Senior citizens pay one-half of the fare and the State of New Jersey the other half. When the fare is $0.55, $0.65, et cetera, the State pays the extra $0.05.

Commuter services, such as Routes 122 and 124, generally use buses equipped with cash registers, and a fare base that covers several zones. Maximum adult fares for these routes range between $0.95 and $1.50, depending on the length of the route.

Independent Bus Services

The 14 routes operated by the ten independent operators, as shown in Figure 3, include eight operated by IBOA's and two by independent companies. The IBOA's are generally formed by several owner-drivers who hold charters (consents or rights) to provide bus service along a given route. In some cases, nearly 20 individual companies form one association.

In the past there has been very little direct association among independents and often they compete with each other for passengers. The Hudson County Independent Bus Owners' Association, representing all independents in Hudson County, was recently formed. However, its primary concern has been with problems such as the Journal Square Transportation Terminal operation and it has done little to coordinate bus schedules or service areas between the IBOA's.

In most cases, the individual associations do not own any buses or hold any charters. They generally perform a variety of services for member companies including minor repair work on buses, purchase of fuel, negotiations of contracts with drivers' unions and handling of all disputes, operation of monthly revenue pools, preparation of schedules, supervision of bus operations, and handling necessary contacts with government and public groups.

The basic adult fares of the Associations are generally $0.35 for the first zone, as shown in Table 4. Second zone fares are an additional $0.10. The South Hudson County Boulevard IBOA, North Hudson County IBOA, and Hudson Bus Transportation Company are subsidized and recently received fare increases to $0.40 and $0.15 for first and second zones, respectively. Special runs are made by

Table 4

BASIC FARES OF THE IBOA ROUTES SERVING STUDY AREA

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ASSOCIATION	FIRST ZONE FARE	MAXIMUM TRIP FARE
A&C IBOA	$0.35	$0.35
Bergen Avenue IBOA	$0.35	$0.35
Broadway IBOA	$0.35	$0.35
Central Avenue IBOA	$0.35	$0.35
Downtown Bus Company	$0.35	$0.45
Hudson Bus Transportation Company	$0.40	$0.55
Lafayette and Greenville IBOA	$0.35	$0.35
Montgomery and West Side IBOA	$0.35	$0.35
North Hudson Boulevard IBOA(1)	$0.40	$0.55
South Hudson County Boulevard IBOA(1)	$0.40	$0.55

(1) Only buses being subsidized have these fares. Other buses maintain $0.35 and $0.45 fare rates for one and two zone operations.

SOURCE: First Phase Report. Updated through contacts with Bus Owners.

several of the Associations to industrial areas or shopping centers at a fee of $0.45. The Associations also sell school tickets to students, usually at half-fare, and participate in the senior citizen half-fare program instituted by the State in September, 1973.

A profile of the services provided by the independent bus owners is shown in Table 5. Information shown includes brief route descriptions, the daily service provided, number of trips, average headways, running times, and average vehicle speeds. An inventory of the buses operated by the various independent bus companies is shown in Table 6.

Presented on the following pages are summary statements concerning the characteristics of the operating groups in the Jersey City-Bayonne Corridor.

A&C Bus Owners' Association - This Association was recently formed by two Montgomery and West Side IBOA bus owners by purchasing the Marion Line from the Hudson Bus Transportation Company. The Association operates seven buses on two routes and employs ten drivers and one mechanic. Operations are out of the same garage as the Montgomery and West Side Line at 395 Danforth Avenue, Jersey City.

The two routes operated by the A&C IBOA include the Marion Line, which runs from Journal Square along residential areas to Pacific Avenue in Jersey City, and the Shopper Line, which is from Journal Square to the Great Eastern and Two Guys Shopping Centers. The Marion Line is operated from 5:55 A.M. to 8:30 A.M. at 25-minute headways on weekdays only and the Shopper Line from 8:30 A.M. to 10:10 P.M. seven days a week. The Shopper Line makes 42 round trips on weekdays, with headways of 20 minutes.

Table 5

INDEPENDENT BUS OWNERS SERVICE PROFILE

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

			WEEKDAY SERVICE											WEEKEND SERVICE			
OPERATOR	ROUTE NO. OR NAME	GENERAL ROUTE DESCRIPTION	ROUTE MILEAGE (1)	ROUND TRIPS	TOTAL BUS MILES (2)	FIRST BUS	LAST BUS	BUS HEADWAY (Minutes) Peak	BUS HEADWAY (Minutes) Off-Peak	RUNNING TIME (Minutes) (3) Peak	RUNNING TIME (Minutes) (3) Off-Peak	AVERAGE SPEED (Miles/Hour) Peak	AVERAGE SPEED (Miles/Hour) Off-Peak	DAY	ROUND TRIPS	FIRST BUS	LAST BUS
A&C IBOA	Marion	Journal Square, Sip Avenue, Broadway, Rt. 1-9, Duncan Avenue, Pacific Avenue, Grand Street	6.5	6	78	5:55 A.M.	8:30 A.M.	25	N.S.	34	N.S.	11.5	N.S.	N.S.	-	-	-
A&C IBOA	Shopper	Journal Square, Sip Avenue, Broadway, Rt. 1-9, Duncan Avenue, Rt. 440, Great Eastern	3.7	42	310	8:30 A.M.	10:10 P.M.	20	20	26	26	8.5	8.5	Saturday Sunday	41 8	8:30 A.M. 11:00 A.M.	10:10 P.M. 6:00 P.M.
Bergen Avenue I.B.O.A.	Bergen	Garfield Avenue, Old Bergen Road, Bergen Avenue, Journal Square	3.8	205	1,538	5:15 A.M.	12:35 A.M.	6	6	24	23	9.4	9.8	Saturday Sunday	161 112	5:15 A.M. 5:15 A.M.	12:35 A.M. 12:35 A.M.
Blue & White Bus Company	#97	Elmwood Park, Rochelle Park, Lodi, Woodridge, Secaucus, Union City, Journal Square	2.1	16	67	5:00 A.M.	11:00 P.M.	30	90	10	10	12.6	12.6	Saturday	6	6:45 A.M.	8:15 P.M.
Broadway Bus I.B.O.A.	Broadway	JFK Boulevard, 55 Street, Broadway,1 St.in Bayonne	4.0	119	952	6:00 A.M.	12:35 A.M.	7	10	26	27	9.4	9.1	Saturday Sunday	107 69	6:00 A.M. 6:00 A.M.	12:35 A.M. 12:35 A.M.
Central Avenue I.B.O.A.	Central Avenue Gates	Union City, Central Avenue, Journal Square, Summit Avenue, Garfield Avenue, Gates Avenue	7.7	76	1,170	5:30 A.M.	12:00 M.	4-6	7	47	46	9.7	10.0	Saturday Sunday	61 31	6:15 A.M. 7:00 A.M.	11:00 P.M. 11:00 P.M.
Central Avenue I.B.O.A.	Central Avenue CNJ Terminal	Union City, Central Avenue, Journal Square, Summit Avenue, Johnston Avenue, CNJ Terminal	6.0	76	912	5:30 A.M.	12:00 M.	4-6	7	40	38	8.9	9.4	Saturday Sunday	61 33	6:00 A.M. 6:30 A.M.	11:00 P.M. 11:00 P.M.
DeCamp Bus Lines	#22	Caldwell, Verona, Montclair, Bloomfield, Belleville, Kearny, Journal Square	1.7	17	58	5:30 A.M.	1:45 A.M.	30	120	11	10	9.3	10.2	Saturday Sunday	8 6	6:40 A.M. 6:40 A.M.	1:45 A.M. 1:45 A.M.
Downtown Bus Company	#5	Journal Square, Newark Avenue, 16th Street, Grove Street, Washington Street, Hoboken	1.4	61	171	5:50 A.M.	1:00 A.M.	7	10	15	13	5.8	6.7	Saturday Sunday	48 30	6:15 A.M. 7:35 A.M.	12:05 A.M. 12:05 A.M.
Downtown Bus Company	#6	Journal Square, Newark Avenue, 16 Street, Henderson Street, 8 Street, Jersey Avenue	2.1	90	378	5:40 A.M.	12:15 A.M.	7	10	17	14	7.4	9.0	Saturday Sunday	50 45	6:10 A.M. 6:25 A.M.	12:00 M. 11:50 P.M.
Hudson Bus Transportation Company	#2	Secaucus, Tonnele Avenue, JFK Boulevard, Journal Square	2.6	35	182	5:20 A.M.	10:50 A.M.	10	20	13	10	12.5	15.3	Saturday Sunday	20 22	5:45 A.M. 6:30 A.M.	12:50 A.M. 12:50 A.M.
Lafayette & Greenville I.B.O.A.	L&G Exchange Place	Exchange Place, Pacific Avenue, Ocean Avenue, Merrit Street	5.0	150	1,500	5:05 A.M.	12:00 M.	5	10	28	23	10.9	13.3	Saturday Sunday	104 70	5:20 A.M. 6:00 A.M.	11:40 P.M. 11:40 P.M.
Lafayette & Greenville I.B.O.A.	L&G Journal Square	Journal Square, Summit Avenue, Ocean Avenue, Merritt Street	3.8	89	676	5:05 A.M.	12:00 M.	5	10	23	23	9.9	10.1	Saturday Sunday	64 55	5:20 A.M. 6:00 A.M.	11:40 P.M. 11:40 P.M.
Montgomery & West Side I.B.O.A.	M&W	Danforth Avenue, West Side Avenue, Montgomery Street, Exchange Place	4.5	108	972	5:30 A.M.	9:00 P.M.	5	12	28	21	9.6	13.2	Saturday Sunday	48 24	7:00 A.M. 8:00 A.M.	8:00 P.M. 7:30 P.M.
North Hudson Blvd. I.B.O.A.	#1 Nungesser's	Journal Square, JFK Boulevard, Union City	2.1	132	554	5:00 A.M.	1:30 A.M.	6	15	11	11	11.5	11.0	Saturday Sunday	78 55	5:40 A.M. 6:10 A.M.	2:30 A.M. 1:30 A.M.
South Hudson Blvd.I.B.O.A.	#10 Local	West 1 Street in Bayonne,JFK Boulevard, Journal Square	7.5	180	2,700	5:00 A.M.	1:15 A.M.	4	6-8	37	35	12.1	13.0	Saturday Sunday	116 96	5:00 A.M. 6:00 A.M.	1:45 A.M. 12:40 A.M.
South Hudson Blvd.I.B.O.A.	#10 Express	West 1 Street in Bayonne,JFK Boulevard, Journal Square	7.5	20	300	7:00 A.M.	6:20 P.M.	4	N.S.	33	N.S.	13.9	N.S.	N.S.	-	-	-

Notes: (1) One-way route distance within study limits.
(2) Round-trip total bus miles of route portion within study limits.
(3) Average time to run one-way on route portion within study limits.
N.S. No Service.

Table 6

INVENTORY OF BUSES OPERATED BY
INDEPENDENT BUS OWNERS IN REGULAR SERVICE
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

BUS COMPANY	NUMBER OF BUSES		MANUFACTURER	FUEL USED	PER CENT WITH A/C	AVERAGE AGE	AVERAGE NUMBER OF SEATS
	Local	Intra-State					
A&C IBOA	7	0	GMC	D	0	19	43
Bergen Avenue IBOA	22	0	GMC	D	0	18	45
Broadway IBOA	26	0	GMC	D	0	22	40
Central Avenue IBOA	24	0	GMC	D	0	13	45
Downtown Bus Company	15	0	GMC	D	0	10	46
Hudson Bus Transportation Company	20	18	GMC	D	34	13	49
Lafayette and Greenville IBOA	23	0	GMC	D	0	13	46
Montgomery and West Side IBOA	15	0	GMC	D	0	18	44
North Hudson Boulevard IBOA	28	13	GMC	D	11	10	52
South Hudson Boulevard IBOA	38	18	GMC	D	0	18	48

SOURCE: 1974 PUC Report.

Bergen Avenue Bus Owners' Association - This Association consists of 20 companies operating 22 buses, most of which are between 15 and 20 years old with capacities ranging from 36 to 51 seats. Employees of the Association include 36 full-time drivers, four part-time drivers, four full-time dispatchers, and two full-time office workers.

The Bergen Avenue Association's basic route is from its terminal on Broadway in Bayonne to Journal Square, Jersey City. During weekdays, the Association makes industrial runs from its Bayonne terminal and from Journal Square to the Western Electric Company (WECO) plant in Kearny. Another special run is made twice daily between Journal Square and the Bayonne Naval Base.

The basic route makes over 200 round trips on weekdays from 5:15 A.M. to 12:35 A.M. and has headways averaging six minutes during both peak and off-peak hours. On Saturdays and Sundays, service is reduced to 161 and 112 round trips, respectively.

Broadway Bus Owners' Association - The Broadway Bus Owners' Association consists of 20 companies, each of which generally owns a single bus, usually owner-operated. The Association employs a full-time secretary and a dispatcher. Some bus owners hire drivers to operate their buses. All non-owner drivers are union members. No mechanics are retained and repairs are done at other garages.

The Broadway Association's Boulevard route operates from the Association's terminal at 1329 John F. Kennedy Boulevard in Jersey City to East First Street in Bayonne, via 54th-55th Streets and Broadway. Three route variations are operated twice a day to serve

the Navy Base, Constable Hook area, and students at Bayonne High School. The commercial center of Bayonne is served by this route from both the north and south ends of Bayonne.

This route makes 119 round trips on weekdays over a distance of 4.0 miles. Service is available from 6:00 A.M. to 12:35 A.M. with an average headway of seven minutes during peak hours and ten minutes during off-peak hours. Weekend service is provided during the same hourly periods, but headways are increased and fewer trips are made.

Central Avenue Bus Owners' Association - This Association consists of 18 companies running a total of 24 buses. Two routes are operated by the Central Avenue Bus Owners' Association and are identical from the Union City terminus of Fifth Street through Journal Square to Communipaw and Garfield Avenues in Jersey City. At this intersection, alternate buses go either to the abandoned Central Railroad of New Jersey ferry terminal on Johnston Avenue or to Gates Avenue near the Bayonne City Line.

Major generators along the two Central Avenue lines include the Jersey City Medical Center, the Journal Square Transportation Center, the Fine Arts Library, as well as several schools and residential developments. The line to the old C.N.J. Ferry Terminal serves an area proposed to be developed as a residential community as part of the Liberty Harbor Development.

Each line provides 76 round trips on weekdays from 5:30 A.M. to 12:00 Midnight and has four to seven-minute headways on peak and off-peak hours, respectively. Both lines provide Saturday and Sunday service.

Downtown Bus Company - The Downtown Bus Company operates 15 buses over two franchised lines originating at Journal Square in Jersey City. The Company also provides intrastate and interstate charter service. The two routes, which are designated as Number 5 and Number 6, are actually variations on a single basic route. Route 5 operates from Journal Square on Bergen Avenue up to the industrial areas near the Holland Tunnel, then through the main business district of Hoboken via Washington Street, terminating at 19th Street and Willow Avenue in Weehawken. This line runs with closed doors on Washington Street in Hoboken, and is not allowed to pick up or discharge any local passengers. The Company has requested permission to provide service in this area, but is opposed by TNJ and other operators.

Route 6 is a local operation over the same streets as Route 5 from Journal Square to 16th and Grove Streets in Jersey City, from which point it operates in the industrial areas around Holland Tunnel to Henderson and 8th Streets in the Downtown area of Jersey City.

Downtown Routes 5 and 6 run 61 and 90 round trips, respectively, on weekdays. Service is provided from around 6:00 A.M. to after midnight on seven-minute headways during peak hours and 10-minute headways in off-peak hours. Saturday and Sunday service is provided, although reduced to about two-thirds and one-half of weekday service levels.

The Downtown Bus Company terminal is on Summit Avenue with the Company's office over the garage. Only minor repairs are done in the shop with major motor overhauls done outside the shop by other garages.

Hudson Bus Transportation Company - The Hudson Bus Transportation Company operates a relatively modern fleet of 38 buses, of which 20 are transit-type buses, 16 are suburban buses, and two are parlor-cruiser buses.

Only one intrastate route is operated by Hudson Bus Transportation Company. This route runs from Journal Square to Secaucus via JFK Boulevard, Tonnele Avenue, and Country Road. The line operates 35 round trips on weekdays from 5:20 A.M. to 12:50 A.M. on headways of 10 and 20 minutes during peak and off-peak hours, respectively.

Lafayette and Greenville Bus Owners' Association - This Association consists of 19 companies operating 23 buses. Franchises and buses of ten additional companies have been bought up by the Association in recent years as they became available.

All trips begin at the Merritt Street terminal in the Greenville section of Jersey City near the Bayonne City Line. Both local and express services are offered between the terminal and Journal Square and between the terminal and Exchange Place. Two buses serve the large Western Electric Company plant in Kearny twice a day.

The Lafayette and Greenville Association provides service seven days a week and on weekdays runs 150 round trips to Exchange Place and 89 to Journal Square. Service is provided from 5:05 A.M. to 12:00 Midnight at headways ranging from 5 to 10 minutes on peak and off-peak hours, respectively.

Montgomery and West Side Bus Owners' Association - Fourteen individual companies comprise the Montgomery and West Side Bus Owners' Association. The fleet consists of 15 buses. Of these, 14 belong to members and make up the regular fleet. The extra one is a spare owned by the Association and used as a substitute for buses with equipment breakdowns.

Office and garage facilities are located at the terminal at 395 Danforth Avenue, Jersey City. The shop is leased to a maintenance man who services the buses once per month and renders breakdown maintenance.

This Association operates a route from its terminal to Exchange Place and serves such major generators as Roosevelt Stadium, the Great Eastern and Two Guys shopping centers, Lincoln Park, the Jersey City Medical Center and City Hall.

Service to these areas is provided on weekdays from 5:30 A.M. to 9:00 P.M., on Saturdays from 7:00 A.M. to 8:00 P.M., and on Sundays from 8:00 A.M. to 7:30 P.M. Weekday base headways average 12 minutes and are reduced to five minutes during peak hours.

North Hudson Boulevard Bus Owners' Association - This Association is controlled by two groups. The first group is the Capitani family, whose interests in the North Hudson Boulevard Bus Owners' Association include the Baram Transportation Company, with 7 buses and the Rex Bus Company, with 9 buses. The second group is the Englehardt family, which has 21 buses under various names of individuals related to the family. Under the joint ownership of these two groups, the North Boulevard Transportation Company, which owns no buses, has an ICC certificate for the operation of bus service

between Journal Square in Jersey City, and the Port Authority Bus Terminal in New York City, and between Nungessers Terminal in North Bergen and the Port Authority Bus Terminal.

Since 1966 when the present structure of this Association emerged, there have been four other independent operators who have maintained service along the intrastate portions of the North Hudson Boulevard route between the Nungessers Terminal in North Bergen and Journal Square, Jersey City.

The "independent" intrastate operators share a common fare structure with the North Hudson Boulevard Bus Owners' Association. They operate without schedule along the same route as the North Hudson Boulevard scheduled intrastate service.

Local service along JFK Boulevard between Journal Square and Nungessers Terminal is maintained on a base headway of 15 minutes with peak hour service reduced to 6-minute headways. About 130 round trips are made on weekdays between 5:00 A.M. and 1:30 A.M. In Jersey City, the area served by the route along JFK Boulevard is predominantly residential.

The Rex and Baram Bus Companies, under Capitani ownership, operate out of a terminal and garage on Tonnele Avenue in Jersey City. The Engelhardt interests base their buses at a garage in Hoboken.

South Hudson County Boulevard Bus Owners' Association - There are 20 bus companies in this Association. Fourteen of these companies are owned by the Drogin family, and six are independents. The Association, although it owns no property, does own one of the companies. The Association operates an interstate route (No. 55), a local route

(#10), an express route (#10 express), and three industrial runs. Thirty-six buses are operated by the Association in local route service and 18 in interstate service.

Local Route No. 10 runs from the Association's Boulevard and 2nd Street Terminal in Bayonne through residential areas along JFK Boulevard to Journal Square in Jersey City and returns by the same route. The express route, which runs only during peak hours, traverses the same route as the local bus. However, the Association limits the number of stops in order to provide faster service to commuters.

The three industrial routes operated by South Hudson County Boulevard Bus Owners' Association include:

1. Western Electric Company. From 2nd Street, Bayonne to WECO, Kearny (two buses).
2. Western Electric Company - From Journal Square to WECO (two buses).
3. Navy Base - From Journal Square to the Naval Base (one bus).

Weekday service on the local line is 180 round trips from 5:00 A.M. to 1:15 A.M. Headways are scheduled every four minutes during peak hours and 6 to 8 minutes on off-peak periods. Weekend service is provided, although reduced. The express bus runs during weekday peak hours only and makes 20 round trips daily.

The Association's terminal is located on both sides of Hudson Boulevard between First and Second Streets near the Bayonne Bridge.

Existing Bus Ridership

Studies to determine the effectiveness of an existing bus network should identify areas where the network is heavily utilized as well as the bus lines serving high and low volumes of passengers. Toward this goal, several surveys were conducted.

On-Board Counts - This survey was conducted by the Consultant's staff riding buses on each of the routes in the study area providing local service. Each bus route was ridden a minimum of two round trips during each of four observation periods, including: morning peak hours (6:00 to 9:00 A.M.); midday off-peak hours (9:00 A.M. to 3:00 P.M.); evening peak hours (3:00 to 6:00 P.M.); and evening off-peak hours (after 6:00 P.M.). Table 7 shows the number of round trips surveyed on each line by observation periods and the number of round trips made by that line during the same period.

Data obtained included route and bus numbers, direction of travel, number of passengers boarding and leaving the buses at each stop, travel times, and comments on major generators and delays. Data were also collected on the general location of bus stops along a given route and the existence of any amenities, such as benches and shelters.

Some bus lines run route diversions to special generators; e.g., the Western Electric plant in Kearny, New Jersey. In most cases, only two round trips per day were made for these services. Therefore, on-board counts on these routes were not conducted and average patronage figures were obtained from the bus companies.

Maximum Load-Point Counts - In order to get a better picture of dependence on the bus network, it was necessary to expand the

Table 7

COMPARISON OF ROUND TRIPS SCHEDULED TO TRIPS SURVEYED

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

BUS ROUTE	A.M. PEAK TRIPS (6:00-9:00 A.M.)		MIDDAY OFF-PEAK TRIPS (9:00 AM-3:00 PM)		P.M. PEAK TRIPS (3:00-6:00 PM)		P.M. OFF-PEAK TRIPS (6:00-10:00 PM)		TOTAL TRIPS (6:00 AM-10:00 PM)	
	(1) Scheduled	Surveyed	(1) Scheduled	Surveyed	(1) Scheduled	Surveyed	(1) Scheduled	Surveyed	(1) Scheduled	Surveyed
TNJ #1 to Exchange Place	7	2	9	2	7	1	6	1	29	6
TNJ #1 to Journal Square	7	2	9	3	7	2	5	1	28	8
TNJ #7	18	1	23	2	18	2	12	1	71	6
TNJ #9	26	2	33	4	26	2	17	1	102	9
TNJ #14 Local	19	2	19	2	12	2	14	1	64	7
TNJ #14 Express	17	2	-	-	18	1	-	-	35	3
TNJ #16	4	1	-	-	4	2	-	-	8	3
TNJ #18	5	2	-	-	6	2	-	-	11	4
TNJ #31	8	2	10	3	8	2	4	1	30	8
TNJ #43 to Journal Square	-	-	7	4	-	-	5	1	12	5
TNJ #43 to Exchange Place	9	2	-	-	8	2	-	-	17	4
TNJ #44	23	2	34	4	26	2	22	1	105	9
TNJ #122/124	11	2	11	4	10	2	7	1	39	9
A&C IBOA(2)	-	2	-	4	-	2	-	1	48	9
Bergen Avenue IBOA	46	2	69	4	36	2	34	1	185	9
Broadway Bus IBOA(2)	-	2	-	4	-	2	-	1	119	9
Central Avenue IBOA to Gates Avenue	17	2	25	4	14	2	14	1	70	9
Central Avenue IBOA to CNJ Terminal	19	2	26	4	15	2	14	1	74	9
Downtown Bus Company #5	14	2	21	4	11	2	8	1	54	9
Downtown Bus Company #6	19	2	25	4	19	2	18	1	81	9
Hudson Bus Transportation Company #2(2)	-	2	-	4	-	2	-	1	35	9
Lafayette and Greenville IBOA to Journal Square	15	2	31	4	18	2	20	1	84	9
Lafayette and Greenville IBOA to Exchange Place	37	2	45	4	35	2	23	1	140	9
Montgomery and West Side IBOA(2)	-	2	-	4	-	2	-	1	108	9
North Hudson Boulevard IBOA #1	25	2	44	4	33	2	21	1	123	9
South Hudson County Boulevard IBOA #10 Local(2)	-	2	-	4	-	2	-	1	180	9
South Hudson County Boulevard IBOA #10 Express(2)	-	2	-	-	-	2	-	-	20	4

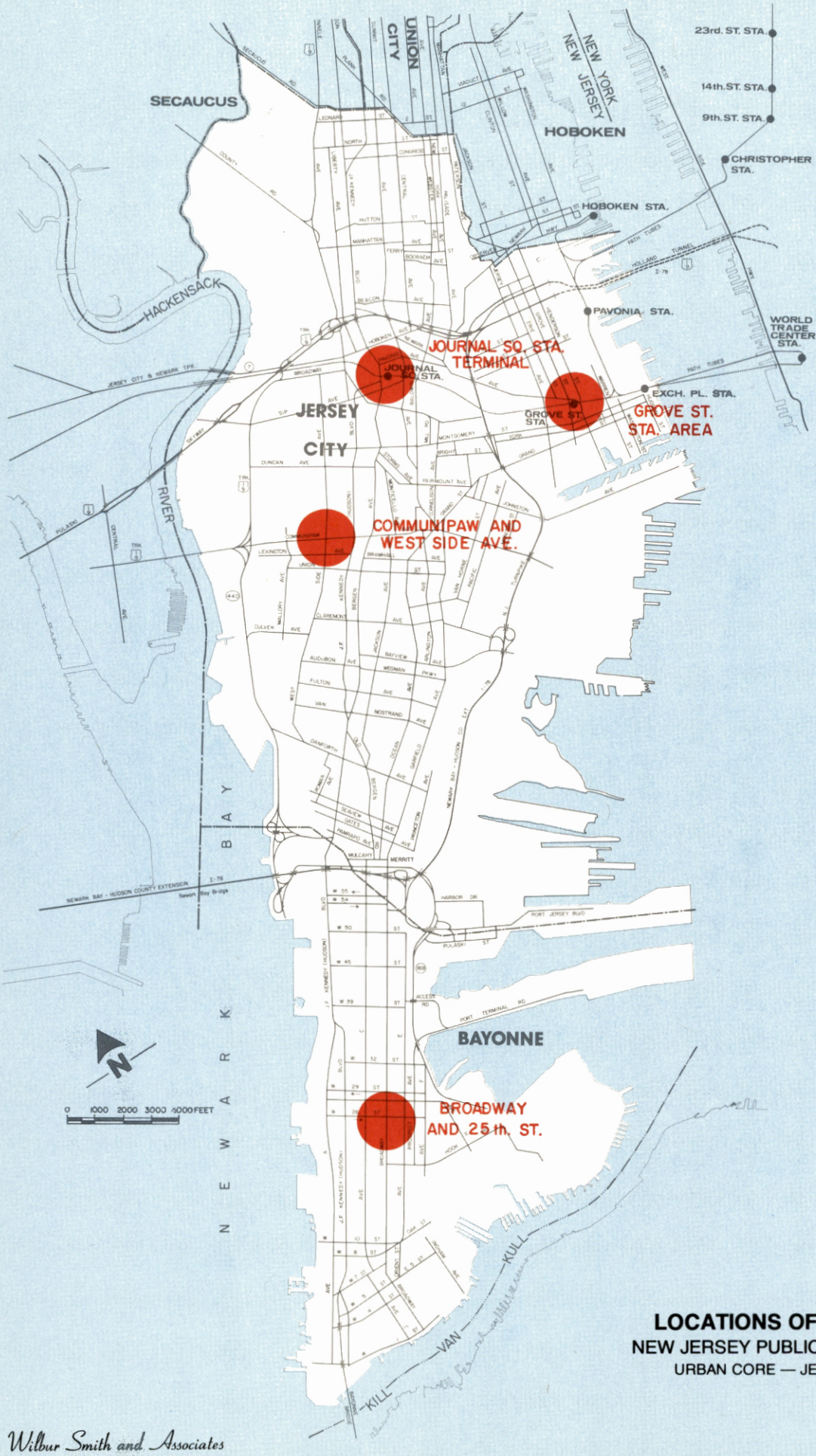
Notes: (1) Trips within period only.
(2) No schedule made available.

samples of boarding and leaving passengers collected during the on-board counts to represent full activity for each of the four hourly periods as well as the whole day. For this purpose, Maximum Load-Point (MLP) counts were conducted, which give an indication of the hourly bus user variations.

Ideally, the location of Maximum Load-Point counts would be where the buses operating over the subject bus route carry their maximum number of passengers. In practice, however, this point varies by time of day and the MLP locations were selected to facilitate count completion and where the number of on-board passengers was reasonably close to the maximum load carried.

For local bus routes, counts were conducted for a major portion of the "bus-day" (6:00 A.M. to 10:00 P.M.) at the TNJ Journal Square Terminal, the PATH Grove Street Station area, the corner of Communipaw and West Side Avenues, and at Broadway and 25th Street, as shown in Figure 6. The bus routes surveyed at each of the above locations are shown in Table 8. Counts were taken of passengers aboard all buses when they arrived at these areas to discharge passengers and again after the doors were closed. The time of observation, route and destination,and bus numbers were noted. Port Authority personnel also conducted counts at the new Port Authority terminal in Journal Square, obtaining similar information and these data were made available for use in this study.

Derivation of Expansion Factors - Factors for expansion of the sample data were calculated for each observation period; i.e., A.M. peak, midday off-peak, P.M. peak, and evening off-peak.



LOCATIONS OF PEAK-LOAD COUNTS
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY

Wilbur Smith and Associates

FIGURE 6

Table 8

BUS ROUTES SURVEYED AT MAXIMUM LOAD POINTS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ABANDONED JOURNAL SQUARE TNJ TERMINAL

TNJ #7
TNJ #9
TNJ #16
TNJ #43 to Journal Square
TNJ #44
TNJ #122/124

GROVE STREET PATH STATION AREA

TNJ #14 Local and Express
TNJ #18
TNJ #31
TNJ #43 to Exchange Place
Lafayette and Greenville to Exchange Place

WEST SIDE AND COMMUNIPAW AVENUES

TNJ #1 to Journal Square and Exchange Place
Montgomery and West Side

BROADWAY AND 25TH STREET

Broadway Bus

NEW JOURNAL SQUARE PATH TERMINAL

A&C Marion and Shopper
Bergen Avenue
Central Avenue to Gates and CNJ Terminal
Downtown Bus #5 and #6
Hudson Bus #2 to Secaucus
Lafayette and Greenville to Journal Square
North Hudson Boulevard #1 to Nungessers
South Hudson County Boulevard #10 Local and Express

For TNJ Route #9, for example, expansion factors were computed from the MLP data collected at the TNJ Journal Square terminal. The MLP counts by direction were summed by observation period. The MLP counts of the two buses whose arrival times at the terminal corresponded with those of the two sample trips were also summed by direction and by observation period in the same manner.

The total MLP counts, by direction and observation period, were divided by the sum of the two MLP counts representing the sample trips to result in the directional factors for each observation period shown in Table 9.

Division of Route Sectors - Each bus route was divided into several sectors, each chosen to reflect variations in population densities, land uses, and intersections with other bus lines. Strip maps of each route were made showing the various sector limits and the total ons and offs by observation periods.

Typical Weekday Passenger Boarding and Leaving Activity - The number of passengers getting on and off the sample buses were summarized by time period, direction, and route sector. Total on and off movements for each route sector were calculated by multiplying the sample boarding and leaving passengers by the factors derived from the Maximum Load-Point counts.

The resultant data provide an estimate of the total bus activity for a typical weekday on each route by observation period, direction of travel, and route sector. Shown in following figures are strip maps of some bus lines graphically depicting the resulting passenger volumes.

Table 9

EXPANSION FACTORS BY OBSERVATION PERIOD
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

BUS ROUTE	TRAVEL DIRECTION	GROWTH FACTOR A.M. PEAK (6-9 AM)	Midday OFF-PEAK (9AM-3PM)	P.M. PEAK (3-6 PM)	P.M. OFF-PEAK (6-10 PM)
TNJ #1	Eastbound	3.5	8.2	5.4	2.2
	Westbound	7.4	7.9	15.7	11.5
TNJ #7	Northbound	12.1	7.1	8.2	29.4
	Southbound	10.6	14.4	9.3	14.5
TNJ #9	Northbound	7.0	10.2	7.8	12.5
	Southbound	3.9	9.1	7.1	13.2
TNJ #14 Local	Northbound	5.1	7.3	3.4	8.0
	Southbound	9.5	7.3	3.4	8.0
TNJ #14 Express	Northbound	4.9	N.S.	5.2	N.S.
	Southbound	4.5	N.S.	7.0	N.S.
TNJ #16	Eastbound	1.4	N.S.	1.5	N.S.
	Westbound	3.4	N.S.	2.2	N.S.
TNJ #18	Northbound	1.4	N.S.	3.2	N.S.
	Southbound	2.9	N.S.	1.6	N.S.
TNJ #31	Northbound	6.5	4.4	3.5	4.0
	Southbound	6.5	4.4	3.5	4.0
TNJ #43 to Journal Square	Eastbound	N.S.	2.4	N.S.	11.0
	Westbound	N.S.	3.1	N.S.	3.3
TNJ #43 to Exchange Place	Eastbound	2.2	N.S.	7.7	N.S.
	Westbound	4.5	N.S.	2.7	N.S.
TNJ #44	Northbound	10.2	9.5	20.5	31.8
	Southbound	8.4	7.3	28.2	5.0
TNJ #122/124	Northbound	14.9	1.8	2.9	4.7
	Southbound	2.6	3.1	2.2	5.3
A&C IBOA	Northbound	16.8	5.7	6.7	-
	Southbound	19.0	4.7	7.5	-
Bergen Avenue IBOA	Northbound	23.5	21.4	61.2	-
	Southbound	112.5	14.2	62.9	-
Broadway IBOA	Northbound	7.0	16.0	12.6	30.8
	Southbound	13.6	12.1	17.7	26.6
Central Avenue IBOA to Gates Avenue	Northbound	0.6	0.9	4.0	-
	Southbound	2.5	7.9	4.1	-
Central Avenue IBOA to CNJ Terminal	Northbound	5.5	5.6	5.7	-
	Southbound	8.6	3.0	6.6	-
Downtown Bus Company #5	Eastbound	11.4	4.8	4.1	-
	Westbound	5.2	2.8	4.8	-
Downtown Bus Company #6	Eastbound	9.5	4.8	3.1	-
	Westbound	9.5	4.8	3.1	-
Hudson Bus Transportation Company #2	Northbound	6.9	4.0	2.8	-
	Southbound	3.3	3.1	6.3	-
Lafayette and Greenville IBOA to Journal Square	Northbound	4.3	4.6	7.7	-
	Southbound	2.7	4.2	7.1	-
Lafayette and Greenville IBOA to Exchange Place	Northbound	16.4	9.3	11.0	20.6
	Southbound	12.7	9.5	21.5	28.6
Montgomery and West Side IBOA	Northbound	25.2	9.1	15.1	6.8
	Southbound	14.2	9.4	16.3	7.0
North Hudson Boulevard IBOA #1	Northbound	14.2	8.5	15.6	-
	Southbound	18.2	10.6	5.6	-
South Hudson County Boulevard IBOA #10 Express	Northbound	20.4	N.S.	-	N.S.
	Southbound	-	N.S.	10.9	N.S.
South Hudson County Boulevard IBOA #10 Local	Northbound	9.9	36.6	47.2	-
	Southbound	40.1	21.0	33.7	-

N.S. No Service.

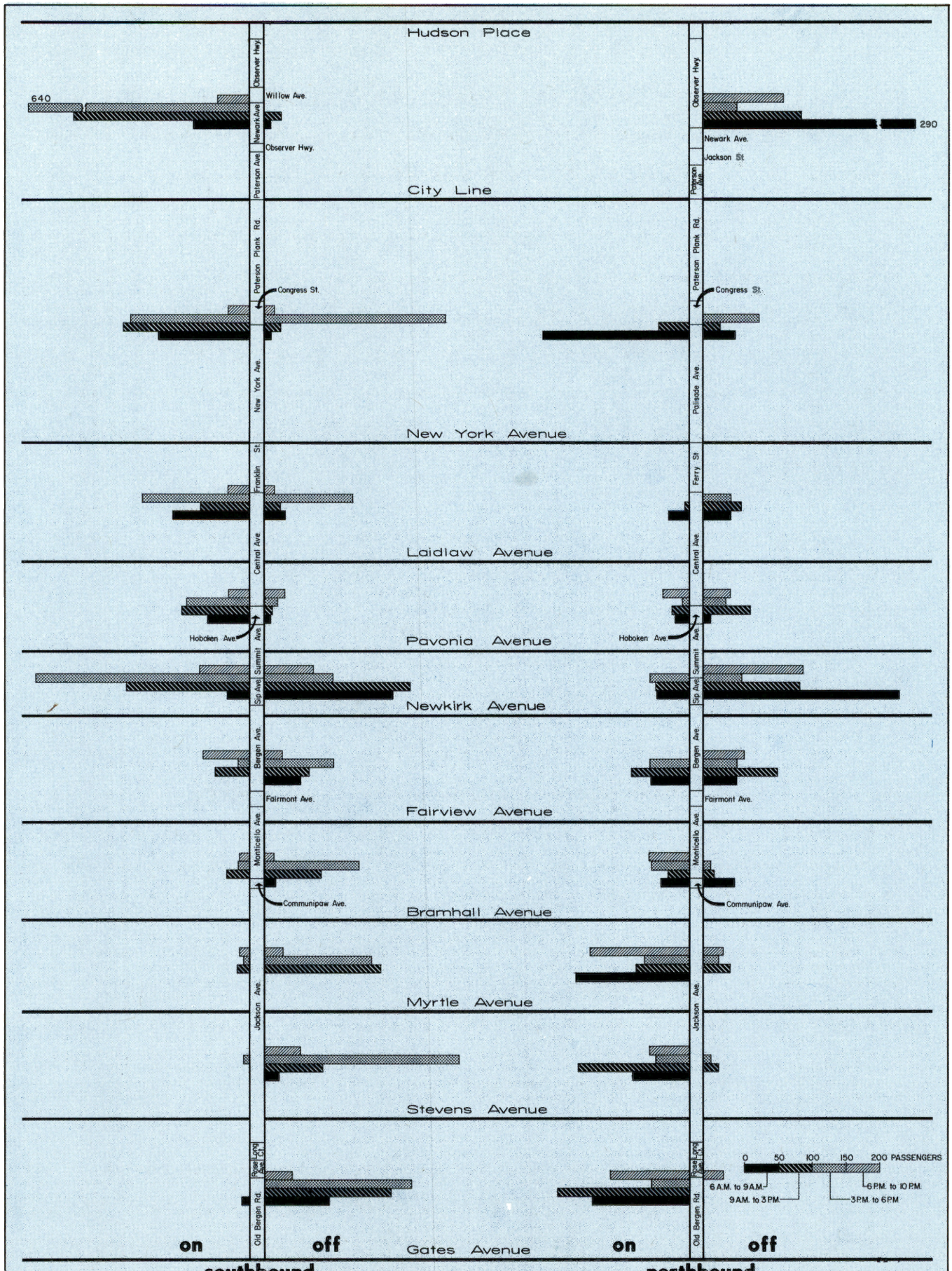
Figure 7 shows the on/off passenger activity on TNJ Route No. 7 for the northbound and southbound directions. This route, which travels from Gates Avenue in Jersey City to Hudson Place in Hoboken, was divided into ten sectors.

During the morning peak hours, southbound direction boarding volumes were heavier than leaving volumes from Hudson Place to the Journal Square area. In this area, which is in the sector bounded by Pavonia Avenue and Newkirk Street, most of the passengers left the buses to go to work in this area or to take the PATH system to New York City, with few remaining for the trip to Gates Avenue.

Northbound morning peak hour activity was somewhat different with most boardings occurring between Gates and Bramhall Avenues. From Bramhall Avenue to New York Avenue, boarding and leaving activity was about equal as it appeared that transferring occurred between this route and the many bus routes traveling in the east-west direction. Again, many passengers left the buses in the Journal Square area.

Evening peak hour passenger patterns were generally the reverse of the morning peak hour pattern. Where persons were boarding in the northbound direction in the morning, they were leaving in the southbound direction in the evening. Passenger volumes throughout the route in the evening were generally higher because of an increase in activities in the study corridor as more shoppers and other travelers were added to the commuters during the P.M. peak.

Off-peak passenger movements, which are usually for shopping and recreation purposes, were quite predictable as persons were



PASSENGER MOVEMENT PROFILE — TNJ #7

NEW JERSEY PUBLIC TRANSPORTATION STUDY

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FIGURE 7

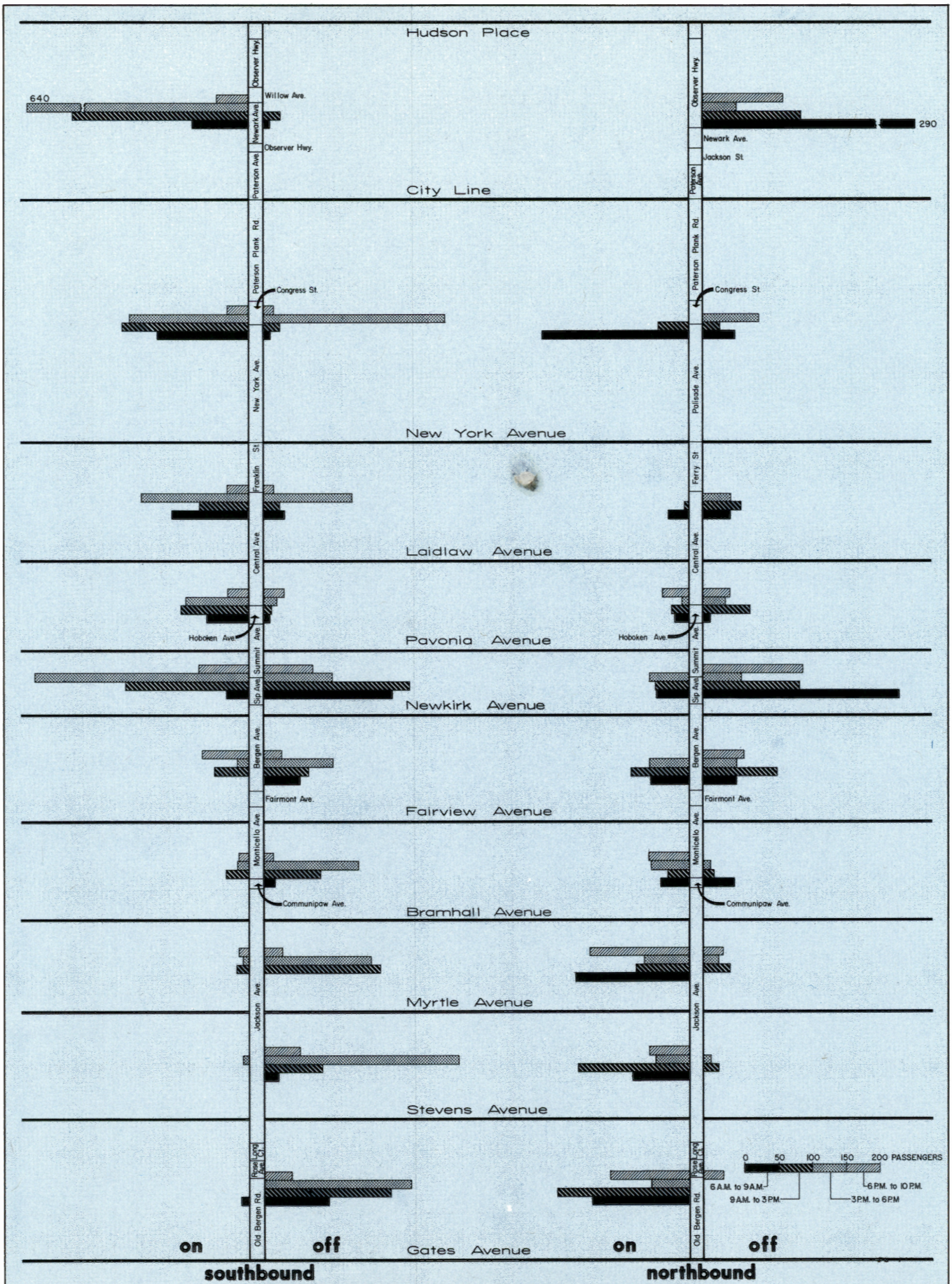
generally boarding the buses toward the Journal Square area and leaving on trips away from that area. Within the Jorunal Square sector, the heaviest on and off activity was observed.

Shown in Figure 8 is the passenger activity for a typical weekday on TNJ Route 9. The patterns shown are very similar to those of TNJ Route 7. Most boarding occurred on trips destined to the Journal Square area with departures dominating trips away from that area. There was very heavy activity in the Journal Square area and overall passenger volumes on the Route 9 were generally higher than those of Route 7.

Shown in Figures 9 and 10 are the on/off movements of TNJ Route 14 local and express operations, respectively. Both of these lines carry low passenger volumes with most activity occurring during the morning peak and off-peak hours on the local route and only during rush hours on the express route.

Figures 11 and 12 show the passenger trips on buses operated by the Lafayette and Greenville IBOA and the Montgomery and West Side IBOA, respectively. As shown, both of these lines commence at their terminal, located in the southern end of Jersey City, run through different residential neighborhoods, and terminate in the Exchange Place area. Passenger volumes on both lines are heavy and generally higher than those of the TNJ routes discussed. On/off patterns were predictable with most of the boardings occurring on trips oriented toward the center of Jersey City and departures on trips away from the center.

The on and off activities of all the bus routes sampled, including those graphically depicted, are shown in Appendix Tables 1 through 27. Data are shown by sector for the critical daily periods.



PASSENGER MOVEMENT PROFILE — TNJ #7

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

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FIGURE 7

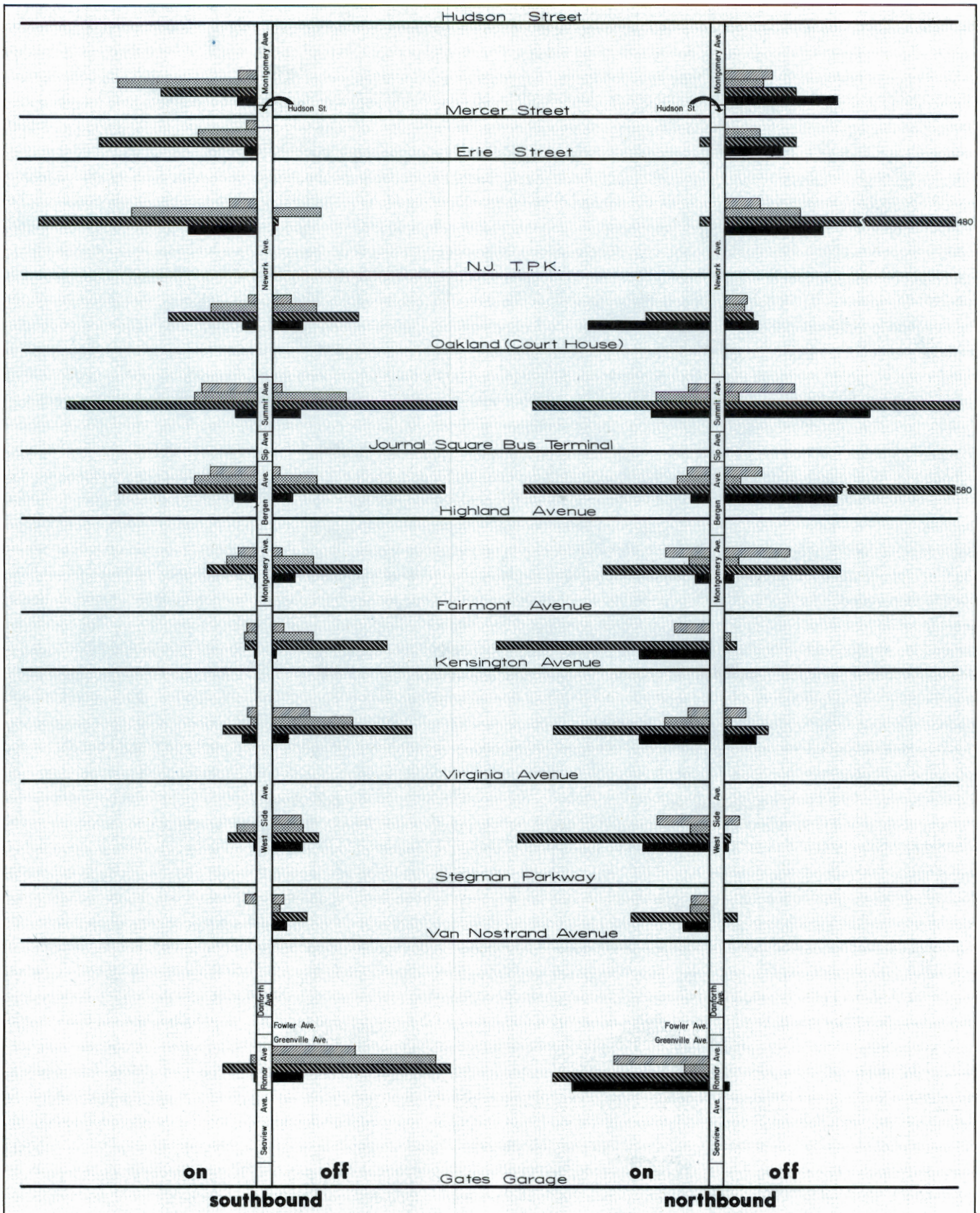
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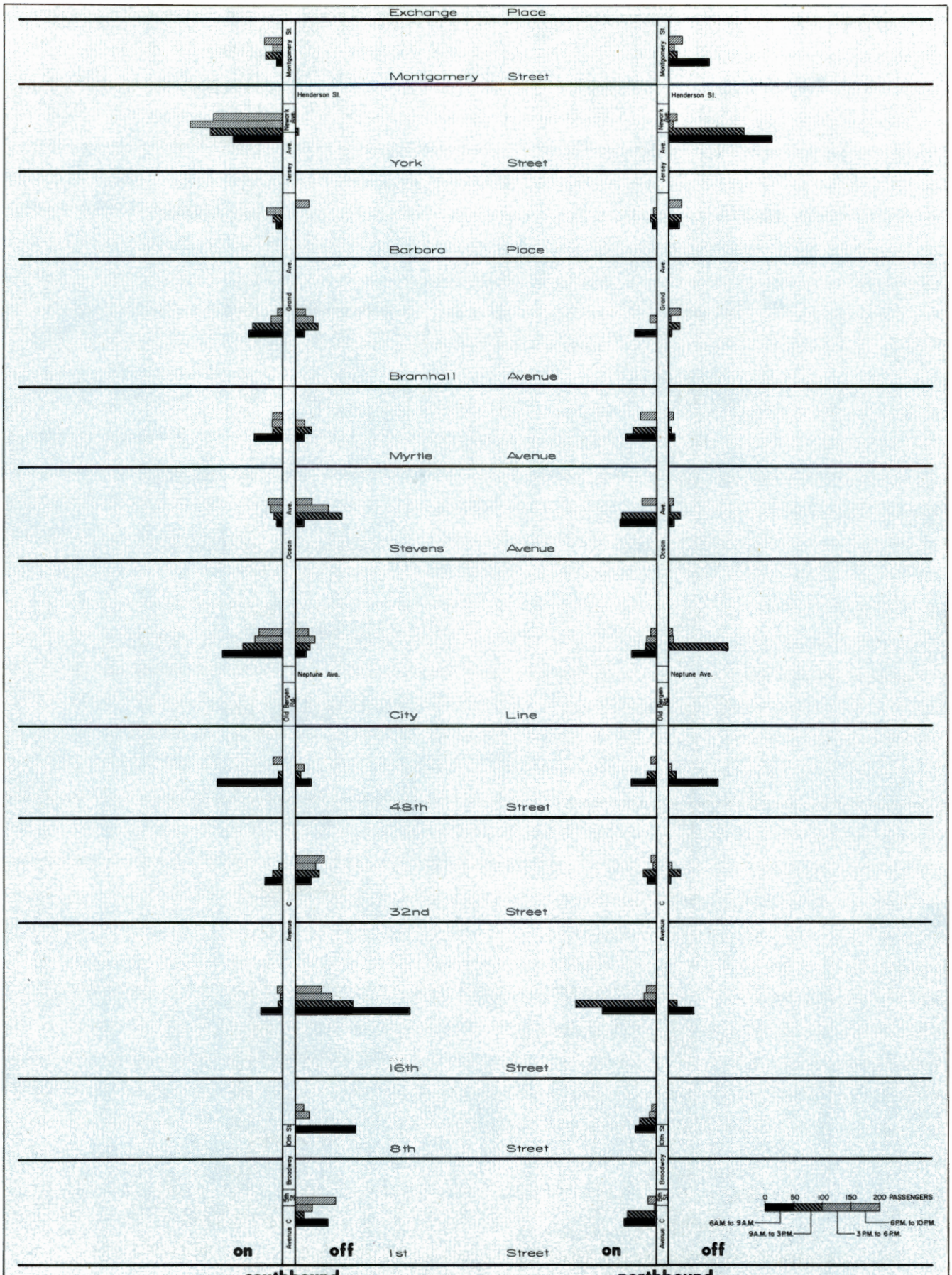
PASSENGER MOVEMENT PROFILE — TNJ #9

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

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FIGURE 8



southbound **northbound**

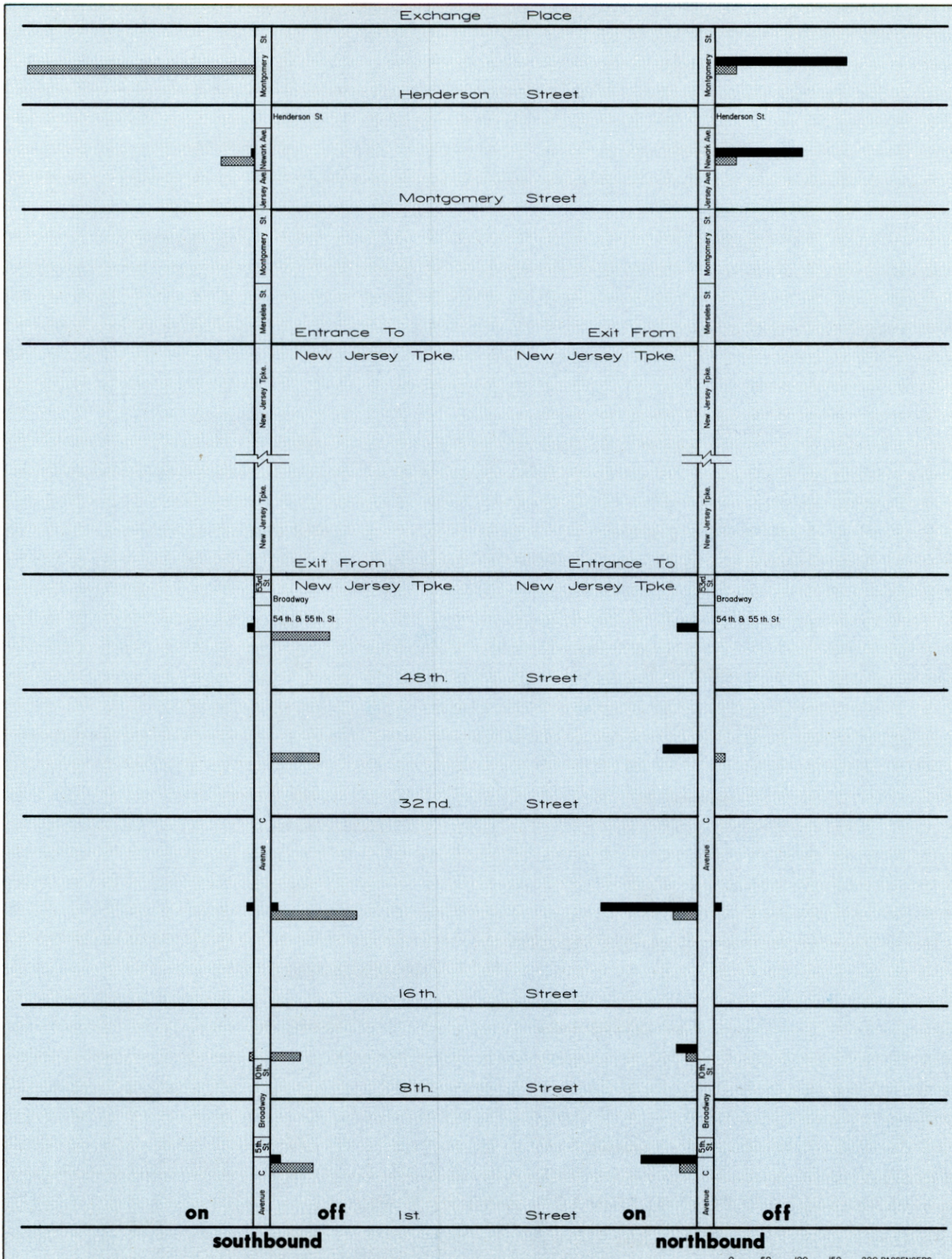
PASSENGER MOVEMENT PROFILE — TNJ #14 LOCAL

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

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FIGURE 9



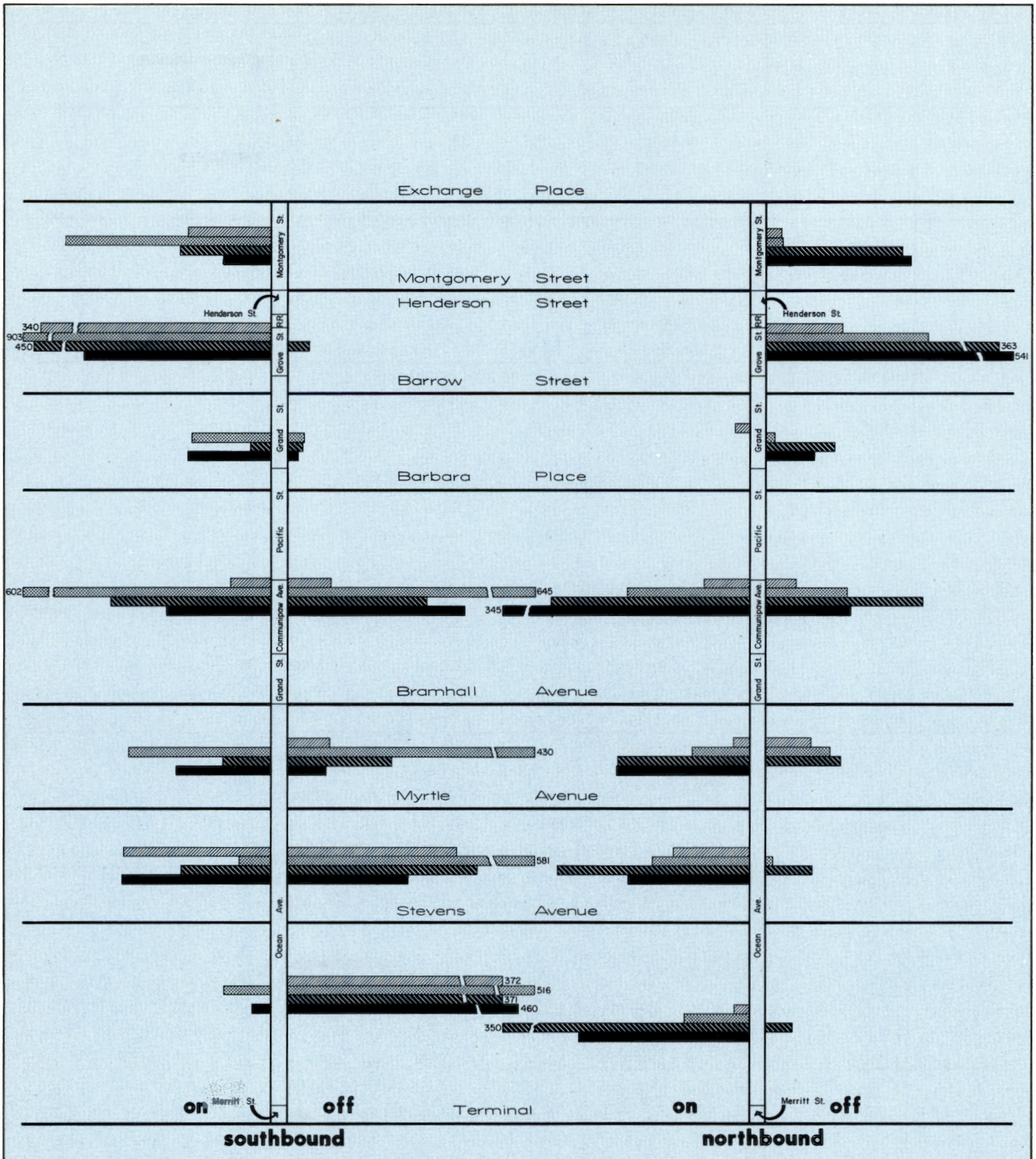
PASSENGER MOVEMENT PROFILE — TNJ #14 EXPRESS

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

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FIGURE 10



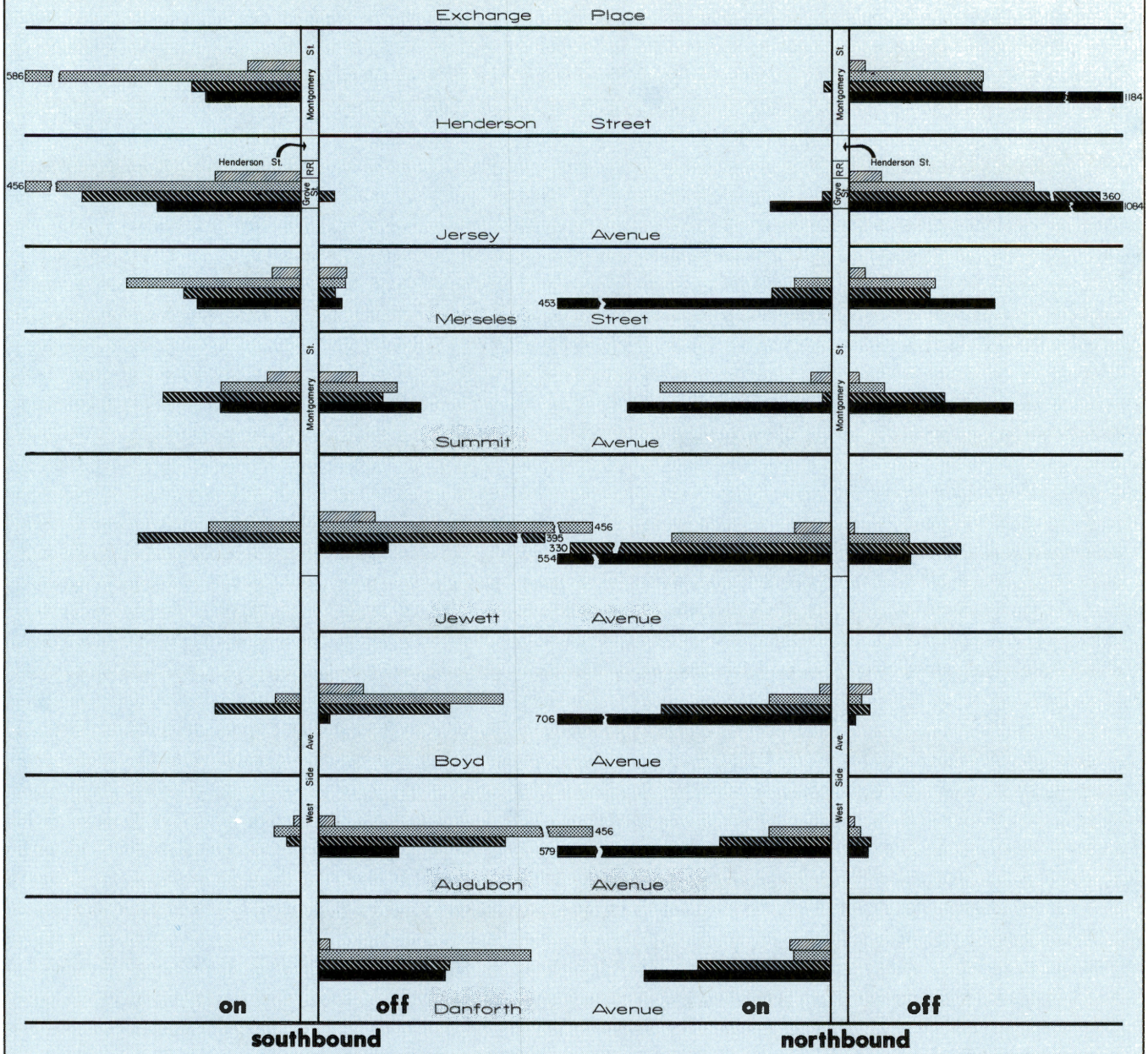
PASSENGER MOVEMENT PROFILE — LAFAYETTE AND GREENVILLE TO EXCHANGE PLACE

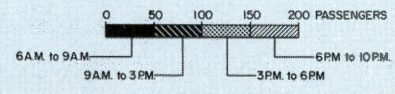
NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

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FIGURE 11





PASSENGER MOVEMENT PROFILE — MONTGOMERY AND WEST SIDE

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 12

Volume-Capacity Comparisons

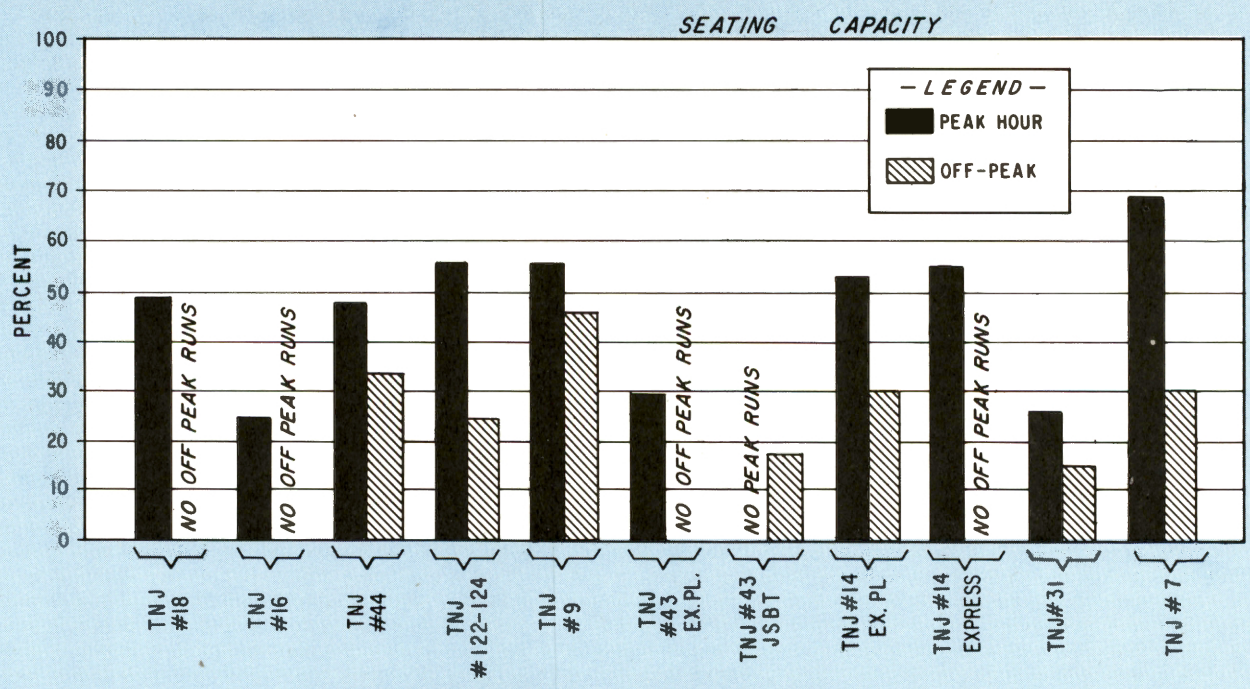
Analyses were conducted comparing maximum passenger accumulations on each route sampled to average seating capacities on that route. The passenger accumulations were then computed as a per cent of the seating capacity and shown graphically in Figures 13 and 14.

Figure 13, suggests that all TNJ routes generally operate at occupancy levels considerably below their seating capacities. Peak hour accumulations for most of the lines are between 40 and 60 per cent of capacity with only Route 7 approaching 70 per cent. Off-peak hour accumulations are lower and rarely exceed 30 per cent of capacity.

Passenger accumulations on the Independent Bus Routes shown in Figure 14, are higher than those of TNJ, with most lines operating between 50 and 70 per cent of seating capacity during peak hours. However, this higher percentage is affected by the fact that TNJ buses generally have more seats than the independent buses.

Only one route, the South Hudson Boulevard No. 10 Express, operates above seating capacity. This service is provided during peak hours only and makes 20 round trips daily.

With the exception of the Bergen Avenue and A&C Bus lines, all routes have lower passenger accumulations during off-peak hours. The two lines with the higher off-peak accumulations serve shopping areas and this reverse trend is not totally unexpected.

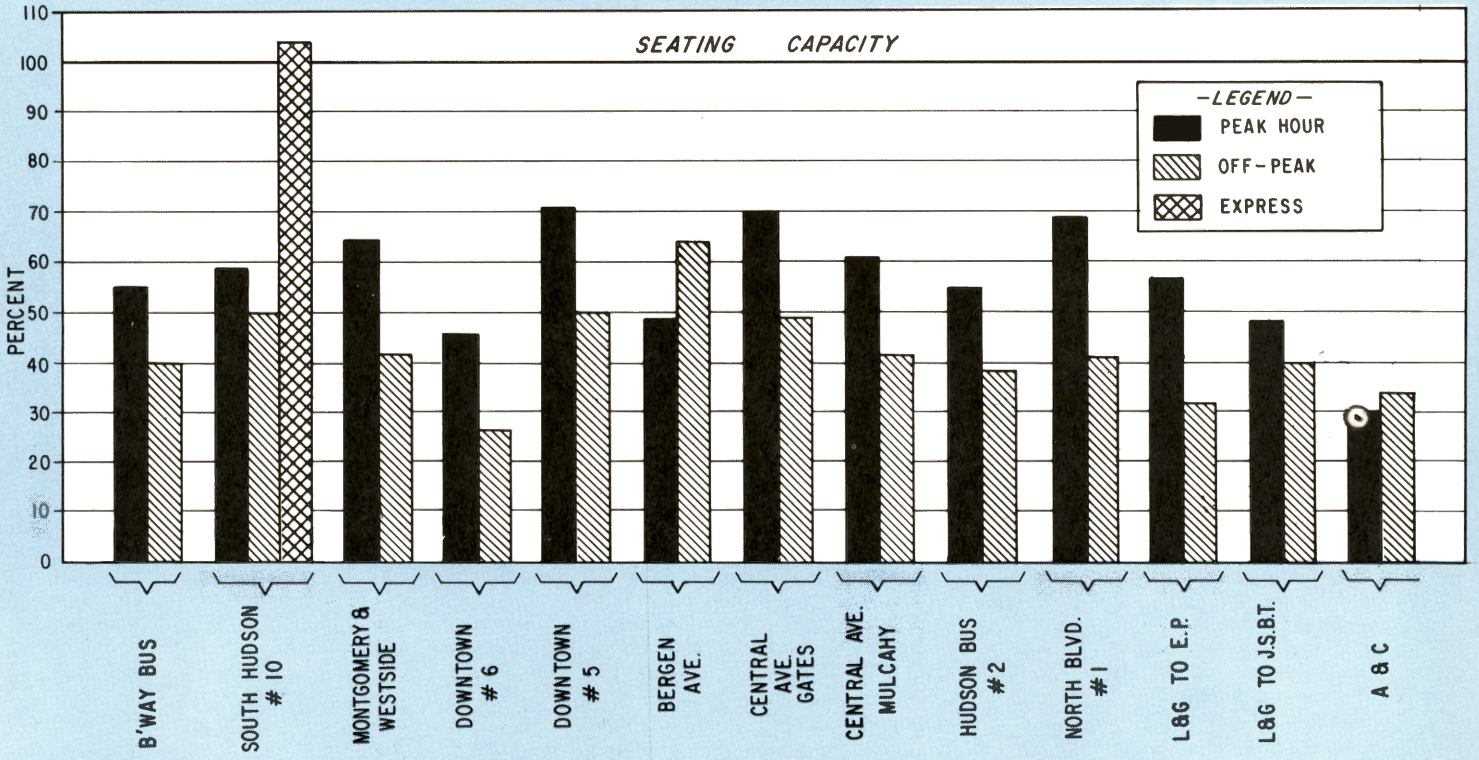


PEAK PASSENGER ACCUMULATIONS Vs. SEATING CAPACITIES — TNJ ROUTES

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

FIGURE 13



PEAK PASSENGER ACCUMULATIONS Vs. SEATING CAPACITIES — INDEPENDENT BUS ROUTES

NEW JERSEY PUBLIC TRANSPORTATION STUDY

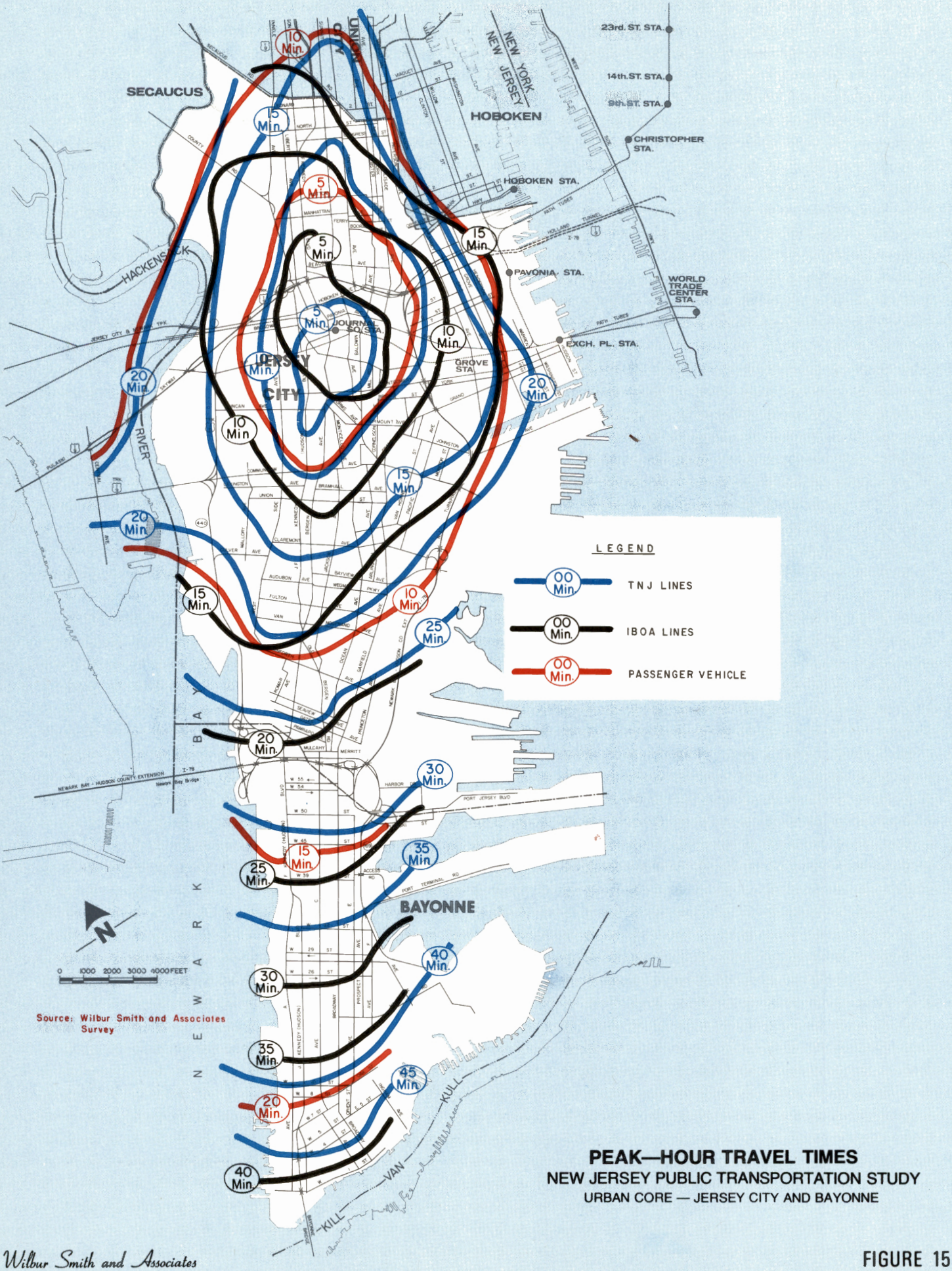
URBAN CORE — JERSEY CITY AND BAYONNE

Travel Times

Important in determining the performance of a public transit system are travel time comparisons. For this reason, surveys were conducted which compared passenger vehicle and local bus travel times at peak and off peak hours. Figures 15 and 16 show the results of the surveys. No adjustments were made for waiting time at transfer points and it is noted that local bus headways were less than ten minutes during peak hours and 15 minutes during off peak hours.

Most of the bus trips in the study area originate or terminate at Journal Square. Therefore, comparisons of bus travel times versus passenger vehicle times were made from this area. As shown in Figure 15, travel time by TNJ bus was approximately 45 minutes from Journal Square to Bergen Point, at the south end of Bayonne, during the peak traffic hour. Independent buses were slightly faster with the same trip requiring about 40 minutes. Passenger vehicle trips required only 25 minutes for the same distance, however. As shown, travel time to any point in the corridor was generally reduced by half when traveling by passenger vehicle rather than by bus. This is of interest since it indicates bus delays are probably caused by the number of stops for passengers and not by traffic congestion.

Off peak travel times, shown in Figure 16, were slightly different from those of the peak hours. As in the peak hour, travel time by bus from Journal Square to Bergen Point was about 40-45 minutes, whereas travel time by passenger vehicles was 20 minutes. Although travel is somewhat less restricted in the Journal Square-Exchange Place area during off-peak hours, little difference appeared outside these areas.



Source: Wilbur Smith and Associates Survey

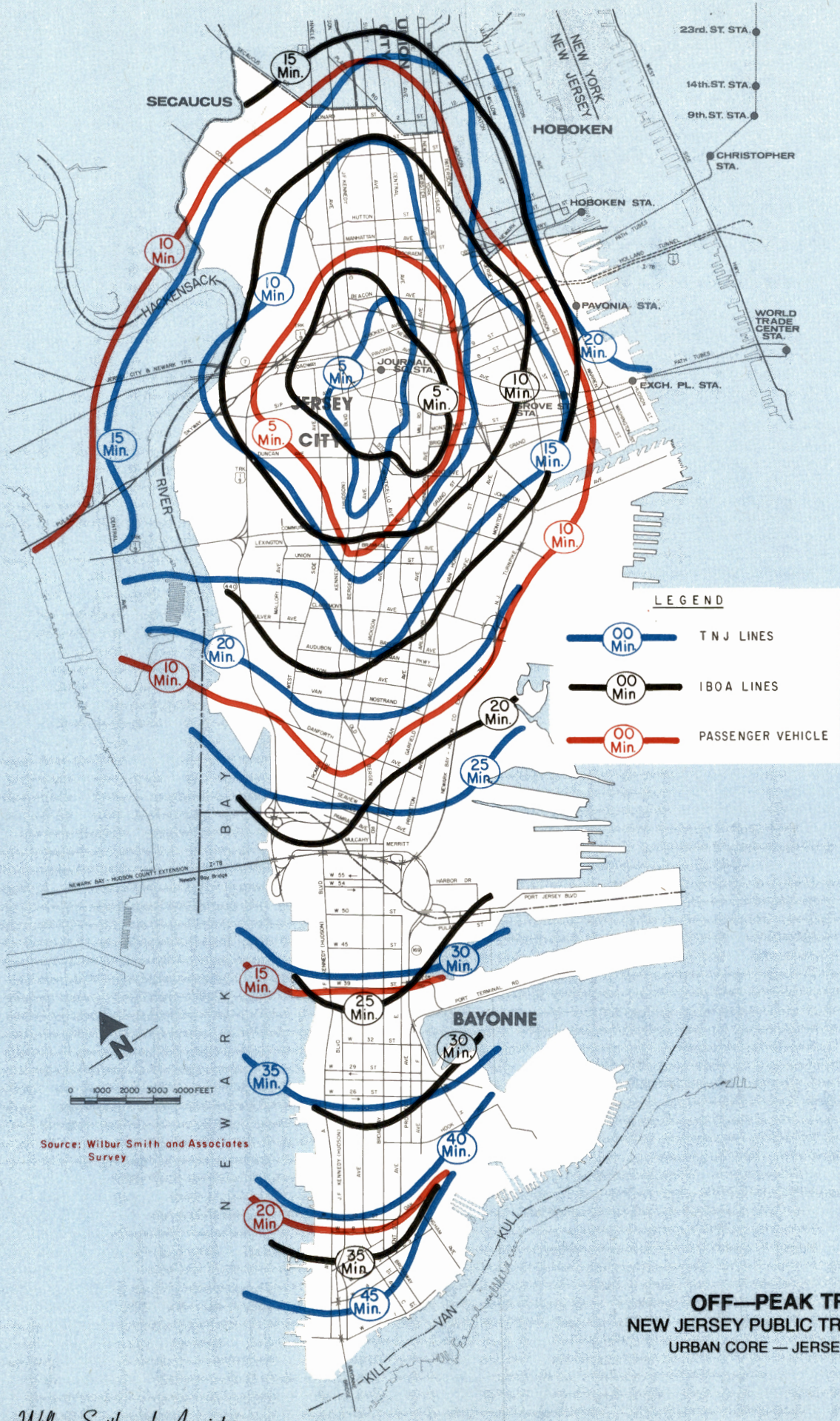
PEAK—HOUR TRAVEL TIMES

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 15



OFF—PEAK TRAVEL TIMES
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 16

Other Bus Services

Several other bus lines provide service to residents of the study area. However, since these lines are intercity or interstate in nature, and provide limited local service, they were not included in the travel time survey. Following are brief summaries of the services provided:

Blue and White Bus Company, Inc. - This Company operates a 23-mile route between Elmwood Park and Journal Square. The Hudson County portion of this operation follows Route 3 and Kennedy Boulevard to Journal Square. The Company operates 10 buses and has 14 employees.

Most passengers are industrial workers from Jersey City and Union City who are employed in plants around Carlstadt and Secaucus. The line also serves Roosevelt Stadium in Union City and the Erie-Lackawanna Railroad Station in East Rutherford.

The Company operates 16 round trips on weekdays between 5:00 A.M. and 11:00 P.M. Saturday service is reduced to six round trips from 6:45 A.M. to 8:15 P.M., with no service on Sundays. Weekday headways range from 30 minutes during peak hours to 90 minutes during off-peak hours. Fares range from $0.35 for the first zone to $0,65 maximum.

DeCamp Bus Lines - This Company operates several routes, chiefly in the Essex and Passaic Counties areas, with two of these being intrastate. One of the intrastate routes is from West Caldwell to the Journal Square Bus Terminal in Jersey City. DeCamp Bus Lines owns 129 buses, 101 of which are suburban and 28 are parlor-type.

On the West Caldwell to Journal Square route, weekday operations include 17 round trips from 5:30 A.M. to 1:45 A.M. the following day. Headways average 30 minutes during peak hours and two hours on off-peak hours. Weekend service is reduced to about one-half the daily trips from 6:40 A.M. to 1:45 A.M. Intrastate fares range from $0.45 to $0.85.

North Hudson Boulevard IBOA - In addition to the local service to Nungessers described earlier in this chapter, the Association operates two regularly scheduled interstate routes, Nos. 4 and 5, from Platform No. 52 at the Port Authority Bus Terminal in New York City. Route No. 4 provides service via the Lincoln Tunnel to North Hudson County communities and Fairview, Ridgefield, Palisades Park, and Fort Lee in Bergen County. Route No. 5 service operates between the Port Authority Terminal in New York City and Journal Square in Jersey City via Kennedy Boulevard. Headways average about seven or eight minutes during peak hours and approximately one half hour during off-peak periods.

South Hudson County Boulevard IBOA - In addition to the local service provided by its No. 10 route, this Association also runs a commuter service, Route No. 55. This line runs from Port Richmond, Staten Island, through Bayonne and Jersey City to the Port Authority Bus Terminal in New York City.

Some buses on this route operate from 2nd Street in Bayonne in off-peak hours, and some skip stops in Bayonne and Jersey City. Interstate buses run with open-doors in New Jersey and make official stops at Dominick, 14th and 23rd Streets in New York City. Regular commuters to New York, however, are generally dropped off and picked up at any bus stop.

Domenico Bus Service, Inc. - Domenico Bus Service, Inc., operates a suburban-type commuter service, as well as interstate charter service. Domenico provides regular service from Asbury Park and adjacent Jersey shore communities and Journal Square in Jersey City. This service is provided through the operating rights of North and South Jersey Bus Company acquired by Domenico in 1972. Domenico also provides rush hour commuter service between Bayonne and both the PABT and the Downtown Manhattan area via Staten Island.

The basic adult fare is $0.45 with $0.10 zone increases, and a $1.70 maximum for the trip from Bayonne to Keansburg. The Asbury Park route fare is between $1.30 and $2.10, maximum.

Hudson Bus Transportation Company - In addition to the Secaucus route discussed earlier in this report, this Company operates two interstate routes. One of the interstate routes is the 99S Route which operates from the Port Authority Bus Terminal to Bayonne. The second interstate route is Route 99, which runs from Merritt Street in Jersey City through Journal Square to the Lincoln Tunnel and the Port Authority Bus Terminal in New York City.

Chapter 3

CORRIDOR CHARACTERISTICS

Chapter 3

CORRIDOR CHARACTERISTICS

Basic characteristics of the communities making up a transportation corridor are an important ingredient in the development of a meaningful and responsive plan for the improvement of public transportation facilities. For this purpose, a review of the characteristics of population, land use, employment, income levels, and automobile ownership, provide valuable insight into the type of communities to be served and the relative need, on a neighborhood basis, for transportation service.

In addition to these basic characteristics, travel habits are also critical as they relate to service requirements. Travel trends, choices of travel by various modes including automobile, bus, and rail services, travel times by alternate travel modes, and related characteristics of major trip patterns are all important to an understanding of the communities.

This chapter addresses the characteristics of the corridor, as noted above, and presents the framework within which the public transportation network and particularly the bus system functions.

Socio-Economic Data

The socio-economic data which provides the basic parameters for evaluation of individual communities are based very heavily on the data assembled by the decennial census conducted by the Census Bureau of the U. S. Department of Commerce. The census is developed on the basis of tracts of land which were identified in advance to represent homogeneous units of common characteristics with respect

to housing, land use mix, and related population parameters, such as the age distribution of residents, and their economic characteristics including income level and auto ownership.

Population - The Jersey City-Bayonne Corridor is part of one of the most densely populated areas in the East. The 1970 census data indicated that 333,000 persons, or an average of 16,659 persons per square mile, resided in the study area. Hudson County, for comparison, had an overall average of 13,000 persons per square mile and except for New York City, its population density was the greatest of any county in the Tri-State Region. The Region encompasses 21 New York and New Jersey Counties and six planning regions in Connecticut.

Of the 333,000 residents in the corridor, 260,000 persons lived in Jersey City and the remaining 73,000 in Bayonne. This population was approximately equal to that recorded for these two cities in the 1910 census. Until 1910, the study area and Hudson County were growing at a faster rate than the rest of the State of New Jersey. However, by 1910 the area had become urbanized and growth slowed. Although it continued to grow until 1930, the County's share of the total population in New Jersey started to decline after 1910. In the early 1930's, population in the corridor, as well as Hudson County, began to decline as the migration to the suburbs began. Overall, the population in the corridor declined by 18 per cent from 1930 to 1970, or an average of 0.45 per cent per year. The County declined at a slower rate, showing an average annual decrease of 0.3 per cent, or about 12 per cent from 1930 to 1970. For comparison, during the same period, both the New York SMSA and the United States continued to show considerable growth, as shown in Table 10.

Table 10

COMPARISON OF POPULATION GROWTH, 1930-1970

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

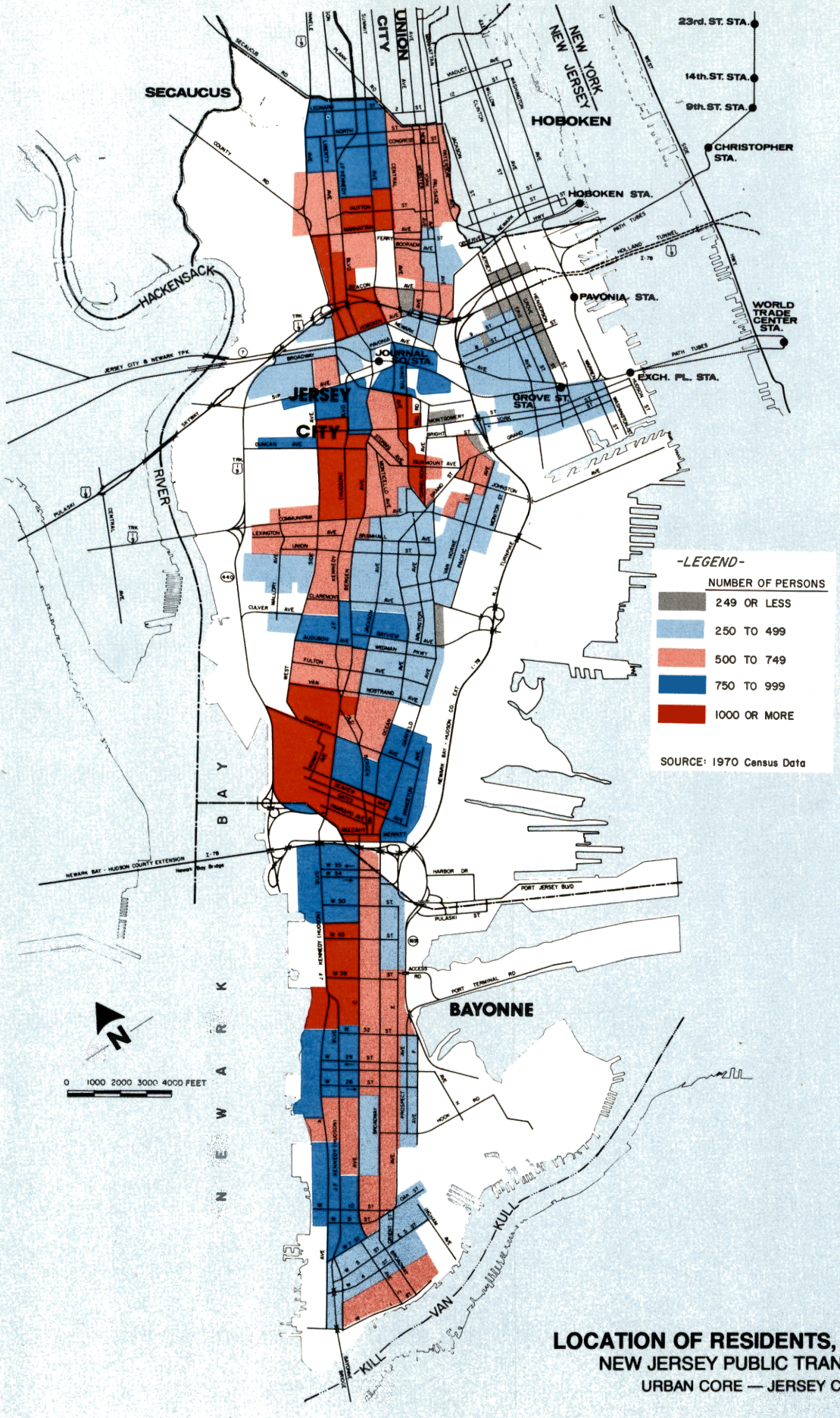
YEAR	HUDSON COUNTY Population (thousands)	% Growth	NEW YORK SMSA Population (thousands)	% Growth	UNITED STATES Population (thousands)	% Growth
1930	691	(5.6)	7,957	9.4	122,775	7.6
1940	652	(0.8)	8,707	9.8	132,165	14.5
1950	647	(5.6)	9,556	11.9	151,326	18.5
1960	611	(0.3)	10,694	8.2	179,323	13.3
1970	609		11,572		203,212	

SOURCE: Economic Base Study, Hudson County Planning Board, 1974.
U. S. Bureau of Census, 1970.

With the migration of the middle-class to the suburbs, the percentage of senior citizens over 62 years old, youth under 18 years old, and minority groups of Negro, Puerto Rican, or foreign ancestry (all generally low-income groups) in the study area has increased substantially. The 1970 Census data indicated that about 29 per cent of Bayonne's total population was under 18 years of age and 14 per cent over 62 years old. Similarly, Jersey City's population included 31 per cent under 18 years and 14 per cent over 62 years old. These two groups thus represented approximately 44 per cent of the total population of the two communities.

Persons over 62 and under 18 years old, generally own few motor vehicles and, therefore, are considered to be captive users of public transportation. Thus, their place of residence is important in planning any transportation improvements. Figures 17 and 18 indicate their places of residence by census tracts. Table 11 summarizes similar information by neighborhoods. It is pointed out that in most cases the senior citizens, as shown in Figure 17, reside in neighborhoods which are least densely populated. This may indicate that these residents have been living in the study corridor for a long period of time, therefore, residing in the older, but smaller, buildings, or that, as their children grew up, they moved away leaving one or two persons per household behind. Persons under 18 years old, shown in Figure 18, are distributed throughout the corridor and reside in both the dense and light housing areas. Comparisons of these residence locations to existing bus and rail service are important factors in determining recommendations for service improvements as discussed in later chapters.

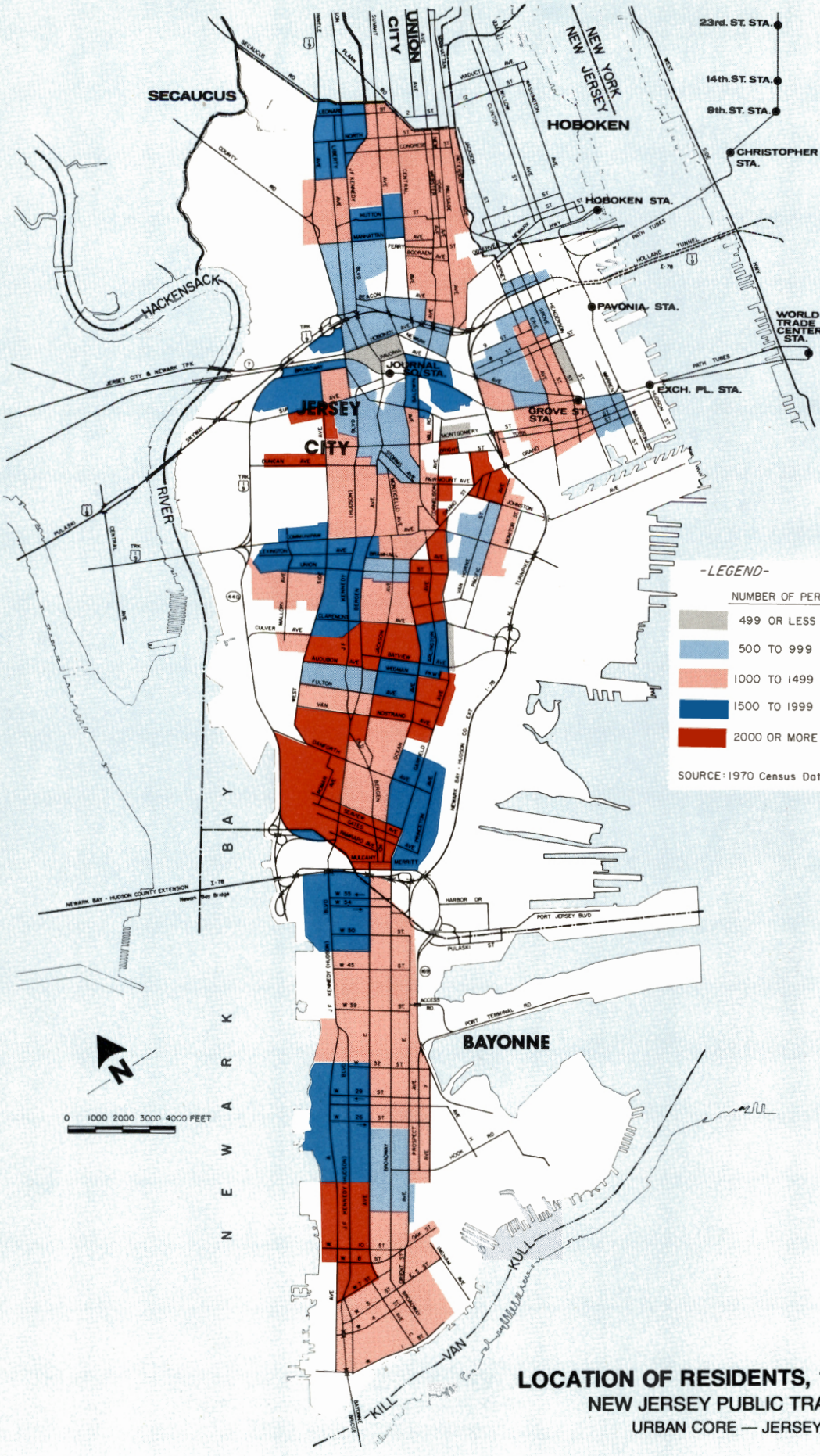
As in most communities, the greater number of residents were female, accounting for approximately 53 per cent of the area's



LOCATION OF RESIDENTS, 62 YEARS OR OLDER
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 17



LOCATION OF RESIDENTS, 18 YEARS AND YOUNGER

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 18

Table 11

1970 DISTRIBUTION OF RESIDENTS UNDER 18 AND OVER 62 YEARS OLD

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

	PERSONS UNDER 18		PERSONS OVER 62	
	Number	Per Cent of Total in Corridor	Number	Per Cent of Total Corridor
JERSEY CITY NEIGHBORHOODS				
Hudson	16,977	16.6	9,910	21.1
Journal Square	3,706	3.6	3,093	6.6
Marion	7,227	7.1	3,199	6.8
Downtown	12,094	11.9	3,562	7.6
Lafayette	5,966	5.8	2,281	4.9
Bergen	14,767	14.5	6,517	13.9
Greenville	20,463	20.0	8,103	17.3
Total Jersey City	81,200	79.5	36,665	78.2
BAYONNE NEIGHBORHOODS				
Uptown	6,426	6.3	3,694	7.9
Midtown	10,410	10.2	4,947	10.6
Bergen Point	4,052	4.0	1,551	3.3
Total Bayonne	20,888	20.5	10,192	21.8
TOTAL CORRIDOR	102,088	100.0	46,857	100.0

SOURCE: 1970 Census Data

population. This distribution is similar to that of Hudson County and the State of New Jersey.

Of the 333,000 persons residing in the study area in 1970, 17 per cent were Negroes. This represented about 58,000 persons, of which approximately 55,000 resided in Jersey City and the remainder in Bayonne. These totals represented 22 per cent and 0.4 per cent of the two cities' population, respectively. Also, considerable percentage of all residents in the Jersey City-Bayonne Corridor were either of foreign parentage or foreign birth. Totals for the study area indicate that approximately 34 per cent, or about 114,000, were born in other countries. The highest percentage were of Italian , Polish or Irish background. These groups represented 33,000, 20,000, and 13,000 persons, respectively, in the two cities.

Hudson County had a similar distribution of population by age, with 14 and 30 per cent of the total population being in the over 62 and under 18-year age categories, respectively. The minority group distribution, however, was slightly different. About ten per cent of the total population were Negroes and over 40 per cent of foreign ancestry.

The median age of people residing in Bayonne was 34.3 years and in Jersey City it was 30.7 years. This is similar to the median ages of 32.8 years for all Hudson County residents and 30.1 years for all residents of the State of New Jersey.

Land Use - The Jersey City-Bayonne Corridor has three major land use groups. One group includes industrial, warehousing, railroad and transportation uses, and covers about 40 per cent of the land. Another group, which includes all residential development, covers another 25 per cent of the area. Commercial development

takes up 8 per cent. Of the remaining land, approximately 18 per cent is open or vacant space and the balance has public, institutional, or miscellaneous uses.

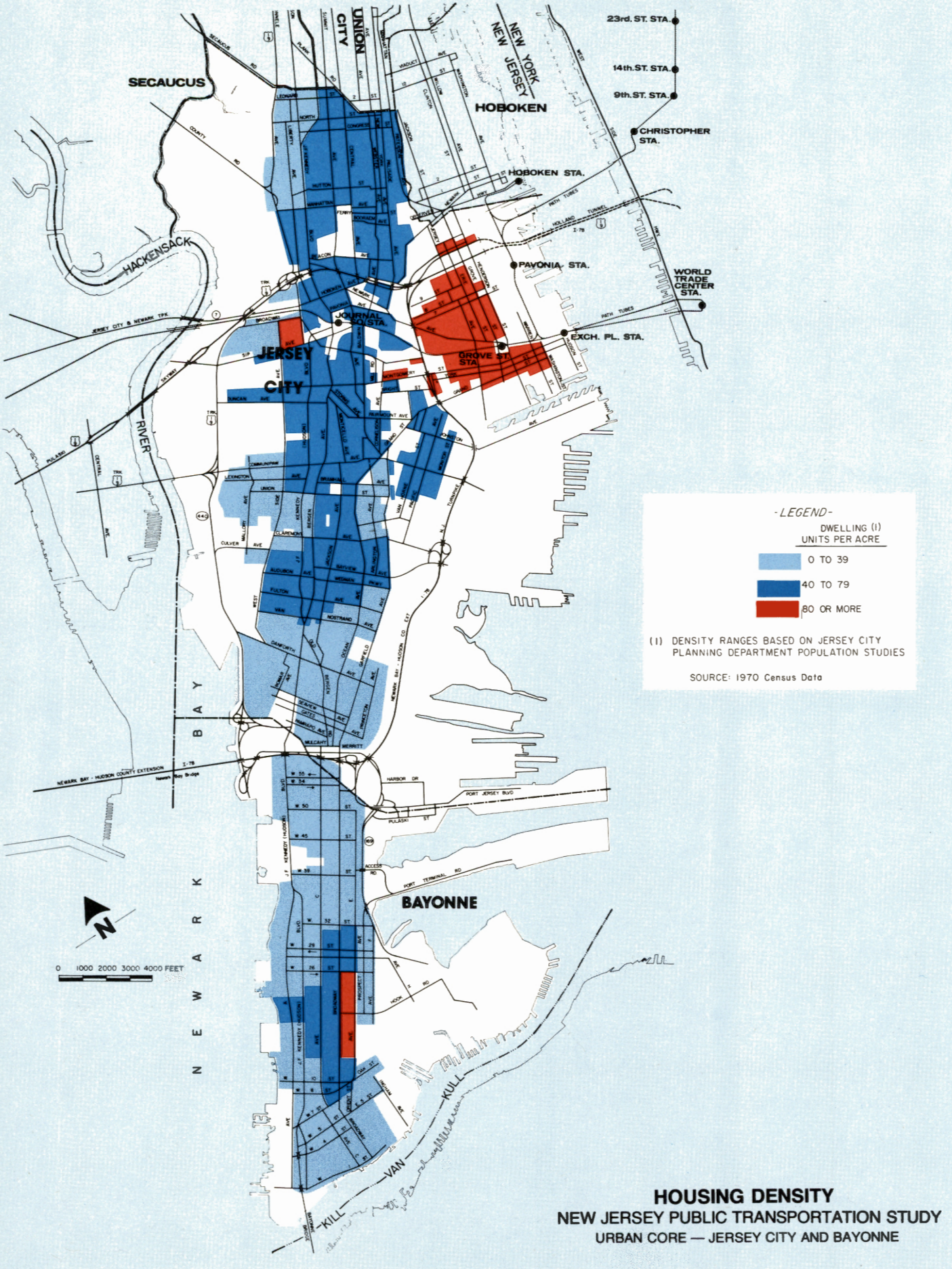
Figures 19 and 20 show the general land uses within the study area. As shown in Figure 19, most residential development is within a 1.0 to 1.8 mile wide band located along the approximate center of the north-south length of the corridor. Density ranges indicated are similar to those used by the Jersey City Planning Department and are based on dwelling units per acre.

Jersey City is more densely populated than Bayonne with 40-79 dwelling units per acre covering most of the residential land north of Nostrand Avenue. The downtown area, between Grove Street and the New Jersey Turnpike, is very heavily populated with more than 80 dwelling units per acre. This same area also has one of the lowest income levels in the corridor as shown later in this chapter.

Bayonne is less densely populated with about two-thirds of the residential land in the 20-39 dwelling units per acre range. Higher densities are found between 8th and 30th Streets and between Avenue E and JFK Boulevard.

Figure 20 identifies the other major land uses. As shown, industrial, warehousing and railroad developments are mostly on the perimeters of the two cities, particularly along the Hudson River and Kill Van Kull waterfronts. Other industrial developments are in the southern end of Bayonne along Newark Bay and in Jersey City along the Hackensack River.

Neighborho[illegible] commercial development lines most of the major thoroughfares of Jersey City and Bayonne. In Bayonne, there is



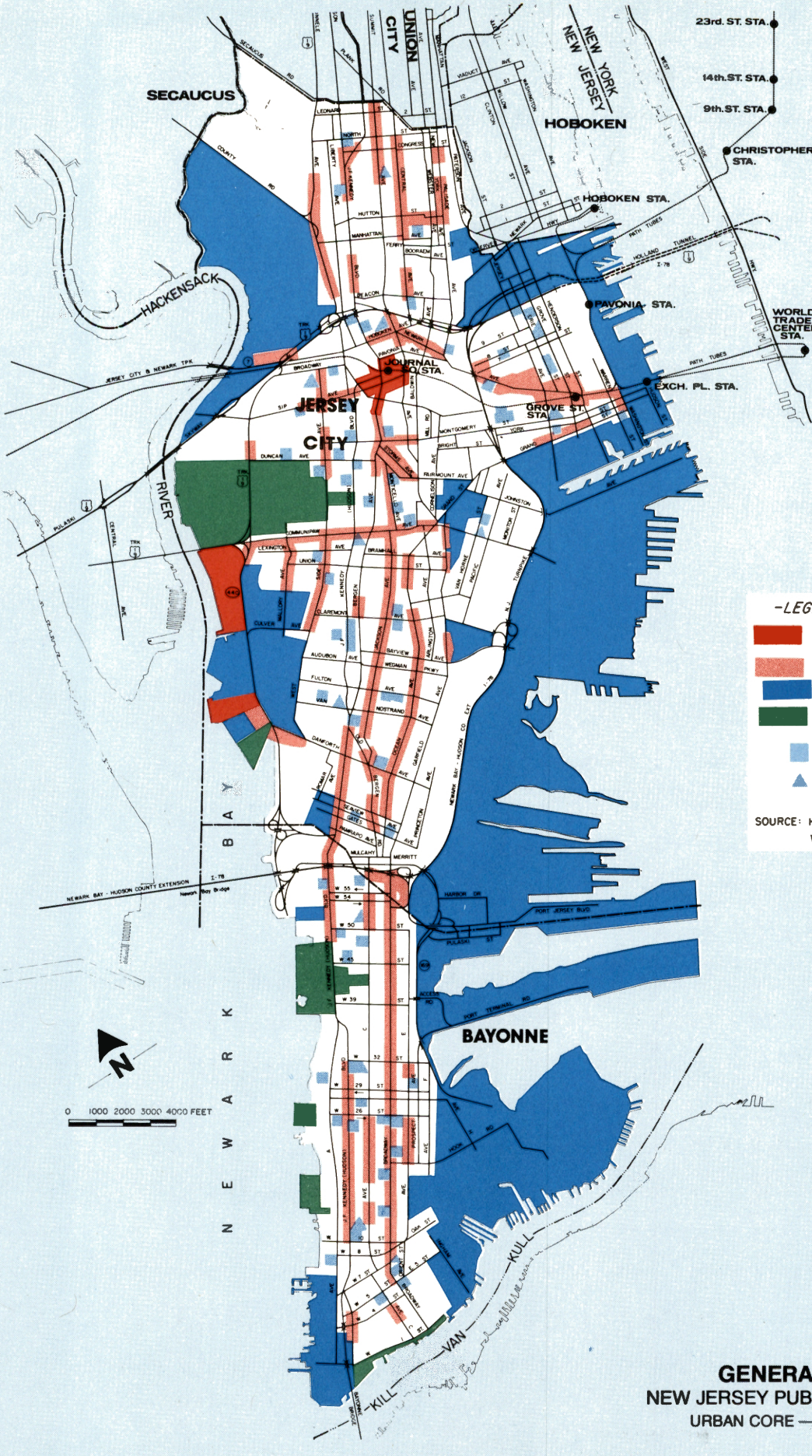
HOUSING DENSITY

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 19



GENERALIZED LAND USE
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 20

considerable strip development along Broadway and JFK Boulevard and in Jersey City along Ocean, Communipaw, Jackson, West Side, Newark, and Tonnele Avenues.

The commercial center of Jersey City is located in the Journal Square area. This area is not only a major shopping center, but also an important transfer point in Hudson County's transportation system. Most of the buses servicing the study area, as well as the surrounding neighborhoods, either terminate or stop at the Port Authority's new transportation terminal in Journal Square. The PATH subway system also stops at the same terminal, making it a major exchange point between various modes of transportation.

Another large shopping center drawing persons from all neighborhoods of the corridor is situated south of Communipaw Avenue at the western end of Jersey City. Several department stores, including Two Guys and Great Eastern, as well as Roosevelt Stadium, which hosts various athletic events and entertainment events throughout the year, are located in this area.

Employment - Employment in Hudson County rose from 252,600 in 1960 to 254,900 in 1970. This represented an increase of 0.9 per cent. During the same period, population in the County declined by 0.3 per cent. These contrasting changes were primarily the result of an increase in the female labor force from 40 to 44 per cent of the total female population. Other areas had considerably higher growth rates. Shown in Table 12 is a comparison of employment growth in Hudson County, the New York SMSA and the United States.

As shown, Hudson County had the lowest rate of employment growth. This was not unexpected, however, since the other two areas had

Table 12

TOTAL EMPLOYMENT 1960 - 1970

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

YEAR	HUDSON COUNTY	NEW YORK SMSA (thousands)	UNITED STATES
1960	252.6	4,372.6	58,850
1970	254.9	4,607.1	70,182
Change from 1960-1970	2.3	234.5	1,332
Per Cent Change 1960-1970	0.9	5.4	19.3

SOURCE: U. S. Bureau of Census, General and Economic Characteristics, 1970.

considerable population gains. During the same period, the New York SMSA population grew by 8.2 per cent and the United States by 13.3 per cent.

In 1970 about 133,000 of the Jersey City and Bayonne residents were employed in various occupations. This represented about 40 per cent of the total area residents. Shown in Table 13 is a breakdown of these workers by place of residence. Bayonne had a slightly higher portion of its residents in the labor force than did Jersey City with percentages of 42.1 and 39.3, respectively.

Unemployment rates from 1960 to 1970 have fluctuated considerably in Hudson County, as they have in other regions. In 1960 the unemployment rate was about 7.2 per cent. It rose to 7.8 in 1961, declined to 4.4 per cent in 1966, and almost doubled to 8.6 per cent by 1971.

A comparison of unemployment changes in Hudson County and the New York SMSA from 1960 to 1971 is shown in Table 14. As shown, unemployment in the New York SMSA was lower than Hudson County at all times during this period. Highest unemployment was experienced in the New York SMSA in 1961 when 5.4 per cent of its residents were affected. The rate dropped to 3.2 per cent in 1969, but rose again to 5.2 per cent by 1971.

In 1970, when the overall unemployment rate in Hudson County was 6.6 per cent, the highest unemployment was experienced by labor and operative-type employees with rates of 7.3 and 7.6 per cent, respectively. The lowest unemployment rate was 1.6 per cent by professional, technical, and managerial employees.

Table 13

1970 STUDY AREA EMPLOYEES BY NEIGHBORHOODS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

PLACE OF RESIDENCE	NUMBER OF RESIDENTS	NUMBER OF WORKERS	PER CENT OF RESIDENTS
Jersey City Neighborhoods			
Hudson	60,583	24,422	40.3
Journal Square	16,769	6,995	41.7
Marion	22,398	8,699	38.8
Downtown	34,876	13,177	37.8
Lafayette	16,437	5,469	33.3
Bergen	47,250	19,096	40.4
Greenville	62,232	24,578	39.5
Total Jersey City	260,545	102,436	
Bayonne Neighborhoods			
Uptown	24,320	10,681	43.9
Midtown	35,512	14,826	41.7
Bergen Point	12,911	5,157	39.9
Total Bayonne	72,743	30,664	42.1
TOTAL CORRIDOR	333,288	133,100	

SOURCE: 1970 Census Data.

Table 14

UNEMPLOYMENT RATES, 1960-1971

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

YEAR	HUDSON COUNTY (per cent)	NEW YORK SMSA (per cent)
1960	7.2	4.8
1961	7.8	5.4
1962	6.1	4.8
1963	6.7	5.1
1964	6.2	4.9
1965	5.2	4.5
1966	4.4	4.2
1967	4.9	3.7
1968	5.3	3.3
1969	5.4	3.2
1970	6.6	4.1
1971	8.6	5.2

SOURCE: U. S. Bureau of Census, New Jersey General Social and Economic Characteristics.

These rates were similar to those experienced by the New York City SMSA residents. However, laborers, farmers, and operatives, experiencing the highest unemployment rates in both areas, comprised over 31 per cent of the labor force in Hudson County and only 17 per cent of the labor force in the New York SMSA. Conversely, the occupations experiencing the lowest unemployment rates (white collar workers), made up 45.3 per cent of the Hudson County work force and 59 per cent of the New York SMSA work force. Table 15 shows 1970 unemployment rates by last occupation.

Income Levels - Shown in Table 16 is a comparison of levels of income by families in Hudson County, the New York SMSA, and the United States, based on 1970 census data. As shown, 17.8 per cent of Hudson County families were in the lowest income category (0-$5,000). The New York SMSA, which includes some extensive urban poverty areas, had 17.1 per cent of its residents in the lowest category, while the United States had as much as 20.3 per cent. It is noted, however, that the United States figure reflects the lower incomes in the South and West.

In the next lowest income class, $5,000-$10,000, the portion of Hudson County families (34.5 per cent) is considerably above that of the New York SMSA (27.7 per cent) and slightly above the nationwide figure (32.5 per cent). As the income levels increase, the difference between Hudson County and other neighboring areas also increases. The 1970 census data showed that 80.6 per cent of the Hudson County families had incomes of $15,000 or less, as compared to the New York SMSA, where 60.9 per cent of all families were in this income level. Further, only 3.0 per cent of Hudson County families had income over $25,000, whereas 8.0 and 4.6 per cent of the New York SMSA and nationwide families were in that category.

Table 15

1970 UNEMPLOYMENT RATES BY LAST OCCUPATION

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

TYPE OF EMPLOYMENT	HUDSON COUNTY	NEW YORK SMSA
	(per cent)	
Professional, Technical and Managerial	1.6	2.0
Sales	2.6	2.7
Clerical	2.8	2.9
Craftsmen and Foremen	3.5	3.4
Operatives	7.6	6.5
Laborers and Farmers	7.3	7.4
Service Workers	3.6	3.2

SOURCE: U. S. Bureau of Census, New Jersey General, Social and Economic Characteristics.

Table 16

1970 DISTRIBUTION OF FAMILIES BY INCOME
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

GROSS INCOME	HUDSON COUNTY	NEW YORK SMSA	UNITED STATES
		(per cent)	
$ 0 - 5,000	17.8	17.1	20.3
5,000 - 10,000	34.5	27.7	32.5
10,000 - 15,000	28.3	26.2	26.6
15,000 - 25,000	16.4	21.0	16.0
25,000 and up	3.0	8.0	4.6
Median Income	$9,700	$10,870	$9,590

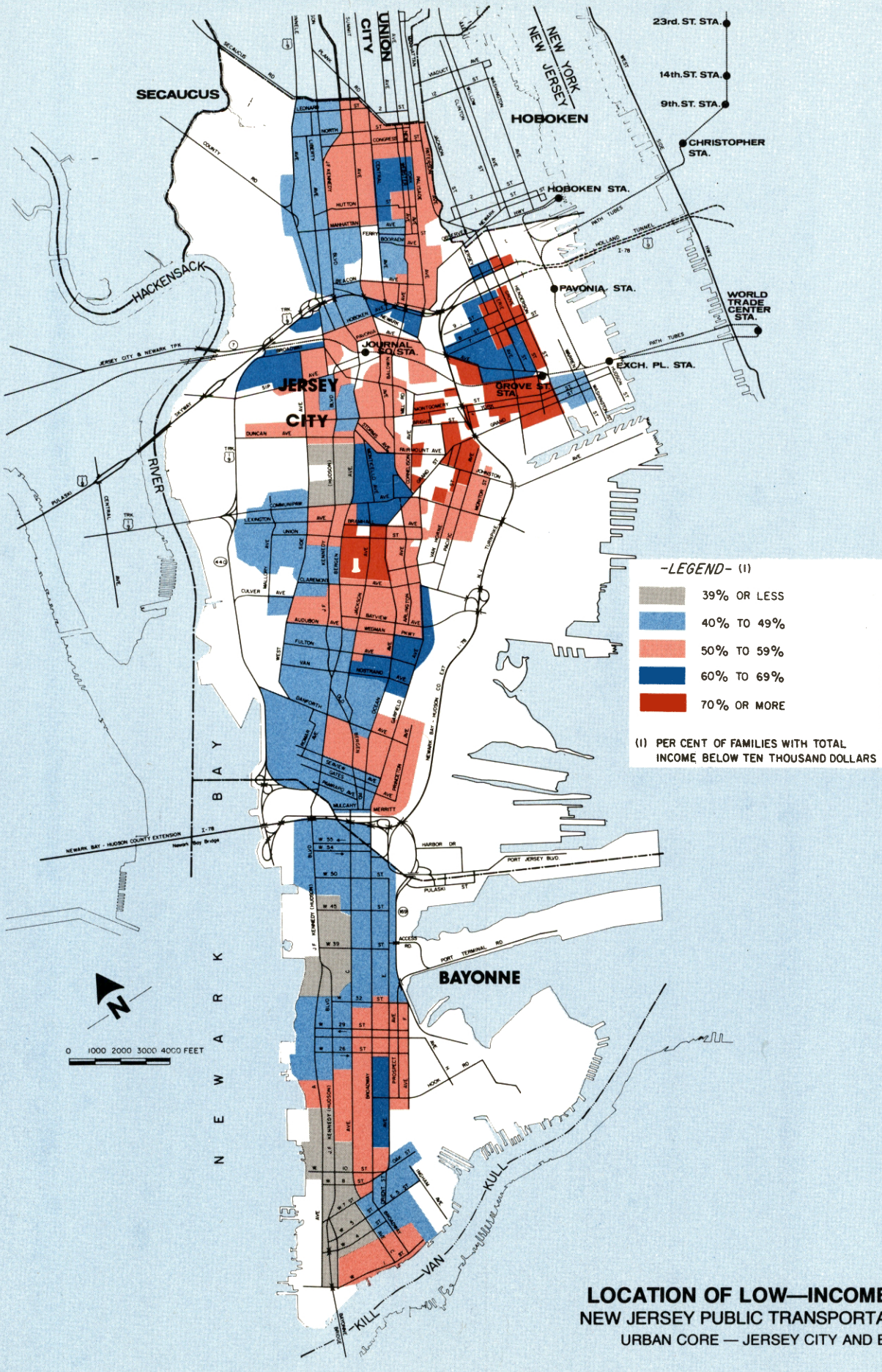
SOURCE: U. S. Census of Population, 1970.

Figure 21 shows the location of families in the corridor earning less than $10,000 per year, the median family annual income in the study area. The information is shown by census tracts utilizing 1970 census data and is presented as a per cent of the total families in the tract. Table 17 summarizes households earning less than the median income by neighborhoods. As shown, there appears to be some relationship between these lower income families and housing densities, as a greater portion (17.0 per cent) of the Downtown area residents earn $10,000 or less than any other area. Since lower income families generally do not own vehicles and are dependent on public transportation for their travel needs, comparisons of lower income areas to bus service are important and will be analyzed in later chapters.

Hudson County also had a considerable percentage of families who would be considered poor or below poverty level. 1970 census data indicated that almost one out of every ten families in the corridor had an annual income of $2,200 or less, the Federal government's minimum standard for designation of poor.

This relative concentration of low income families in the study area is the result of four factors which generally are characteristic of high density, mature urban places, such as Hudson County.

One factor is the urbanized development of the area. Hudson County was urbanized in the late 19th Century and early in the 20th Century. Most persons with higher incomes now prefer to reside in suburban areas, leaving a higher concentration of lower income persons in the older, urban sections of the Metropolitan area.



LOCATION OF LOW—INCOME FAMILIES

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 21

Table 17

1970 DISTRIBUTION OF HOUSEHOLDS
WITH INCOME LESS THAN $10,000[1]
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

JERSEY CITY NEIGHBORHOODS	NUMBER OF FAMILIES	PER CENT OF AREA POPULATION	PER CENT OF TOTAL CORRIDOR POPULATION
Hudson	8,725	14.4	19.1
Journal Square	2,133	12.7	4.7
Marion	3,156	14.1	6.9
Downtown	5,926	17.0	13.0
Lafayette	2,282	13.9	5.0
Bergen	6,096	12.9	13.3
Greenville	8,239	13.2	18.0
TOTAL Jersey City	36,557	14.0	80.0
Bayonne Neighborhoods			
Uptown	2,759	11.3	6.0
Midtown	4,804	13.5	10.5
Bergen Point	1,563	12.1	3.5
TOTAL Bayonne	9,126	12.5	20.0
TOTAL CORRIDOR	45,683	13.7	100.0

(1) $10,000 is the median income for the Jersey City-Bayonne Corridor.
SOURCE: 1970 Census Data.

A second factor is the low educational level achieved by most of the residents in the area. As shown by the 1970 Census, of the residents who were 25 years and over, as many as 41 percent had education equivalent to one year of high school, or less. Only five percent had four or more years of college, and the County's population had an average of 10.2 years of schooling. In comparison, the United States had less than 28 percent with one year of high school education, or less, and 11 percent with four years of college or more. The median years of education was 12.2 years.

The study corridor has a level of education similar to Hudson County. About 37 percent of its residents who were 25 years and over, or 72,000 persons, had one year of high school education, or less, and only 5.6 percent attended four years of college, or more. The median years of education is just below 11 years.

The third factor is the resulting concentration of persons in the unskilled, low-paying occupations. Table 18 shows a comparison of the occupations held by Hudson County, New York SMSA, and United States residents in 1970. As shown, a total of 31.1 percent of the County's residents were employed as laborers, farmers, and operatives. All are considered low-paying occupations. In comparison, 17.0 percent of the New York SMSA and 25.1 percent of the United States labor forces were in the above occupations. At the same time, over 26.0 percent of the New York SMSA and United States employees were in the higher paying professional, technical and managerial occupations while only 15.6 percent of the Hudson County residents were in the same categories.

A fourth, and last factor is that most of the 1970 income of Hudson County families was from wages and salaries. Only 24 percent

Table 18

COMPARISON OF EMPLOYEE OCCUPATIONS - 1970

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

TYPE OF EMPLOYMENT	HUDSON COUNTY	NEW YORK SMSA	UNITED STATES
		(per cent)	
Professional, Technical and Managerial	15.6	26.0	26.2
Sales	5.1	8.0	6.7
Clerical	24.6	25.0	18.0
Craftsmen and Foremen	12.2	11.0	13.5
Operatives	25.3	13.6	17.0
Laborers and Farmers	5.8	3.4	8.1
Service Workers	11.2	13.0	10.7

SOURCE: U. S. Bureau of Census, New Jersey General, Social and Economic Characteristics.

of the total income was earned from outside investments. This is lower than other areas and may reflect the fact that few families had savings for investment. In comparison, outside investments represented 33.5 and 32.8 per cent of the total New York SMSA and United States incomes, respectively.

Auto Ownership - The number and availability of automobiles in area households is an important factor in determining the degree of dependence on public transportation. The Jersey City-Bayonne Corridor has lower automobile ownership than most sections of the Tri-State Region, indicating heavier dependence on mass transit. In this corridor, where subway lines are practically non-existent, except for PATH serving Newark, Hoboken, and New York City, dependence on mass transit means dependence on the bus network.

The 1970 census data indicated that 89 per cent of all families in Jersey City and Bayonne had one (46 per cent) or no (43 per cent) automobiles available at all. Although Hudson County, as a whole, had a similar distribution of vehicle ownership, the Tri-State Region was quite different. Shown in Table 19 are the relationships in vehicle ownership for the Jersey City-Bayonne Corridor, Hudson County, and the New Jersey portion of the Tri-State Region.

As shown, about 41 per cent of Hudson County households had no auto available while less than 20 per cent of households in the Tri-State Region in New Jersey were in the same category. By contrast, only 11 per cent of the families in the study area and 12 per cent in Hudson County owned two or more cars, while nearly 37 per cent of the Tri-State Region's New Jersey households owned two or more cars.

Table 19

COMPARISON OF VEHICLE OWNERSHIP

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

AUTOS/HOUSEHOLD	JERSEY CITY - BAYONNE CORRIDOR	HUDSON COUNTY	TRI-STATE REGION
	(per cent)		
None	41.2	40.8	19.5
One	47.7	47.1	43.6
Two	9.8	10.6	31.0
Three or More	1.3	1.5	5.9
Persons per Vehicle	4.19	4.03	2.60

SOURCE: 1970 Census of Population.

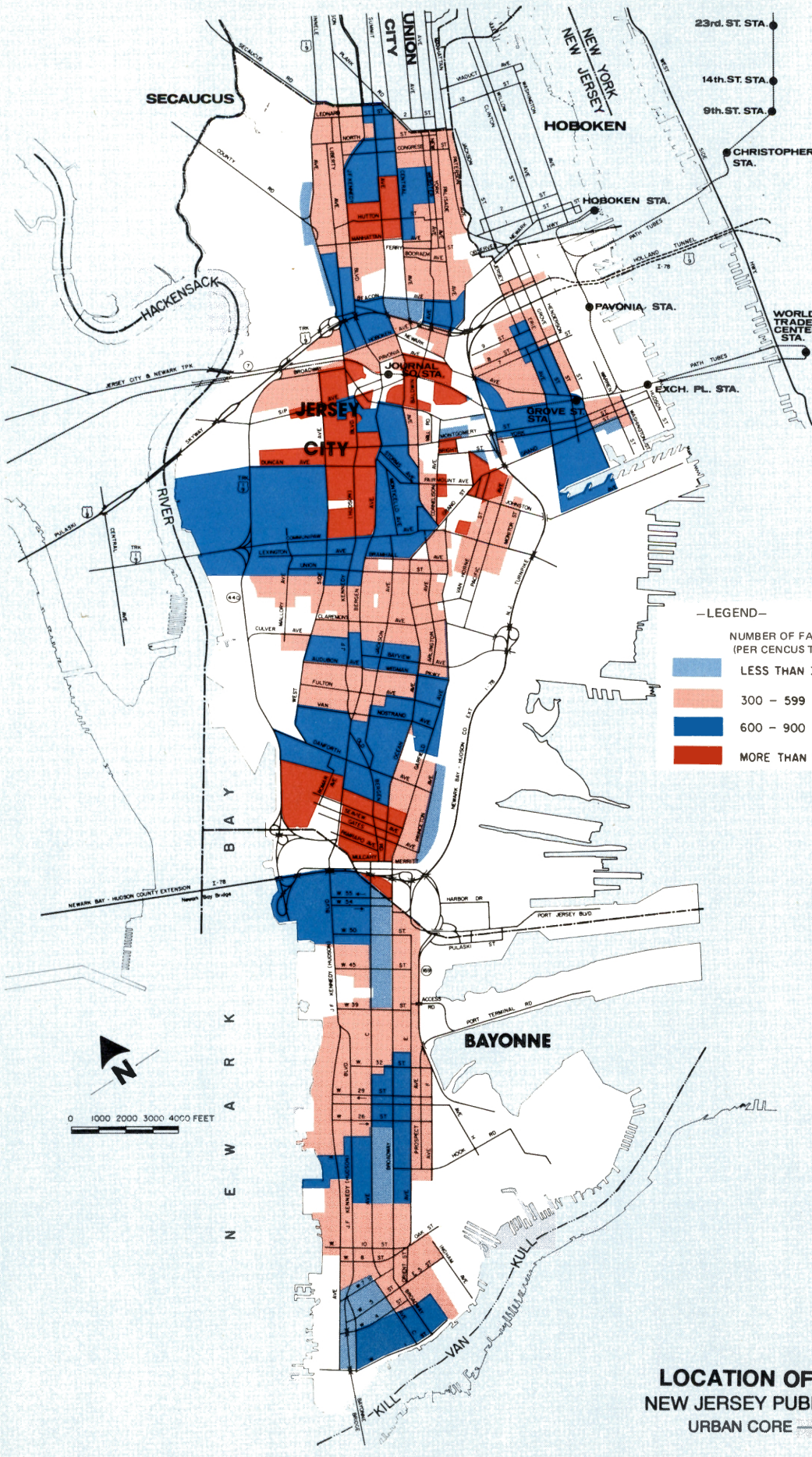
Relating autos to persons, in the Jersey City-Bayonne Corridor, the ratio was 4.19 persons per vehicle. Hudson County had 4.03 persons per vehicle and the New Jersey portion of the Tri-State Region had a ratio of 2.60 persons per vehicle. From these data, it is evident that the study area and Hudson County are very dependent on public transportation.

It is generally considered that families owning one car or less include some captive public transit users. In the study area, this represents about 99,000 families, or approximately 290,000 persons who are somewhat dependent on the bus network and the PATH system.

Comparisons of existing bus routes to the residential location pattern of the 99,000 families with limited private transportation is a basis for evaluating present bus service coverage, and is an integral part of later chapters of this report. Shown in Figures 22 and 23, and summarized in Table 20, are the locations of families owning one vehicle or less. It is noted that there is a similarity in location of residence between these families and those with income of $10,000,or less. Over 95 percent of the families in the Journal Square, Downtown, and Lafayette areas have one or no vehicles available. Overall, 90.7 percent of all Jersey City families and 82.9 percent of the Bayonne households fall in the above category.

Existing Travel Patterns

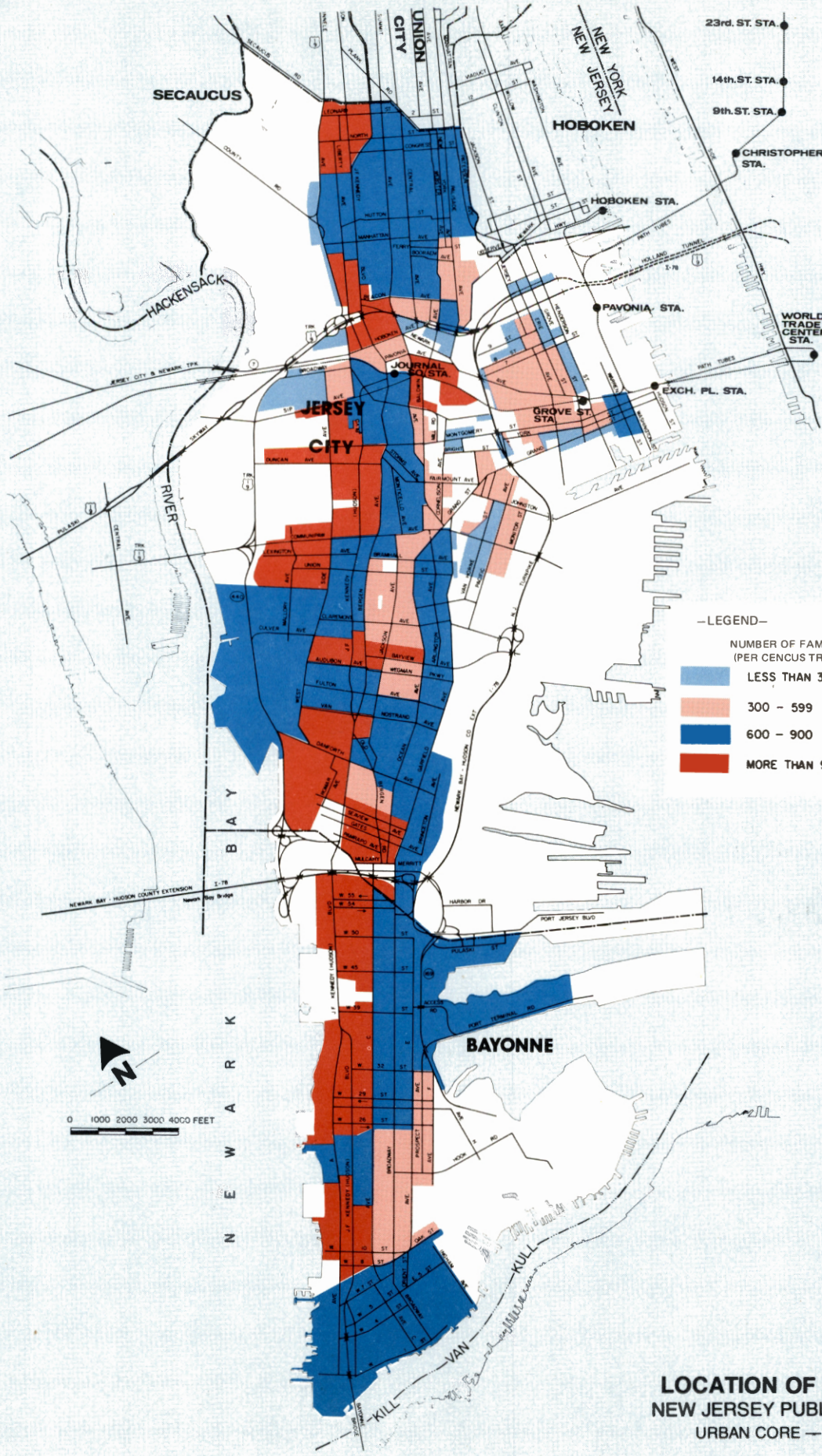
Travel patterns are generally good parameters of area residents' dependence on and outlook toward public transit. Purpose and mode of travel are of primary importance in evaluations of travel needs. There are several reasons for travel including work,



LOCATION OF NO VEHICLE FAMILIES
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 22



LOCATION OF ONE VEHICLE FAMILIES
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 23

Table 20

AUTOMOBILE AVAILABILITY BY NEIGHBORHOOD

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

PLACE OF RESIDENCE	AVAILABLE VEHICLES PER HOUSEHOLD							
	None		One		Two or More		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Jersey City Neighborhoods								
Hudson	8,747	40.6	10,602	49.3	2,174	10.1	21,523	100.0
Journal Square	3,428	53.6	2,675	41.8	291	4.6	6,394	100.0
Marion	3,741	48.2	3,382	43.5	646	8.3	7,769	100.0
Downtown	6,871	59.4	4,169	36.0	536	4.6	11,576	100.0
Lafayette	2,821	59.5	1,693	35.7	226	4.8	4,740	100.0
Bergen	7,224	44.8	7,239	44.9	1,669	10.3	16,132	100.0
Greenville	7,438	37.8	9,638	48.9	2,628	13.3	19,704	100.0
TOTAL Jersey	40,270	45.8	39,398	44.9	3,170	9.3	87,838	100.0
Bayonne Neighborhoods								
Uptown	2,120	25.4	4,540	54.3	1,700	20.3	8,360	100.0
Midtown	4,385	36.4	5,940	49.4	1,708	14.2	12,033	100.0
Bergen Point	1,285	31.0	2,061	50.0	783	19.0	4,129	100.0
TOTAL Bayonne	7,790	31.8	12,541	51.1	4,191	17.1	24,522	100.0
TOTAL CORRIDOR	48,060	42.8	51,939	46.2	12,361	11.0	112,360	100.0

SOURCE: 1970 Census Data.

shop, education and entertainment. Of these, mode of travel to and from work is a key indication of resident attitudes toward public transit.

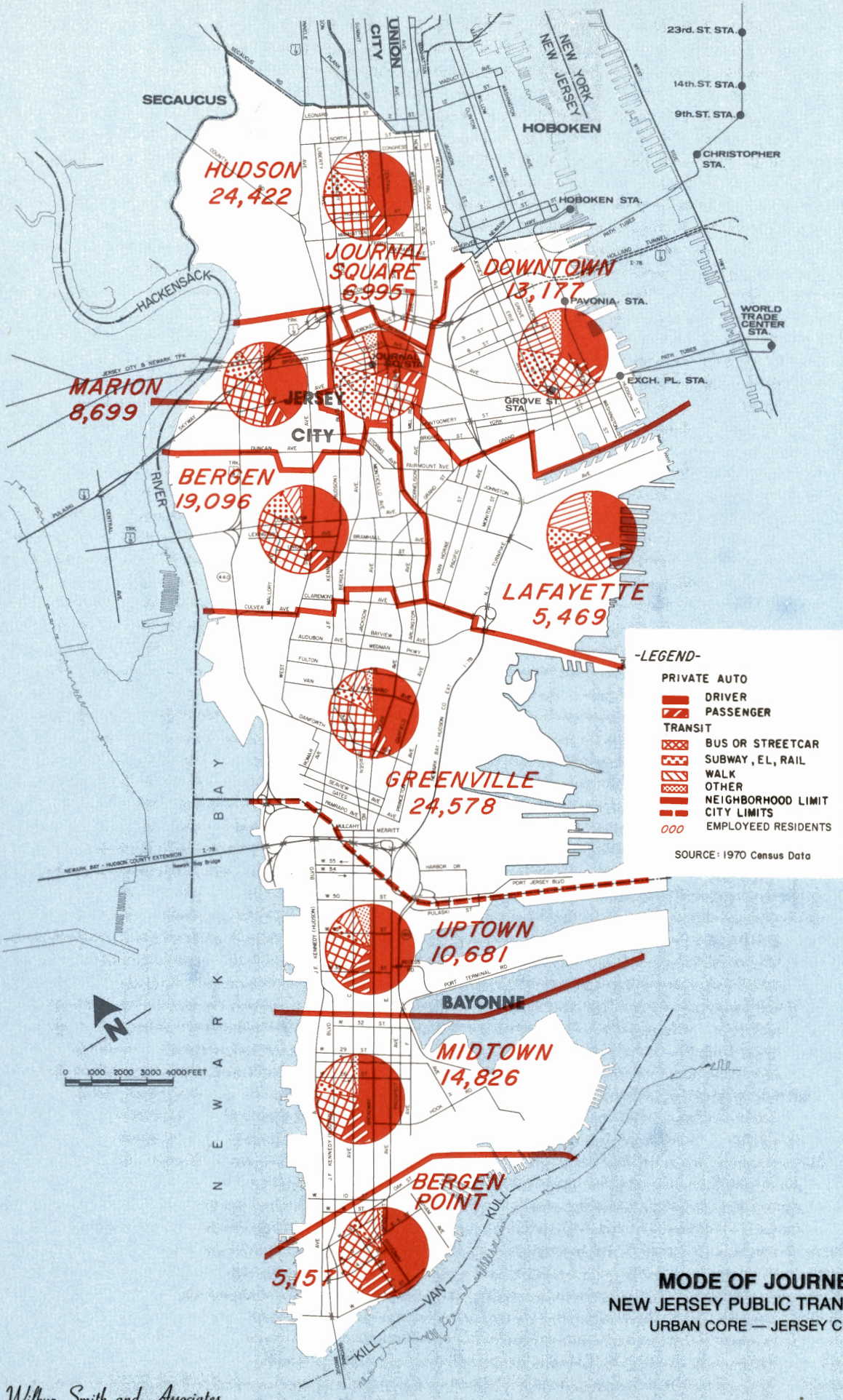
Work Trips - Shown in Figure 24 and Table 21 are the primary modes of travel to work by neighborhood of residence based on 1970 census data. The primary mode does not mean the only mode used, nor the first taken, but that utilized for the largest portion of the distance traveled.

As shown, private autos were used by a large portion of the work force, particularly in Bayonne where autos accounted for almost 60 per cent of all work trips. In Jersey City, less than 45 per cent of the residents used private autos. In the Journal Square and Downtown areas, where the PATH subway system is very accessible, about 30 to 36 per cent of the residents use private autos.

Public transit, including bus and subway, accounted for about 25 per cent of all work trips in Bayonne and about 40 per cent of those in Jersey City. In both cities, buses accounted for the bulk of the public transit travel, except in the Journal Square area where the PATH system carried one-fourth of the residents.

It is noted that a considerable portion of the corridor residents walked to work. This was especially evident in the Journal Square, Downtown and Lafayette areas of Jersey City and the Midtown and Bergen Point sections of Bayonne.

A comparison of mode of travel to work to vehicle availability is shown in Table 22. There does not appear to be a direct relationship between vehicle availability and use of mass transit. The



MODE OF JOURNEY TO WORK
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 24

Table 21

SUMMARY OF MODE OF TRAVEL TO WORK BY NEIGHBORHOODS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

PLACE OF RESIDENCE	MODE OF TRAVEL: Private Auto: Driver	Private Auto: Passenger	Private Auto: Total Auto	Private Auto: Per Cent of All Workers	Public Transit: Bus	Public Transit: Per Cent of All Workers	Public Transit: Rail	Public Transit: Per Cent of All Workers	Public Transit: Total Public	Public Transit: Per Cent of All Workers	Other: Walk	Other: Per Cent of All Workers	Other: Other	Other: Per Cent of All Workers	All Workers
Jersey City Neighborhoods															
Hudson	9,805	1,930	11,735	48.0	6,767	27.8	2,776	11.3	9,543	39.1	2,541	10.4	603	2.5	24,422
Journal Square	1,687	403	2,090	29.9	1,828	26.1	1,825	26.1	3,653	52.2	1,078	15.4	174	2.5	6,995
Marion	2,917	695	3,612	41.5	2,451	28.2	1,137	13.0	3,588	41.2	1,274	14.6	225	2.6	8,699
Downtown	3,885	842	4,727	35.9	3,281	24.9	2,377	18.0	5,658	42.9	2,468	18.7	324	2.5	13,177
Lafayette	1,616	515	2,131	39.0	1,678	30.6	431	7.9	2,109	38.5	1,122	20.5	107	2.0	5,469
Bergen	7,025	1,663	8,688	45.5	6,488	34.0	1,992	10.4	8,480	44.4	1,610	8.4	318	1.7	19,096
Greenville	10,724	2,164	12,888	52.4	7,715	31.4	1,993	8.1	9,708	39.5	1,632	6.7	351	1.4	24,578
TOTAL Jersey City	37,659	8,212	45,871	44.8	30,208	29.5	12,531	12.2	42,739	41.7	11,725	11.4	2,102	2.1	102,436
Bayonne Neighborhoods															
Uptown	5,416	1,278	6,694	62.7	2,373	22.2	499	4.7	2,872	26.9	793	7.4	322	3.0	10,681
Midtown	6,382	1,843	8,225	55.5	3,250	21.9	483	3.3	3,733	25.2	2,356	15.9	512	3.4	14,826
Bergen Point	2,229	675	2,904	56.3	1,269	24.6	226	4.4	1,495	29.0	662	12.8	96	1.9	5,157
TOTAL Bayonne	14,027	3,796	17,823	58.1	6,892	22.6	1,208	3.9	8,100	26.5	3,811	12.4	930	3.0	30,664
TOTAL CORRIDOR	51,686	12,008	63,694	47.9	37,100	27.9	13,739	10.3	50,839	38.2	15,536	11.7	3,032	2.3	133,100

Source: 1970 Census Data

Table 22

COMPARISON OF MODE OF TRAVEL TO WORK AND AVAILABLE VEHICLES

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

PLACE OF RESIDENCE	MODE OF TRAVEL			AVAILABLE VEHICLES			
	Private Auto	Public	Walk	None	One	One or More	Two or More
	(per cent)						
Jersey City Neighborhoods							
Hudson	48.0	39.1	10.4	40.6	49.3	59.4	10.1
Journal Square	29.9	52.2	15.4	53.6	41.8	46.4	4.6
Marion	41.5	41.2	14.6	48.2	43.5	51.8	8.3
Downtown	35.9	42.9	18.7	59.4	36.0	40.6	4.6
Lafayette	39.0	38.5	20.5	59.5	35.7	40.5	4.8
Bergen	45.5	44.4	8.4	44.8	44.9	55.2	10.3
Greenville	52.4	39.5	6.7	37.8	48.9	62.2	13.3
TOTAL Jersey City	44.8	41.7	11.4	45.8	44.9	54.2	9.3
Bayonne Neighborhoods							
Uptown	62.7	26.9	7.4	25.4	54.3	74.6	20.3
Midtown	55.5	25.2	15.9	36.4	49.4	63.6	14.2
Bergen Point	56.3	29.0	12.8	31.0	50.0	69.0	19.0
TOTAL Bayonne	58.1	26.5	12.4	31.8	51.1	68.2	17.1
TOTAL CORRIDOR	47.9	38.2	11.7	42.8	46.2	57.2	11.0

SOURCE: 1970 Census Data.

Lafayette area, which has the lowest rate of vehicle availability in Jersey City (40.5 per cent of all households had one or more vehicles available), also showed the lowest rate of mass transit use (only 38.5 per cent of all workers). Similarly, the Downtown area had only 40.6 per cent of all households with one or more vehicles available and 42.9 per cent of the workers utilizing public transit.

Overall, in Jersey City, 44.8 per cent of all employees arrived at work by private auto, either as a driver or as a passenger. At the same time, 54.2 per cent of the households had one or more vehicles available for their use, indicating that a considerable number of the other family members would depend on mass transit for their travel needs. Bayonne had similar numbers with 57.2 per cent of all households having one or more vehicles available and as many as 47.9 per cent of the workers taking the car to work. This relatively high percentage of private auto use to and from work, combined with the fact that vehicle registration in the study area is low (4.19 persons per vehicle), suggests that one or more of several problems may exist, including:

a. Residents do not find public transportation very reliable;
b. Concern for personal safety on the public system;
c. Private auto is faster and provides door-to-door service; and
d. Public transportation does not provide service to all destinations.

Another important factor in any analysis of transportation needs is the availability of public transit between locations of residence and places of work. Tabulations, showing 1970 origins

and destinations of work trips, were prepared by the Tri-State Regional Planning Commission. Data pertaining to the Jersey City-Bayonne Corridor were summarized and are shown in Table 23.

As shown, 50.8 per cent of all Jersey City residents were employed within Jersey City with another 18.5 per cent in other areas of Hudson County. Of the remaining 30.7 per cent, 9.8 per cent worked in Manhattan, 7.9 per cent in the remainder of New York City, 3.7 per cent in Newark, and the balance in other areas in the region.

Bayonne had a similar distribution of employees. Although only 17.2 per cent of its residents worked within Jersey City, a high percentage (55.9) were employed within the remainder of Hudson County, including Bayonne. Of the remaining 26.9 per cent, 6 per cent worked in Manhattan, 5.7 in the rest of New York City and 4.0 in Newark.

Of the Jersey City-Bayonne population, about 71 per cent worked within Hudson County, 8.9 per cent in Manhattan, 7.4 per cent in the remainder of New York City, 3.8 per cent in Newark, and the balance in surrounding areas. These data indicate that most residents of the corridor, about 85 per cent, were employed within a 15-mile distance from their residence. Under these conditions, a reliable mass transit system is generally an attractive mode of transportation to and from work. The fact that only 26.5 per cent of all work trips in Bayonne and 39.5 per cent of those in Jersey City made use of public transit, indicates the possibility of a latent market for public transportation patronage in the corridor.

Table 23

SUMMARY OF PLACE OF WORK BY NEIGHBORHOODS (1)

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

	PLACE OF WORK																	
	Jersey City CBD		Remainder of Jersey City		Remainder of Hudson County		Newark		Remainder of New Jersey		Manhattan		Remainder of New York City		Remainder of New York State		All Workers	
PLACE OF RESIDENCE	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Jersey City Neighborhoods																		
Hudson	411	1.9	9,140	41.7	5,144	23.5	747	3.4	2,180	10.0	2,311	10.6	1,763	8.1	173	0.8	21,869	100.0
Journal Square	325	5.1	2,753	43.4	827	13.0	196	3.1	429	6.8	1,114	17.6	660	10.4	41	0.6	6,345	100.0
Marion	261	3.6	3,711	50.7	1,036	14.1	343	4.7	606	8.3	647	8.8	655	8.9	64	0.9	7,323	100.0
Downtown	127	1.1	6,107	54.4	1,553	13.8	316	2.8	905	8.1	1,180	10.5	947	8.4	99	0.9	11,234	100.0
Lafayette	27	0.8	1,996	58.9	588	17.3	113	3.3	220	6.5	228	6.7	197	5.8	25	0.7	3,394	100.0
Bergen	376	2.3	7,855	48.3	2,907	17.9	741	4.5	1,520	9.4	1,539	9.5	1,191	7.3	126	0.8	16,255	100.0
Greenville	556	2.6	10,902	50.7	4,193	19.5	850	3.9	1,646	7.6	1,626	7.5	1,561	7.2	216	1.0	21,550	100.0
TOTAL JERSEY CITY	2,083	2.4	42,464	48.4	16,248	18.5	3,306	3.7	7,506	8.5	8,645	9.8	6,974	7.9	744	0.8	87,970	100.0
Bayonne Neighborhoods																		
Uptown	99	1.0	1,667	16.8	5,348	53.9	366	3.7	1,036	10.4	739	7.4	534	5.4	140	1.4	9,929	100.0
Midtown	103	0.7	2,281	16.3	7,976	56.9	572	4.1	1,410	10.1	756	5.4	717	5.1	192	1.4	14,007	100.0
Bergen Point	51	1.0	759	15.4	2,809	57.1	225	4.6	396	8.1	223	4.5	389	7.9	68	1.4	4,920	100.0
TOTAL BAYONNE	253	0.9	4,707	16.3	16,133	55.9	1,163	4.0	2,842	9.8	1,718	6.0	1,640	5.7	400	1.4	28,856	100.0
TOTAL CORRIDOR	2,336	2.0	47,171	40.4	32,381	27.7	4,469	3.8	10,348	8.8	10,363	8.9	8,614	7.4	1,144	1.0	116,826	100.0

Source: Tri-State Regional Planning Commission.

(1) Does not include persons who did not report to their place of work in the 1970 Census.

Table 24 shows a comparison of mode of travel to work and place of work by neighborhoods. It is noted that the areas with highest public transit use are those with a high number of employees working in Manhattan. In the Journal Square area, where over 52 per cent of the residents use mass transit, over 17 per cent work in Manhattan. Conversely, Lafayette had only a 38.5 per cent of its workers utilizing mass transit and 6.7 per cent working in Manhattan. Of course, the accessibility to PATH at Journal Square, as well as the low availability of private autos were other key factors in the use of mass transit.

Access Mode to PATH - A closer look at mass transit users, particularly those utilizing PATH, should bring forth additional characteristics of Jersey City and Bayonne residents. There are presently 26 bus lines operated by Transport of New Jersey or Independent Bus Owners Associations providing local service within the study area. Of the 26 lines, 25 operate through or terminate at either the Journal Square Bus Terminal or Exchange Place. The Broadway Bus, the only line not utilizing either Journal Square or Exchange Place, transfers many passengers to other buses that do. It appears likely, therefore, that characteristics of PATH riders are representative of transit riders in the area.

A survey of passengers boarding PATH trains at Journal Square, Exchange Place, and Grove Street, was conducted in May 1974 by the Port Authority of New York and New Jersey and by the New Jersey Department of Transportation. The survey was part of a total commuter rail survey of North Jersey rail lines. Data from the survey were summarized and are presented in the following pages.

Table 24

COMPARISON OF MODE OF TRAVEL TO WORK AND PLACE OF WORK

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

	MODE OF TRAVEL TO WORK[1]								PLACE OF WORK[2]									
	Private Auto		Public Transit		Walk		Total Workers		Jersey City		Remainder of Hudson County		Manhattan		Other		Total Workers	
PLACE OF RESIDENCE	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Jersey City Neighborhoods																		
Hudson	11,735	48.0	9,543	39.1	2,541	10.4	24,422	100.0	9,551	43.6	5,144	23.5	2,311	10.6	4,863	22.3	21,869	100.0
Journal Square	2,090	29.9	3,653	52.2	1,078	15.4	6,995	100.0	3,078	48.5	827	13.0	1,114	17.6	1,326	20.9	6,345	100.0
Marion	3,612	41.5	3,588	41.2	1,274	14.6	8,699	100.0	3,972	54.3	1,036	14.1	647	8.8	1,668	22.8	7,323	100.0
Downtown	4,727	35.9	5,658	42.9	2,468	18.7	13,177	100.0	6,234	55.5	1,553	13.8	1,180	10.5	2,267	20.2	11,234	100.0
Lafayette	2,131	39.0	2,109	38.5	1,122	20.5	5,469	100.0	2,023	59.7	588	17.3	228	6.7	555	16.3	3,394	100.0
Bergen	8,688	45.5	8,480	44.4	1,610	8.4	19,096	100.0	8,231	50.6	2,907	17.9	1,539	9.5	3,578	22.0	16,255	100.0
Greenville	12,888	52.4	9,708	39.5	1,632	6.7	24,578	100.0	11,458	53.3	4,193	19.5	1,626	7.5	4,273	19.7	21,550	100.0
TOTAL JERSEY CITY	45,871	44.8	42,739	41.7	11,725	11.4	102,436	100.0	44,547	50.7	16,248	18.5	8,645	9.8	18,530	21.0	87,970	100.0
Bayonne Neighborhoods																		
Uptown	6,694	62.7	2,872	26.9	793	7.4	10,681	100.0	1,766	17.8	5,348	53.9	739	7.4	2,073	20.9	9,929	100.0
Midtown	8,225	55.5	3,733	25.2	2,356	15.9	14,826	100.0	2,384	17.0	7,976	56.9	756	5.4	2,891	20.7	14,007	100.0
Bergen Point	2,904	56.3	1,495	29.0	662	12.8	5,157	100.0	810	16.4	2,809	57.1	223	4.5	1,078	22.0	4,920	100.0
TOTAL BAYONNE	17,823	58.1	8,100	26.5	3,811	12.4	30,664	100.0	4,960	17.2	16,133	55.9	1,718	6.0	6,045	20.9	28,856	100.0
TOTAL CORRIDOR	63,694	47.9	50,839	38.2	15,536	11.7	133,100	100.0	49,507	42.4	32,381	27.7	10,363	8.9	24,575	21.0	116,826	100.0

(1) Source: 1970 Census Data - Includes all study area workers.

(2) Source: Tri-State Regional Planning Commission - Does not include workers who did not report their place of work in the 1970 Census.

Table 25 shows the origins of boarding passengers by mode of arrival at the stations. As shown, 18,264 persons, or 76.2 percent of all passengers had origins within Jersey City. Another indication of the local character of the PATH riders is the fact that nearly 40 percent walked to the stations. Buses carried 36.8 percent, or 8,823 PATH riders, and private auto drivers or passengers were 20.3 percent of the total. Other modes, such as taxis and bicycles, accounted for the remaining 2.9 percent.

A major portion of the survey involved identification of bus routes utilized by PATH passengers to arrive at each PATH station. Of the 8,817 bus riders,based on turnstile counts, boarding PATH trains at the three Jersey City PATH stations, 4,873 persons indicated that they used one of the local bus routes analyzed in this study. Another 683 persons indicated use of one of the other study area routes including DeCamp Bus Lines, Blue and White Bus Company, Domenico Bus Service, South Hudson No. 55, and Hudson Bus Nos. 99 and 99S. The remaining 3,261 persons did not indicate any route.

A distribution of PATH passengers at the three Jersey City PATH stations, by bus route used, is shown in Table 26. Of the 8,817 PATH passengers, 6,525 indicated they boarded at Journal Square, 1,734 at Grove Street, and 558 at Exchange Place. The South Hudson County Boulevard and Bergen Avenue bus routes accounted for almost half the passengers boarding at Journal Square, and the TNJ No. 14 bus for more than half the passengers at the Grove Street and Exchange Place stations.

Origins of PATH passengers, by bus route used and place of boarding the PATH subway system, were also indicated. These data were summarized for the eight bus lines accounting for most of the

Table 25

MODE OF ARRIVAL OF PATH RIDERS AT THREE JERSEY CITY PATH TERMINALS BY ORIGINS

6:00 A.M. to 11:59 P.M.

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ORIGIN	AUTO	TAXI	BUS	WALK	OTHER	TOTAL	PERCENT OF TOTAL
Jersey City Neighborhoods							
Hudson	459	14	1,308	826	-	2,607	10.9
Journal Square	185	29	462	3,288	17	3,981	16.6
Marion	200	24	393	858	4	1,479	6.2
Downtown	358	72	305	3,912	42	4,689	19.6
Lafayette	98	-	361	121	4	584	2.4
Bergen	314	13	1,563	421	25	2,336	9.7
Greenville	567	18	1,898	-	105	2,588	10.8
TOTAL Jersey City	2,181	170	6,290	9,426	197	18,264	76.2
Bayonne Neighborhoods	837	-	1,245	-	7	2,089	8.7
Other Areas (1)	1,816	3	1,288	-	504	3,611	15.1
TOTAL	4,834	173	8,823	9,426	708	23,964	100.0
Percent of Total	20.3%	0.7%	36.8%	39.3%	2.9%	100.0%	

(1) Includes other Hudson County, adjacent New Jersey and New York locations.
NOTE: Only boarding PATH riders were surveyed.
SOURCE: Port Authority of New York and New Jersey 1974 PATH Rider survey.

Table 26

DISTRIBUTION OF BUS LINES USED BY PATH PASSENGERS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

BUS ROUTE	PATH STATION					
	Journal Square		Grove Street		Exchange Place	
	Persons	Percent	Persons	Percent	Persons	Percent
TNJ #1	4	0.1	-	-	6	2.5
TNJ #7	151	3.9	-	-	-	-
TNJ #9	436	11.2	89	11.7	47	19.3
TNJ #14	-	-	448	58.6	131	53.7
TNJ #16/122/124	106	2.7	-	-	2	0.8
TNJ #18	-	-	-	-	-	-
TNJ #31	-	-	3	0.4	-	-
TNJ #43	-	-	9	1.2	-	-
TNJ #44	71	1.8	-	-	-	-
A&C IBOA	57	1.5	-	-	-	-
Bergen Avenue IBOA	830	21.5	-	-	-	-
Central Avenue IBOA	366	9.5	-	-	-	-
Downtown Bus Company	36	0.9	-	-	-	-
Hudson Bus Transportation Company	111	2.9	-	-	-	-
Lafayette and Greenville IBOA	113	2.9	144	18.8	24	9.8
Montgomery and West Side IBOA	3	0.1	71	9.3	34	13.9
North Hudson Boulevard IBOA	649	16.8	-	-	-	-
South Hudson County Boulevard IBOA	932	24.2	-	-	-	-
Subtotal	3,865	100.0	764	100.0	244	100.0
Bus Route Not Indicated	2,091	-	911	-	259	-
Other Routes(1)	569	-	59	-	55	-
TOTAL	6,525	-	1,734	-	558	-

(1) Included DeCamp Bus Lines, Blue and White Bus Company, Domenico Bus Service, South Hudson Boulevard #55, and Hudson Bus Company Nos. 99 and 99S.

SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

passengers and presented in the following tables.

TNJ Routes 7, 9, and 14 are shown in Tables 27, 28, and 29, respectively. As shown, all of the Route 7 passengers originated in Jersey City, most from the Hudson area.

The TNJ No. 9 passenger origins are shown in Table 28. All of the passengers originated in Jersey City.

Another TNJ line summarized is the No. 14 shown in Table 29. Most of the PATH riders using this route originated in Bayonne (368 persons) and boarded PATH at Grove Street (448 persons).

Of the independent bus associations, the South Hudson County Boulevard and Bergen Avenue IBOA's transported the greatest numbers of passengers to PATH with 932 and 830 persons, respectively. Of the Bergen Avenue bus passengers, shown in Table 30, most came from the southern section of Jersey City (628 persons) and Bayonne (110 persons). The South Hudson County Boulevard route shown in Table 31, had a similar distribution of passenger origins with south Jersey City and Bayonne indicated as the origins of 463 and 339 persons, respectively.

Other independents are shown in Tables 32 (Central Avenue IBOA), 33 (Lafayette and Greenville IBOA), and 34 (North Hudson Boulevard IBOA). All of the passengers of Central Avenue boarded PATH at Journal Square and most originated in the Hudson area of Jersey City. All of the Lafayette and Greenville passengers originated in Jersey City, most from the Greenville section.

The North Hudson Boulevard bus from Nungessers is shown in Table 34. As shown, all the passengers boarded at Journal Square

Table 27

ORIGINS OF BUS PASSENGERS

ARRIVING AT JERSEY CITY PATH STATIONS

TNJ No. 7

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

NEIGHBORHOOD	PERSONS ARRIVING AT JOURNAL SQUARE	
	Number	Percent
Jersey City		
Hudson	101	62.7
Journal Square	11	6.8
Marion	-	-
Downtown	-	-
Lafayette	-	-
Bergen	22	13.7
Greenville	27	16.8
TOTAL	161	100.0

SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

Table 28

ORIGINS OF BUS PASSENGERS

ARRIVING AT JERSEY CITY PATH STATIONS

TNJ No. 9

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

COUNTY, CITY OR NEIGHBORHOOD	PERSONS ARRIVING AT Journal Square	Grove Street	Exchange Place	TOTAL Number	TOTAL Percent
Jersey City					
Hudson	-	-	2	2	0.3
Journal Square	13	-	-	13	2.3
Marion	93	-	7	100	17.5
Downtown	-	53	7	60	10.5
Lafayette	-	10	7	17	3.0
Bergen	145	19	13	177	31.0
Greenville	136	3	7	146	25.5
TOTAL JERSEY CITY	387	85	43	515	90.1
Other Cities					
Bayonne	-	4	2	6	1.0
Kearny, East Newark and Harrison	-	-	-	-	-
Secaucus, North Bergen and Guttenberg	-	-	-	-	-
Union City, Weehawken and West New York	5	-	-	5	0.9
Hoboken	-	-	-	-	-
TOTAL HUDSON COUNTY	392	89	45	526	92.0
Other Areas					
Bergen County, Passaic County and North	-	-	-	-	-
Essex, Union, Morris, West and South	44	-	2	46	8.0
GRAND TOTAL	436	89	47	512	100.0

SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

Table 29

ORIGINS OF BUS PASSENGERS

ARRIVING AT JERSEY CITY PATH STATIONS

TNJ No. 14

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

CITY OR NEIGHBORHOOD	PERSONS ARRIVING AT Grove Street Number	Grove Street Percent	Exchange Place Number	Exchange Place Percent
Jersey City				
Hudson	-	-	-	-
Journal Square	-	-	-	-
Marion	17	3.8	-	-
Downtown	9	0.2	10	7.6
Lafayette	54	12.1	2	1.5
Bergen	18	4.0	-	-
Greenville	91	20.3	11	8.4
TOTAL JERSEY CITY	189	40.4	23	17.5
Other Cities				
Bayonne	259	59.6	108	82.5
Kearny, East Newark and Harrison	-	-	-	-
Secaucus, North Bergen and Guttenberg	-	-	-	-
Union City, Weehawken and West New York	-	-	-	-
Hoboken	-	-	-	-
TOTAL	448	100.0	131	100.0

SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

Table 30

ORIGINS OF BUS PASSENGERS

ARRIVING AT JERSEY CITY PATH STATIONS

Bergen Avenue IBOA

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

CITY OR NEIGHBORHOOD	PERSONS ARRIVING AT Journal Square	
	Number	Percent
Jersey City		
Hudson	4	0.5
Journal Square	35	4.2
Marion	36	4.3
Downtown	-	-
Lafayette	17	2.0
Bergen	344	41.5
Greenville	284	34.2
TOTAL JERSEY CITY	720	86.7
Other Cities		
Bayonne	110	13.3
Kearny, East Newark and Harrison	-	-
Secaucus, North Bergen and Guttenberg	-	-
Union City, Weehawken and West New York	-	-
Hoboken	-	-
TOTAL	830	100.0

SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

Table 31

ORIGINS OF BUS PASSENGERS

ARRIVING AT JERSEY CITY PATH STATIONS
South Hudson County Boulevard IBOA No. 10
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

CITY OR NEIGHBORHOOD	PERSONS ARRIVING AT Journal Square	
	Number	Percent
Jersey City		
Hudson	22	2.4
Journal Square	47	5.0
Marion	30	3.2
Downtown	-	-
Lafayette	12	1.3
Bergen	214	23.0
Greenville	249	26.7
TOTAL JERSEY CITY	574	61.6
Other Cities		
Bayonne	339	36.4
Kearny, East Newark and Harrison	11	1.2
Secaucus, North Bergen and Guttenberg	-	-
Union City, Weehawken and West New York	8	0.8
Hoboken	-	-
TOTAL	932	100.0

SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

Table 32

ORIGINS OF BUS PASSENGERS

ARRIVING AT JERSEY CITY PATH STATIONS

Central Avenue IBOA to Gates Avenue and CNJ Terminal

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

CITY OR NEIGHBORHOOD	PERSONS ARRIVING AT JOURNAL SQUARE	
	Number	Percent
Jersey City		
Hudson	237	64.8
Journal Square	33	9.0
Marion	-	-
Downtown	4	1.1
Lafayette	11	3.0
Bergen	32	8.7
Greenville	30	8.2
TOTAL JERSEY CITY	347	94.8
OTHER CITIES		
Bayonne	-	-
Kearny, East Newark and Harrison	-	-
Secaucus, North Bergen and Guttenberg	-	-
Union City, Weehawken and West New York	19	5.2
Hoboken	-	-
TOTAL	366	100.0

SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

Table 33

ORIGINS OF BUS PASSENGERS

ARRIVING AT JERSEY CITY PATH STATIONS

Lafayette and Greenville IBOA

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

NEIGHBORHOOD	PERSONS ARRIVING AT: JOURNAL SQUARE	GROVE STREET	EXCHANGE PLACE	TOTAL Number	TOTAL Percent
Jersey City					
Hudson	-	-	-	-	-
Journal Square	-	-	-	-	-
Marion	-	-	-	-	-
Downtown	4	15	-	19	6.8
Lafayette	6	32	-	38	13.5
Bergen	7	30	-	37	13.2
Greenville	96	67	24	187	66.5
TOTAL	113	144	24	281	100.0

SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

Table 34

ORIGINS OF BUS PASSENGERS

ARRIVING AT JERSEY CITY PATH STATIONS

North Hudson Boulevard IBOA #1 to Nungessers

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

COUNTY, CITY OR NEIGHBORHOOD	PERSONS ARRIVING AT JOURNAL SQUARE	
	Number	Percent
Jersey City		
Hudson	433	66.8
Journal Square	12	1.8
Marion	15	2.3
Downtown	-	-
Lafayette	-	-
Bergen	-	-
Greenville	-	-
TOTAL JERSEY CITY	460	70.9
OTHER HUDSON COUNTY CITIES		
Bayonne	-	-
Kearny, East Newark and Harrison	106	16.3
Secaucus, North Bergen and Guttenberg	7	1.1
Union City, Weehawken and West New York	56	8.6
Hoboken	-	-
TOTAL HUDSON COUNTY	629	96.9
OTHER AREAS		
Bergen County, Passaic County and North	12	1.9
Essex, Union, Morris, West and South	8	1.2
GRAND TOTAL	649	100.0

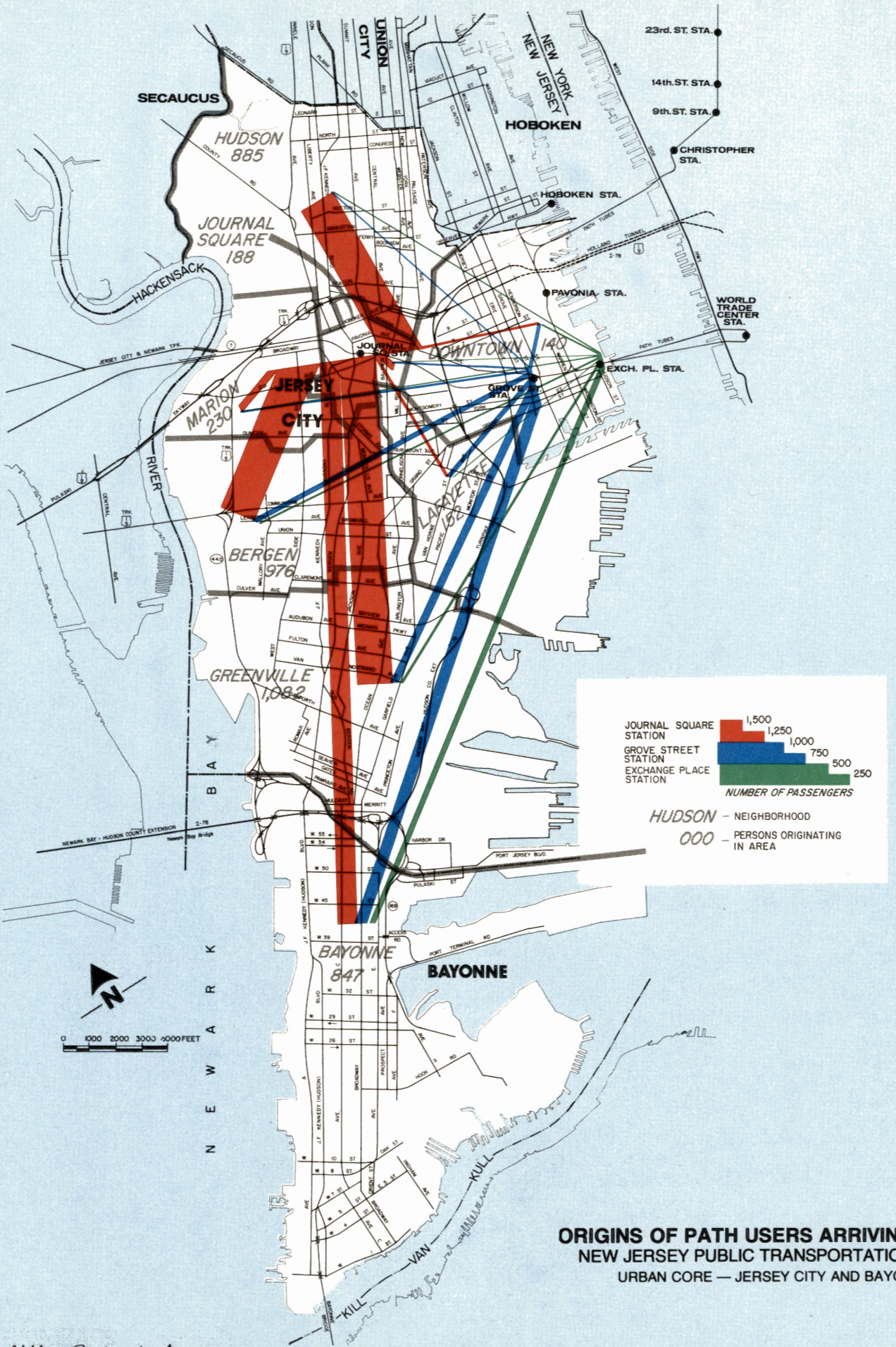
SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

with 398 persons originating in the Hudson and Journal Square areas of Jersey City.

Shown in Table 35 is a summary of passenger origins of the local bus routes serving the corridor, as listed in Table 26. As shown, Greenville (1,082 persons), Bergen (976 persons) Hudson (885 persons), and Bayonne (847 persons) accounted for the bulk of the total passengers who transferred to the PATH system. The same information is shown graphically in Figure 25.

Other data collected during the survey at Journal Square included the purpose of the trips. Table 36 shows trip purposes of persons interviewed between 7:45 and 8:44 A.M. by place of origin. As expected, most of the persons, 96.6 percent, taking PATH during this period were on their way to work and only 2.4 percent were going to school. It is important to remember, however, that these numbers represent persons taking PATH to Manhattan and may not be characteristic of all trips during the peak morning period.

A comparison of mode of travel indicated by the Port Authority of New York and New Jersey's 1974 survey and 1970 Census data is shown in Table 37. It is recognized that the 1974 survey represents PATH riders only for all purposes of travel, whereas, the Census data represented only workers in the area. Further, the Census data represents almost 40 percent of the study area resident, whereas, the 1974 PATH survey was conducted on one day and represents only about six percent of area residents. However, since the PATH system is a key element in the area's transportation system, the PATH survey should provide a valuable insight to mass transit user characteristics.



ORIGINS OF PATH USERS ARRIVING BY BUS
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 25

Table 35

ORIGINS OF BUS PASSENGERS

ARRIVING AT JERSEY CITY PATH STATIONS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ORIGIN	PERSONS ARRIVING AT Journal Square	Grove Street	Exchange Place	TOTAL
Jersey City Neighborhoods				
Hudson	1,283	9	15	1,307
Journal Square	421	25	17	463
Marion	292	75	26	393
Downtown	115	156	32	303
Lafayette	123	210	29	362
Bergen	1,213	273	82	1,568
Greenville	1,269	537	121	1,927
TOTAL JERSEY CITY	4,716	1,285	322	6,323
Other Hudson County				
Bayonne	692	401	152	1,245
Kearny, East Newark and Harrison	59	-	2	61
Secaucus, West Bergen and Guttenberg	301	-	2	303
Union City, West New York, Weehawkin	208	4	2	214
Hoboken	-	-	62	62
TOTAL HUDSON COUNTY	5,976	1,690	542	8,208
Other Areas				
Bergen, Passaic and North Essex, Union and West and South	424	34	14	472
GRAND TOTAL	6,525	1,734	558	8,817

SOURCE: Port Authority of New York and New Jersey, 1974 PATH Rider Survey.

Table 36

PURPOSE OF TRIPS OF PATH RIDERS AT JOURNAL SQUARE BY ORIGINS

Morning Peak Hour - 7:45 to 8:44 A.M.

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ORIGIN	TO WORK FROM WORK CO. BUS.	RECREA-TION	SCHOOL	OTHER	TOTAL	PERCENT OF TOTAL
Jersey City Neighborhoods						
Greenville	665	-	23	-	688	13.7
Bergen	590	-	10	-	600	12.0
Lafayette	34	-	-	-	34	0.7
Downtown	64	-	-	-	64	1.3
Journal Square	807	-	11	-	818	16.3
Marion	524	-	4	-	528	10.6
Hudson	988	-	21	4	1,013	20.2
TOTAL JERSEY CITY	3,672	-	69	4	3,745	74.8
Bayonne	325	-	26	-	351	7.0
Other Areas	879	-	26	3	908	18.2
GRAND TOTAL	4,876	-	121	7	5,004	100.0
PERCENT OF TOTAL	97.5	0.0	2.4	0.1	100.0	

Source: Port Authority of New York and New Jersey 1974 PATH Rider Survey. Only Boarding PATH Riders were surveyed.

PLACE OF RESIDENCE	Private Auto		Publ Transpor	tal engers (4)	Per Cent of Total Area Residents
	Number	Per Cent	Number	P	
Jersey City Neighborhoods					
Hudson	11,735	48.0	9,543	07	4.3
Journal Square	2,090	29.9	3,653	81	23.7
Marion	3,612	41.5	3,588	79	6.6
Downtown	4,727	35.9	5,658	89	13.4
Lafayette	2,131	39.0	2,109	84	3.5
Bergen	8,688	45.5	8,480	36	4.9
Greenville	12,888	52.4	9,708	88	4.1
TOTAL JERSEY CITY	45,871	44.8	42,739	64	7.0
Bayonne Neighborhoods					
Uptown	6,694	62.7	2,872		-
Midtown	8,225	55.5	3,733		-
Bergen Point	2,904	56.3	1,495		-
TOTAL BAYONNE	17,823	58.1	8,100	089	2.9
TOTAL CORRIDOR	63,694	47.9	50,839	353	6.1

(1) 1970 Census Data - Includes all study area worke
(2) 1974 PATH Survey of boarding passengers at three
(3) Includes study area workers arriving to work by
(4) Includes study area residents arriving at PATH b not otherwise included in this tabulation. (Thi bus, and walk modes.)

As shown in Table 37, a small portion of PATH users arrived at the stations by private auto. Only 11.9 percent of the Jersey City residents arrived at PATH by private auto, 34.4 percent arrived by bus, and 51.6 percent walked. Most of the persons walking to PATH resided in close proximity to PATH stations. Of the PATH users residing in the Downtown, Journal Square and Marion areas, 83.4, 82.6, and 58.0 percent, respectively, walked to the stations. Walkers totaled 10,149 persons of the 18,264 persons utilizing PATH on the day of the survey. The remaining 2.1 percent of PATH riders used some other mode of transportation to the stations.

A higher portion of Bayonne PATH users arrived at the stations by private auto (40.1 percent) or bus (59.6 percent) than the Jersey City users as would be expected due to the longer distances.

The 1970 Census data showed a much different distribution of private auto and public transportation use. In Jersey City, 44.8 percent of the workers used the private auto as the major means of getting to work, 41.7 percent used public transit, and only 11.4 percent walked to work. Most of the employees who walked to work resided in the Lafayette, Journal Square, and Downtown areas.

Bayonne had a different distribution of mode of travel to work than Jersey City. More than twice as many workers used the private auto (58.1 percent) rather than public transportation (26.5 percent) as a means of arriving at work.

The lower use of private auto indicated by the PATH survey appears to be the result of various factors, including:

1. Persons utilizing PATH are captive public transportation users who do not have a private auto available for their use;

2. Bus service to the PATH stations is generally good and attracts users;

3. Persons avoid using private autos because of the lack of parking and traffic congestion in the PATH station areas;

4. New York-destined workers are strongly oriented toward public transit use; and,

5. Many users reside within close proximity to the PATH stations and walk.

Chapter 4
PLANNING CONSIDERATIONS

Chapter 4

PLANNING CONSIDERATIONS

As a part of the assembly of data for analysis of the Jersey City-Bayonne urban core area, information was obtained from various agencies of the New Jersey State Government as well as from Hudson County and the Cities of Jersey City and Bayonne. The plans of each of these jurisdictions with respect to major land use developments which were anticipated to have significant impact on public transportation requirements of the study area were reviewed. At the state level, information was assembled from the Department of Community Affairs, the Department of Labor and Industry, and the Department of Environmental Protection. Each of these agencies has a major responsibility for the guidance of future development of the state, including programs which bear on the anticipated form of the Jersey City-Bayonne area of Hudson County. Summaries of the objectives of each of the above three state agencies as they impact the Jersey City-Bayonne urban core are outlined in the following paragraphs.

New Jersey Department of Community Affairs

The integration of transportation and land use planning is of paramount importance in the achievement of coordinated planning programs to the Department of Transportation and the Department of Community Affairs. The Department of Community Affairs has identified three critical criteria by which it evaluates proposed transportation plans and land use proposals which come before it. These include:

1. Preservation of existing undeveloped areas;
2. Maximum rehabilitation and renovation of existing urban areas; and
3. Completion of environmental impact statements on proposed transportation improvements.

The first of these has little bearing on the Jersey City-Bayonne area as much of the undeveloped land is not a significant matter in these communities. The second item, however, is of major importance concerning a project in the planning and discussion stage dealing with the Jersey City Waterfront area, and designated as the Liberty Harbor project. The Department of Community Affairs has taken a major role in the coordination of planning efforts for this project and is involved as co-sponsor of a middle-income housing project on this site. The project would develop from 1,500 to 2,000 dwelling units yielding a population of approximately 6,000 persons.

Another key project in or near the Jersey City-Bayonne area which is prominent in the planning of the Department of Community Affairs at present is the development of the Hackensack Meadowlands. This development is a major reclamation of a large portion of the Meadowlands, chiefly in Bergen County, but immediately adjacent to Secaucus in Hudson County. In the long range, a planned community is proposed to be developed at this site which is south of New Jersey Route 3 and on the west side of the Hackensack River. Public transportation to this site is a key planning consideration as the form of development takes shape.

On a statewide basis, the Department of Community Affairs has identified as its top priority in the area's mass transit improvement the construction of facilities to serve the Hackensack Meadowlands.

With respect to programs which the Department of Transportation has under way and is reassessing as part of its updated plan for development, the Department of Community Affairs has indicated that it approves of the Tonnelle Avenue bypass (U.S. Routes 1 and 9) in Hudson County. This highway development, along the west side of Jersey City, would be very beneficial in relieving traffic congestion in this heavily traveled north-south corridor.

The Department of Community Affairs is generally supportive of improved transit service throughout the State, optimization of existing services, and development of new rapid transit facilities in Northern New Jersey where these appear feasible.

Department of Environmental Protection

The major goal of the Department of Environmental Protection, as related to transportation planning, is the reduction of the total number of vehicle miles traveled in the State. Through such reduction, the emission of hydrocarbons and nitrous oxides into the atmosphere would be monitored and the incidence of unhealthy atmospheric conditions would be greatly reduced.

The Department of Environmental Protection has proposed legislation requiring "indirect source permits" prior to the initiation of construction projects. These permits would only be used for those projects which are determined to be not detrimental to the regional air quality and local carbon monoxide levels. Proposed legislation has not been enacted and its future is uncertain at this time.

Because of their interest in the reduction of vehicle miles traveled throughout the State, the Department of Environmental

Protection is supportive of any proposals which will increase the utilization of public transportation and thereby reduce the use of the private auto for transportation purposes. They are anxious to cooperate in projects which would achieve these goals through the attainment of maximum utilization of the public transportation network.

Department of Labor and Industry

Within this Department, the Office of Industrial Development of the Division of Economic Development is responsible for recording trends in industrial development. There appears to be no definitive program with respect to the Jersey City-Bayonne area of Hudson County and thus no plans which would affect bus service decisions at the County level.

The Department has identified a continuing suburbanization, with emphasis on new facilities in planning for industrial sites. Such planning makes the likelihood of attaining greater reliance on public transportation more tenuous, but the Department is aware of the need to maximize use of existing facilities and is stressing this in development consultation. Suburbanization poses problems in promoting bus service to employment centers, but the expected transfer of PUC functions to Department of Transportation in the near future should ease the pressure which frequently develops between the development planners and bus companies.

Hudson County

Development goals of Hudson County are principally those of the State for the County, focusing on Liberty Harbor in Jersey City and the Meadowlands Development in the Secaucus area. Other significant features in County plans include the recently opened PATH

Transportation Center at Journal Square, a group of brownstone developments in Hoboken and Downtown Jersey City and continued high-rise development along the Palisades in North Hudson.

Jersey City - Major Jersey City development objectives are related to the State and County objectives, particularly in the Liberty Harbor area. The opportunity for redevelopment of much of Downtown Jersey City is closely tied to the success of the Liberty Harbor project. Recent renewal in the Exchange Place area has considerably upgraded this portion of Downtown but much more remains to be accomplished to bring the Downtown and waterfront area "back" as a vibrant and active part of the City.

Bayonne - Bayonne does not have extensive development plans. Primarily, this is because most of the land in the City has already been developed. There is one major development under way, however, a landfill project along the waterfront in the northeastern portion of Bayonne which will supply additional warehousing and industrial land. Several independent bus operators, including Bergen Avenue, Broadway, and South Hudson Boulevard, presently provide part-time service adjacent to this area.

Transit Passenger Movement in and Through the Corridor

Public transit in the Jersey City-Bayonne Corridor in 1974 carried in excess of 57,900,000 passengers. This total included nearly 42,600,000 passengers on local buses operating in the corridor, as well as over 15,300,000 passengers riding rapid transit trains to and from the four Jersey City PATH stations.

Bus riders in the Corridor were split between the ten local routes of the Transport of New Jersey system which carried nearly 15,300,000 persons, and the 12 independent bus companies, on whose 16 routes nearly 27,300,000 riders were counted. It is interesting to note that Jersey City PATH passengers and TNJ passengers on buses servicing Jersey City are nearly equal in numbers and in combination only slightly exceed the number of riders using independently-owned buses in the Jersey City-Bayonne Corridor.

In terms of average daily traffic, total bus riders on the local buses serving the corridor numbered approximately 140,000 while PATH riders to and from the four Jersey City stations were just under 50,000. The importance of the bus transit network in Jersey City and Bayonne thus comes into focus clearly as it carries nearly three passengers daily for each PATH rider. Bus transit is thus a very critical component in the corridor's people-moving system.

Bus Riders - Table 38 sets forth the distribution of 1974 bus passengers by bus route and/or bus company, along with average passengers per bus mile rates developed from statistical data set forth in each company's 1974 P.U.C. report.

The heaviest traveled TNJ routes reported in Table 38 were those which had one end out of the corridor and thus overstate corridor passengers. Route 44--Bergen Line Avenue--operates from Journal Square to the north through Union City and North Bergen to Fort Lee, and carried the heaviest volume among the routes identified in Jersey City, over 3.8 million annual passengers. Route 16 (Dumont, Hackensack, Jersey City, and New York) which in TNJ's accounting also includes Routes 122/124 with service to Hackensack, was the second heaviest line with nearly three million 1974 passengers.

Table 38

1974 BUS PASSENGERS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

COMPANY AND ROUTE	1974 PASSENGERS	PASSENGERS PER BUS MILE (1)
TNJ #1	2,636,936	4.8
TNJ #7	1,436,153	4.4
TNJ #9	2,358,906	5.4
TNJ #14	1,310,670	3.1
TNJ #16, 122, 124, etc.	2,946,179	1.9
TNJ #31	242,675	4.1
TNJ #43	520,459	3.0
TNJ #44	3,836,002	5.0
TNJ Sub-total	15,288,100	
A&C IBOA	402,107	2.8
Bergen Avenue IBOA	3,639,461	7.6
Broadway IBOA	2,179,042	3.9
Central Avenue IBOA	4,016,720	6.0
Downtown Bus Co. #5	903,875	5.5
Downtown Bus Co. #6	728,353	5.1
Hudson Bus-Secaucus #2	625,280	4.7
Lafayette & Breenville IBOA	3,550,185	5.4
Montgomery & West Side IBOA	1,875,169	6.8
North Hudson Boulevard IBOA	3,607,569	2.7
South Hudson Boulevard IBOA	4,211,268	2.9
Independent Sub-Total	27,280,775	
TOTAL	42,568,875	

(1) Based on total route mileage and passenger statistics.

SOURCE: Compiled from 1974 Public Utility Commission Reports by Wilbur Smith and Associates.

Route 1--Newark--also is a heavily-utilized line with annual riders numbering over 2.6 million.

TNJ's heaviest local line is Route 9--Newark Avenue-Gates Avenue--which carries 2.4 million passengers between the Exchange Place and Greenville areas of Jersey City. Routes 7 and 14 follow with less than 1.5 million annual passengers each and the remaining TNJ routes are very lightly used.

Measured in terms of passengers per bus mile, TNJ's top route in Jersey City is Route 9, followed by Routes 44, 1, 7, and 31, in that order with ratios ranging from 5.4 to 4.1. Route 16 (122 and 124) because of its length, develops passengers per bus mile ratio of only 1.9.

Among the independent carriers, South Hudson Boulevard IBOA carried over 4.2 million passengers in 1974 at the rate of only 2.9 per bus mile. Central Avenue IBOA was the second high volume route, with slightly over four million passengers and a ratio of 6.0 passengers per bus mile. The Bergen Avenue IBOA was third in volume with 3.6 million passengers at the rate of 7.6 per bus mile. This is the highest ridership rate indicated in Table 26 and is followed by the 6.8 passengers per bus mile on the Montgomery and West Side Line.

PATH Ridership - PATH traffic patterns were established by reference to turnstile counts conducted in the Fall of 1974[1] at all stations on the system. Jersey City boarding passengers totaled nearly 26,500 on the composite weekday, while passengers leaving trains at the same four stations totaled 28,800.

(1) PATH Turnstile Readings, Fall 1974, The Port Authority of New York and New Jersey, 1975.

Through traffic, as measured at the Journal Square Station approximates 18,000 persons in each direction daily. It is clear that Journal Square is the primary Jersey City Station on the PATH system. Traffic to and from Journal Square totaled 34,000 daily against the total of 21,000 for the other three stations combined. The Grove Street Station accounted for 13,000 of this total, with Exchange Place handling about 7,000 passengers and Pavonia Avenue less than 1,000. Table 39 summarizes the passenger movement on the PATH system in Jersey City.

Proposed Level of Service Standards

Evaluation of the performance of the bus system in this corridor should be based on a review of the various operations against a set of standards that reflect the characteristics of the community and its need for public transportation. Service criteria in use in other parts of the United States have been reviewed and related to Jersey City-Bayonne conditions to establish measures of acceptability that will be reasonable for application in this corridor. Table 40 reflects the basic criteria considered in evaluation of the existing transit service. The data were then quantified and assigned the numerical ratings shown in Table 41. Gradings were based on seven characteristics, including hours of operation, headways, operating speeds load factors, schedule adherence, passengers per bus mile, and revenue/cost ratio. The maximum value of five points was assigned in each category with each of the characteristics scaled on a 1 to 5 basis.

Existing Service Evaluation

Operating conditions on bus routes throughout the corridor have been observed through on-board surveys and peak-load counts in an effort to obtain basic characteristics of present service. Backup

Table 39

PATH WEEKDAY PASSENGER MOVEMENTS IN JERSEY CITY

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

STATION	ON			OFF		
	Eastbound	Westbound	Total	Eastbound	Westbound	Total
Journal Square	14,121	2,054	16,175	2,327	15,807	18,134
Grove Street	-	-	6,531	-	-	6,561
Exchange Place	-	-	3,387	-	-	3,563
Pavonia Avenue	-	-	371	-	-	522
Subtotal			26,464			28,780
Journal Square through traffic			18,005 Est.			18,005 Est.
TOTAL CORRIDOR TRAFFIC			44,469			47,185

SOURCE: PATH Turnstile Readings, Fall 1974.

Table 40

SUGGESTED CRITERIA AND STANDARDS FOR BASIC TRANSIT SERVICE

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

CRITERIA	SUGGESTED STANDARDS
1. Walking Distance	1,500 feet for general population. 500 feet for senior citizen housing or apartments where high senior occupancy is observed or anticipated.
2. Coverage-Urbanized Area (Rural areas may have lower standard or longer acceptable headway or both.)	At least 85 percent of urban population and 90 percent of non-car-owning urban households should be within walking distance of bus route.
3. Coverage - Activity Centers	Regular routes should serve all-day activity centers such as business districts, major shopping centers, major educational institutions and hospitals. Special routes should serve highly peaked activity centers such as industries or sports events.
4. Hours of Operation - Regular Routes	Minimum: 6:00 A.M.-11:00 P.M., Monday through Friday, supplemented by para-transit or taxi operation on demand-responsive basis at other times. Desirable: 5:00 A.M.-12:00 P.M. Monday through Friday: 7:00 A.M.-12:00 P.M. Saturday, 7:00 A.M.-9:00 P.M. Sunday.
5. Headways - Regular Route	Peak period: 10 minutes maximum. 3-5 minutes desirable. Base and off-peak: 20 minutes maximum. 10-15 minutes desirable.
6. Hours of Operation - Special Routes	At least one round trip per shift change per day for industry. One round trip to meet the late evening shift change at hospital, with a route designed to serve regular users. (Para-transit or taxi-type vehicles may be necessary to provide secure, door-to-door service.)
7. Travel Time - All Routes	Travel time by bus (or combination bus and PATH) should not exceed two times travel time by car to major generators (including transfer time but excluding access time).
8. Bus Stop Spacing	Minimum of 750 feet between stops.
9. Bus Shelters	Minimum - all locations with 500 or more boarding passengers per day. Desirable: all locations with 300 or more boarding passengers per day.
10. Minimum Speed (Average Annual Bus Miles-Bus Hours)	Intrastate Routes - 10 mph. Interstate Routes and Express 15 mph.
11. Revenue-Expense	Total route operating expense should not exceed revenues by more than 10 percent on independent lines. On TNJ services direct line - location expenses should be less than line revenue. If none of the above conditions are met, and route deficit cannot be subsidized through negotiated state and county participation and/or major generator served, curtailment of the service should be considered.
12. Load Factors	1. For any trip longer than 15 minutes, a seat should be provided at all times. 2. For Local Routes, a load factor of 125 percent is acceptable during the peak inbound and peak outbound 30 minutes. 3. A minimum of one seat per passenger should be provided during the balance of the day. 4. In general, no waiting passenger should be by-passed due to overcrowded conditions.
13. Schedule Adherence	MINIMUM PERCENT OF VEHICLES ON TIME WITH HEADWAY AT

	10 Min.	10-30 Min.	30 Min.
Regular Route-Peak Period	75	85	90
Regular Route-Off-Peak	80	90	95
Express	90	95	95

Where "on-time" = 0 minutes early, and 5 minutes late.

Table 41

BASIS FOR RATING EXISTING SERVICE

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

RATING BASIS:

1. Hours of Operation
   - 5A-1A or better = 5
   - 7A-10P = 3
   - Less = 1

2. Headways
   - <10 minutes = 5
   - 10-20 minutes = 3
   - >20 minutes = 1
   - Average peak and off-peak values

3. Operating Speed (mph)
   - >12 = 5
   - 10-12 = 4
   - 8-10 = 3
   - 6-8 = 2
   - <6 = 1
   - Average values

4. Revenue/Gross Expenses
   - >1.05 = 5
   - 1.00-1.04 = 4
   - 0.90-0.99 = 3
   - 0.80-0.89 = 2
   - <0.80 = 1

5. Load Factor
   - >60% = 5
   - 50-59% = 4
   - 40-49% = 3
   - 30-39% = 2
   - <30% = 1
   - Average peak and off-peak values

6. Schedule Adherence
   - >70% = 5
   - 60-69% = 4
   - 50-59% = 3
   - <50% = 2
   - Unscheduled = 1
   - Average peak and off-peak values
   - Per cent on time

7. Passengers/Bus Mile
   - >6.0 = 5
   - 5.0-5.9 = 4
   - 4.0-4.9 = 3
   - 3.0-3.9 = 2
   - <3.0 = 1

data utilized in the development of numerical ratings for each bus route are presented in Table 42.

Shown in Table 43 are the resulting ratings. A total of 35 points was the highest possible rating and the Central Avenue IBOA received the highest ranking in the corridor, with a total of 29 points. Three other services had point counts of 28, including TNJ's Route 9--Newark Avenue-Gates Avenue, Bergen Avenue Independent Bus Operators Association, and the Lafayette Greenville Independent Operators Association.

Among the TNJ routes, five received rankings in the range of 20 to 28 points, while three were clearly less critical in the corridor and achieved only 13 points. These routes were the combination of Routes 16, 122, 124 (for accounting purposes by TNJ), Route 13--Grove and Route 43--Jersey City. These routes all suffered in the areas of revenue cost ratio, load factor and hours of operation in comparison with the other TNJ routes.

Among the independent operations all but one route, A&C Bus Company, received point totals ranging from 20 to 28 points, while the A&C Bus Company was assigned only 13 points. The Downtown Bus Company closely followed the Bergen Avenue and Lafayette and Greenville operations in the rankings of independent operators, where there was general consistency among the operators in terms of the ratings based on present operating characteristics.

The evaluation also permits a comparison of these lines which are in direct competition in order to provide assistance in the rationalization of the competition which exists in any restructuring of the routes or schedules to provide a more effective public service.

Table 42

MEASURES OF EXISTING SERVICE

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ROUTE	HOURS OF OPERATION	HEADWAYS (minutes) Peak	HEADWAYS (minutes) Off-Peak	TRAVEL TIME (minutes) Peak	TRAVEL TIME (minutes) Off-Peak	SPEED (mph) Peak	SPEED (mph) Off-Peak	REVENUE/GROSS EXPENSES Ratio	LOAD FACTORS (per cent load) Peak	LOAD FACTORS (per cent load) Off-Peak		SCHEDULE ADHERENCE (per cent) O/T	Late <5 min.	Late >5 min.
TNJ 1	4A-1A Wk. 4A-1A Sa. 4A-1A Su.	30	40	11	13	14.1	17.3	0.94	47	24	Peak Off-Peak	30 33	50 42	20 25
TNJ 7	5A-1A Wk. 5A-1A Sa. 6A-1A Su.	12	15	50	47	8.8	9.5	0.88	69	30	Peak Off-Peak	72 70	14 30	14 -
TNJ 9	4A-1A Wk. 5A-1A Sa. 5A-1A Su.	10	10	39	37	10.0	10.4	1.03	56	45	Peak Off-Peak	26 76	67 14	7 10
TNJ 14	4A-1A Wk. 5A-1A Sa. 6A-1A Su.	15	20	45	42	10.8	11.7	0.78	54	30	Peak Off-Peak	25 70	57 30	18 -
TNJ 16	6A-7P Wk. 11A-6P Sa. - Su.	60	-	26	-	10.4	-	0.74 (1)	56 (1)	23 (1)	Peak Off-Peak	20 40	65 48	15 12
TNJ 31	5A-8P Wk. 7A-8P Sa. - Su.	20	40	17	13	7.0	8.7	0.75	26	15	Peak Off-Peak	12 25	75 71	13 4
TNJ 43	5A-5P Wk. 6A-8P Sa. - Su.	20	45	17	11	12.4	9.3	0.60	29	16	Peak Off-Peak	25 36	67 36	8 28
TNJ 44	5A-1A Wk. 5A-1A Sa. 7A-1A Su.	7	10	14	14	10.5	10.6	0.94	47	33	Peak Off-Peak	15 39	85 44	- 17
TNJ 122/124	5A-11P Wk. 6A-10P Sa. - Su.	18	30	12	12	11.5	10.9	(1)	(1)	(1)	Peak Off-Peak	- -	- -	- -
Bergen Avenue IBOA	5A-1A Wk. 5A-1A Sa. 5A-1A Su.	6	6	24	23	9.4	9.8	1.04	48	64	Peak Off-Peak	33 43	67 57	- -
Broadway IBOA	6A-1A Wk. 6A-1A Sa. 6A-1A Su.	7	10	26	27	9.4	9.1	0.98	56	40	Peak Off-Peak	- -	- -	- -
Central Avenue IBOA	5A-12A Wk. 6A-11P Sa. 7A-11P Su.	4-6	7	47	38	9.3	9.7	1.06	66	46	Peak Off-Peak	57 43	43 57	- -
Downtown Bus Company	6A-1A Wk. 6A-12A Sa. 7A-12A Su.	7	10	17	13	5.8	9.0	1.06	58	38	Peak Off-Peak	80 64	20 36	- -
Hudson Bus Transportation Company	5A-1A Wk. 6A-1A Sa. 6A-1A Su.	10	20	13	10	12.5	15.3	1.08	55	38	Peak Off-Peak	- -	- -	- -
Lafayette and Greenville IBOA	5A-12A Wk. 5A-12A Sa. 5A-12A Su.	5	10	23	23	9.9	13.3	1.02	52	37	Peak Off-Peak	50 57	50 43	- -
Montgomery and West Side IBOA	5A-9P Wk. 7A-8P Sa. 8A-8P Su.	5	12	28	21	9.6	13.2	1.07	64	42	Peak Off-Peak	- -	- -	- -
South Hudson County Boulevard IBOA	5A-1A Wk. 5A-2A Sa. 6A-1A Su.	4	6-8	37	35	12.1	13.0	1.01	58	50	Peak Off-Peak	- -	- -	- -
North Hudson Boulevard IBOA	5A-1A Wk. 5A-2A Sa. 6A-1A Su.	6	15	11	11	11.5	11.0	1.02	69	42	Peak Off-Peak	20 50	80 50	- -
A&C IBOA	6A-10P Wk. 8A-10P Sa. - Su.	25	30	34	26	11.5	8.5	0.90	30	34	Peak Off-Peak	- -	- -	- -

(1) Includes TNJ 122-124

Table 43

EVALUATION OF EXISTING SERVICE

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ROUTE	HOURS OF OPERATION	HEAD-WAYS	OPERATING SPEED	REVENUE GROSS EXPENSES	LOAD FACTOR	SCHEDULE ADHERENCE	PASSENGERS PER BUS MILE	TOTAL
TNJ 1	5	1	5	3	2	2	3	21
TNJ 7	5	3	3	2	3	5	3	24
TNJ 9	5	4	4	4	4	3	4	28
TNJ 14	5	3	4	1	3	2	2	20
TNJ 16,122,124,etc.	2	1	4	1	2	2	1	13
TNJ 31	2	2	2	1	1	2	3	13
TNJ 43	1	2	4	1	1	2	2	13
TNJ 44	5	4	4	3	3	2	4	25
Bergen Avenue IBOA	5	5	3	4	4	2	5	28
Broadway IBOA	4	4	3	3	3	1	2	20
Central Ave. IBOA	4	5	3	5	4	3	5	29
Downtown Bus Co.	4	4	2	5	3	5	4	27
Hudson Bus Transportation Co.	4	3	5	5	3	1	3	24
Lafayette and Greenville IBOA	5	5	4	4	3	3	4	28
Montgomery and West Side IBOA	2	4	4	5	4	1	5	25
South Hudson County Blvd. IBOA	5	5	5	4	4	1	1	25
North Hudson Blvd. IBOA	5	4	4	4	4	2	1	24
A&C IBOA	1	1	4	3	2	1	1	13

Summary of Findings and Conclusions

As a result of data collection, summary and analysis the following findings have been made on the public transportation system in the Jersey City-Bayonne Corridor:

1. Serious consideration should be given to the maintenance of service on the local portions of TNJ Route Nos. 16, 31 and 43, and the A&C Bus Company Service.
2. The level of bus service in the corridor far exceeds the levels of service in any of the other corridors under study as a part of the New Jersey Public Transportation Study.
3. Bus transit in the corridor is provided by a mix Transport of New Jersey service on ten lines and a total of ten additional carriers, including eight independent bus associations and two corporations, over a total of 14 lines, which result in competitive conditions along some routes which cannot be maintained for an extended period under present traffic and economic conditions.
4. Virtually all developed areas in the corridor are within walking distance of at least one transit line. Many areas have two or three services available.
5. Utilization of the bus service in the corridor remains at a high level with some routes recording over six passengers per mile in 1974. Most of the heavily utilized routes developed passengers per mile ratios of four or better.
6. The stabilized development pattern in the corridor indicates that there are few areas with changing

characteristics, although pending renewal plans for a large waterfront area offers the potential for significant new transportation requirements.

7. An aging fleet of buses provides the bulk of the service in the Jersey City-Bayonne area, as evidenced by the fact that operators in the corridor may receive over 100 of the 779 new buses which are in process of being purchased by the New Jersey Department of Transportation. Transport of New Jersey may receive nearly half of the statewide total, but the number of these to be assigned in the Hudson County area has not been finally established. Preliminary figures suggest the South Hudson Boulevard Bus Operators and Broadway-Bayonne Bus Operators Associations will receive the greatest numbers of new buses among corridor operators.

8. Schedule adherence, to the extent it can be evaluated due to the unavailability of timetables for several of the independent operators, appears well below the levels called for under good operating procedures. Sample observations made at the maximum load-point locations indicated that TNJ buses were 51 percent on schedule and independently owned buses 48 percent in both peak and off-peak hours.

9. Jersey City-Bayonne bus services function as feeder service to and from PATH (nearly 18,000 passengers per day, or about one-third of PATH Jersey City riders), local arterial carriers, and as parts of intercity bus transit operations. The strong orientation of bus routes to the Journal Square Terminal

where a new convenient connection to PATH is now available suggests a strong interdependence of the bus service and the PATH System.

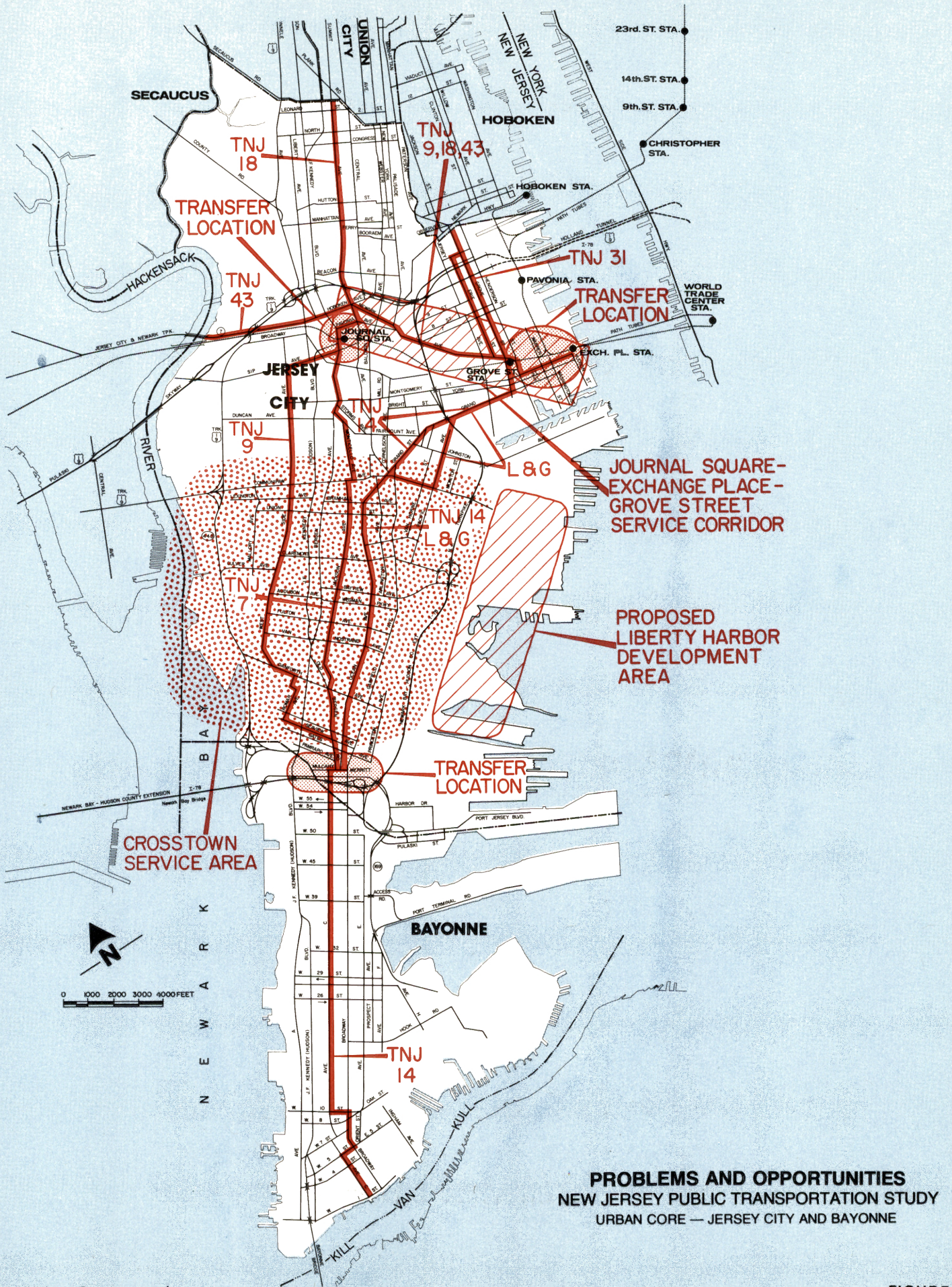
10. Bus travel times are generally high throughout the corridor, particularly in the business districts in Jersey City. Improved enforcement of curb use regulations which would protect bus stops for the use of buses would be a major step toward improved bus operating time and costs. Bus stop consolidation and/or relocation as well as consideration of preferential treatment of buses in selected areas are other steps which should be considered for early action plans.

Principal study area problems and opportunities are identified in Figure 26. Resolution of the following problems will be sought as a part of the continuing work on this corridor:

1. Bus service availability in areas where high concentrations of low income families reside. Factors to be considered include: walking distances; frequency, and hours of service; availability of bus service to employment centers, major generators, and transfer points.

2. Bus service to areas with high concentrations of residents owning one or no vehicles will be reviewed.

3. Areas with high concentrations of senior citizens will be reviewed to determine needs for additional service.



PROBLEMS AND OPPORTUNITIES
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 26

4. A fare structure review and standardization would be studied along with a system of transfers which would assist passengers rather than complicate their trips. A transfer policy that can be applied throughout the corridor, with all carriers to be involved, would be desirable. The requirement of full fares for continuing rides on buses in the same direction appears inconsistent with the objective of optimum public service.

5. Better integration of all public transit services, including marketing, public information, transfer programs and related transportation activities.

6. Review service requirements along several lines including TNJ Routes 7, 14, 18, 31, and 43. Particular attention will be given to the duplication of service along Ocean Avenue from Seaview Avenue to Communipaw Avenue where TNJ Route 14 and the Lafayette and Greenville IBOA compete for patronage. The service is basically duplicated all the way to Exchange Place.

7. Creation of a crosstown route which would provide service to the Two Guys and Great Eastern shopping centers from all areas of Jersey City and Bayonne via transfers where necessary.

8. Review of operations in the area between the Grove Street and Exchange Place PATH stations where several local routes compete. The level

of service in this area appears excessive in relation to passenger pick-up and PATH station utilization.

9. Integration of short-range development plans for the Liberty Harbor area with transportation system changes.

Chapter 5

CITIZEN MEETINGS

Chapter 5

CITIZEN MEETINGS

In the conduct of public transportation studies, public opinion is an important factor and should be solicited. Meetings and discussions with residents of a study area result in a better understanding of the existing problems and develop suggestions for improvements. As a means of obtaining public opinions and suggestions, meetings with representatives of responsible citizen groups in Jersey City and Bayonne were scheduled during the months of December, 1975, and January and February, 1976.

Jersey City

Initially, two meetings were scheduled in mid-December, 1975, at the Five Corners Branch of the Jersey City Public Library. Invited to the meetings were representatives of approximately 60 different citizen groups selected with the assistance of Jersey City community liaison officials, and representing a cross-section of the Jersey City community. It was hoped that 40 to 50 community representatives would attend the meetings. However, only three persons attended the discussions. As a result of this pre-Christmas response, the meetings were rescheduled for January 22 and 24, 1976. Citizen groups were again contacted with the request that one or more of their representatives attend one of the two meetings. However, the results of these meetings were similar to those in December as only four persons attended.

Although the meetings were not successful in attracting a broad base of public opinion, a sample of attitudes toward the present bus service in Jersey City was obtained. Several questionnaires circulated with the meeting notice were returned to the consultant, supplementing the viewpoints expressed by the community representatives who attended the meeting. Very few of the residents had more

than a passing knowledge of the present bus system, its ownership and the service provided. Similarly, few knew the schedules of the bus routes they used for transportation. Most were basically satisfied with the existing service and complained only that they were often required to wait as long as 20 minutes for buses at rush hour periods when schedules indicate four to six minute headways. The problem described involved the tendency of two or three buses to bunch up on a route, leaving long gaps in service. Another complaint expressed was that often half-full buses or buses with only a few standees would pass them by, claiming they were full

Most people who expressed concerns mentioned the new Journal Square Transportation Center. While conceding that the Center was good for commuters who had to take the PATH trains to New York City and other employment centers, they indicated that it was a major problem to shoppers and other persons destined to the Journal Square area. They were dissatisfied that buses were required to discharge passengers only within the terminal building in the immediate Journal Square area and as a result, passengers often had to take escalators as well as walk considerable distances to their desired shopping destinations.

Among suggestions for improving bus service which were offered, were the following:

1. Add more and newer buses to existing routes in order to reduce waiting times and make travel safer. It was suggested that many buses used by some of the independent bus companies were very old and a hazard to public safety;

2. Place bus stops at every intersection so that riders could be delivered closer to their destinations; and,

3. Create a new crosstown service which would serve the Route 440 shopping area.

Very little concern was addressed to the creation of other new routes to presently unserved areas and it was indicated that the present routes were sufficient for the corridor. It was noted, however, that the neighborhoods represented by the persons taking this position were generally in the center of Jersey City and have accessibility to several bus routes.

Bayonne

In spite of the Jersey City experience, a meeting was scheduled in the Bayonne City Hall on February 18, 1976. Approximately 20 associations representing senior citizens, block associations, school and church groups, and concerned citizens were invited to send representatives. Attendance was again very low, with only two persons representing senior citizen groups joining two city officials for the meeting. As a result, the discussions were heavily oriented toward senior citizen transportation needs. It was pointed out by those present that a major senior citizen development, located off Avenue A at 23rd Street, presently has no regularly scheduled bus service within a reasonable walking distance, as the closest route, the South Hudson Boulevard route, is about two long blocks away. The senior citizens' representatives also indicated a great need to travel crosstown to the shopping area along Broadway. They suggested that some type of variation from existing routes might serve the senior citizen housing facility and carry residents to the Broadway shopping area on a regular schedule.

Bus Service Questionnaire

The questionnaire forms, noted above, were designed to reflect the use made by the Jersey City and Bayonne citizens of the existing

bus transportation system, and included questions on bus routes used, frequency of use, waiting times experienced, fares paid, walking distance to bus stop, basis for selection of bus route used, and strong and weak points of that bus route.

Other questions posed were designed to determine acceptable levels of service in the area, including walking distances, waiting times, bus travel times, fares, bus shelters, and travel frequency. A copy of the questionnaire is shown in Appendix Table 28.

Approximately 300 questionnaires were distributed with fewer than ten per cent returned, either by mail or at the meetings.

Analyses and Findings - Responses to the questionnaire were summarized and are presented in Tables 44 and 45. The bus lines used by the persons who responded include the Bergen Avenue, Lafayette and Greenville, Montgomery and West Side, South Hudson County Boulevard, North Hudson Boulevard, and TNJ Routes 7, 9, and 14.

Table 44 presents the responses regarding existing and acceptable levels of service. As indicated, the majority of persons responding walked less than two blocks to the bus stop. However, slightly more than half of the respondees indicated walking distance of up to two blocks was acceptable and an additional 40 per cent felt that slightly longer walks would be acceptable.

The responses concerning present waiting times were distributed evenly among the four choices, but acceptable levels ranged between five and fifteen minutes.

The response to the question regarding acceptable travel time difference between bus and passenger vehicles was distributed

Table 44

SUMMARY OF RESPONSES TO KEY QUESTIONS

IN CITIZEN SURVEY

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

QUESTION	PRESENT CONDITIONS (per cent)	ACCEPTABLE CONDITIONS (per cent)
Walking distance to bus stop:		
a. Two blocks or less	76	53
b. Over two blocks but less than five minutes	6	41
c. Five to ten minutes	18	0
d. Over ten minutes	0	6
	100	100
Waiting time for bus:		
a. Under five minutes	24	6
b. Five to ten minutes	24	47
c. Ten to fifteen minutes	29	41
d. Over fifteen minutes	23	6
	100	100
Travel time difference between bus and private vehicle:		
a. Bus must be faster	-	18
b. Same travel time	-	18
c. Bus can be up to five minutes slower	-	24
d. Bus can be up to ten minutes slower	-	35
e. Bus can be up to twenty minutes slower	-	5
f. Bus can be over twenty minutes slower	-	0
		100
Items influencing choice of route[1]:		
a. Fare	35	-
b. Service frequency	24	-
c. Seat availability	24	-
d. Bus condition	6	-
e. Comfort or smoothness of ride	6	-
f. Courteous drivers	18	-
g. Route closest to home or destination	71	-

(1) Most persons indicated more than one item.

Table 45

RESPONSE TO QUESTION

REGARDING STRONG AND WEAK POINTS OF PRESENT SERVICE

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

ITEM	STRONG (per cent)	WEAK (per cent)
Route destination	88	12
Bus age and condition	24	76
Availability of seats	65	35
Courteous drivers	59	41
Route near home	88	12
Low fares	47	53
Frequency of service - peak hours	65	35
Frequency of service - off-peak hours	24	76

throughout five of the six choices. However, 60 per cent indicated that the bus could be up to five minutes slower than the private vehicle and 95 per cent indicated acceptance of up to ten minutes of additional travel time would be reasonable.

Of the items influencing choice or route utilized, about 70 per cent of all persons indicated that route closeness to place of work or residence was most important. The second most influential reason was the fare of the particular route. Other items having influenced persons to use one particular route over the other included service frequency, seat availability and courteous drivers.

Table 45 presents the responses to the question regarding the strong and weak points of the present system. The answers indicated that route destinations were very strong, bus age and condition very poor, availability of seats generally good, and drivers were courteous about half of the time. The facts that the buses conveniently served major origins and destinations, fares were considered high by a few more people than considered them low, and frequency of service was generally reported good during peak hours but poor during off-peak hours were also noted. Some of the responses offered additional comments indicating that the major problem in the present bus system is that most buses are very old and in need of repair and cleaning, and that additional buses should be added to reduce the present waiting times.

Other responses indicated that more than half of the persons had no knowledge of the existing bus schedules and most would not accept an increase in fares. However, some persons agreed to acceptance of higher fares up to an additional $0.15. Most respondees said that they would take buses regardless of possible additional amenities because they have no other means of transportation. Daily bus use was suggested by many persons if service

were acceptable. A few indicated that they would use buses regularly only if the price of gasoline went up to $1.00; and some requested some form of crosstown service.

Conclusions - Based on these responses, and those received during the various meetings, it appears that no additional bus service in terms of area coverage, is necessary. Rather, the basic need of the corridor, as indicated by the residents, is additional, new and better maintained buses.

The suggestion by several persons of a crosstown service which would also provide access to the shopping area on Route 440 on the west side of Jersey City will be discussed in greater detail later in this report.

Senior Citizen Survey

In response to the concern shown by the senior citizens in Bayonne, a survey was undertaken to determine the transportation needs of these citizens and the feasibility of providing regularly scheduled service to the housing locations. A questionnaire form, shown in Appendix Table 29, was prepared and, with the assistance of the Bayonne City Engineer's office, was distributed to the three major senior citizen housing developments in Bayonne located at: 535 Avenue A; 24 and 50 East 21st Street; and, 159 West Second Stree These three developments represent a total of approximately 580 persons.

Approximately 350 questionnaires were distributed and 121 persons, a sample of 21 per cent of all residents, responded. Questions included in the senior citizen questionnaire requested information regarding desired travel times and days, purpose of travel, including shopping, social, and medical and destinations.

Hours of Travel Needs - Table 46 presents a summary of the hours indicated by the senior citizens as desirable periods for travel for each of the three developments, as well as a combined total.

The sample was expanded to represent all senior citizens residing in these developments. As shown, over 50 per cent of the senior citizens indicated that their first choice of travel would be between 1:00 and 3:00 P.M. on weekdays. The second most-preferred travel period, suggested by 19 per cent of senior citizens, was between 11:00 A.M. and 1:00 P.M., and the third period favored by approximately 16 per cent of the responses, was between 3:00 and 5:00 P.M.

Weekend travel requirements were similar to weekdays with the period between 1:00 and 3:00 P.M. preferred by approximately 48 per cent, the period between 3:00 and 5:00 P.M. preferred by about 28 per cent, and the 11:00 A.M. to 1:00 P.M. period chosen by almost 15 per cent of the residents.

Overall, nearly 90 per cent of all citizens indicated that they would like to travel between 11:00 A.M. and 5:00 P.M. on weekdays and weekends. The major difference between preferred weekday and weekend travel times was that about 12 per cent of all senior citizens indicated they would prefer to travel between 9:00 and 11:00 A.M. on weekdays, while none preferred those hours on weekends. Conversely, only 1.4 per cent of the senior citizens indicated a wish to travel between 5:00 to 7:00 P.M. on weekdays while 10 per cent suggested those hours on weekends. There was little indicated desire for transportation after 7:00 P.M. on either weekdays or weekends.

Trip Destinations - Trip purposes and destinations of the 350 residents of Back Bay Gardens Development (535 Avenue A), the 150

Table 46

HOURS OF SENIOR CITIZEN TRAVEL REQUIREMENTS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

TIME PERIOD	BACK BAY GARDENS				WEST 2ND STREET				EAST 21ST STREET				TOTAL			
	Weekday		Weekend		Weekday		Weekend		Weekday		Weekend		Weekday		Weekend	
	Persons	Per Cent	Persons	Per Cent	Persons	Per Cent	Persons	Per Cent	Persons	Per Cent	Persons	Per Cent	Persons	Per Cent	Persons	Per Cent
9:00 - 11:00 AM	16	4.5	-	-	29	37.5	-	-	23	15.4	-	-	68	11.8	-	-
11:00 AM-1:00 PM	24	6.8	59	16.7	39	50.0	26	33.4	46	30.8	-	-	109	18.9	84	14.5
1:00 - 3:00 PM	214	61.4	173	49.9	10	12.5	26	33.3	69	46.2	75	50.0	293	50.7	277	47.9
3:00 - 5:00 PM	80	22.9	59	16.7	-	-	26	33.3	12	7.6	75	50.0	92	15.8	159	27.5
5:00 - 7:00 PM	8	2.2	59	16.7	-	-	-	-	-	-	-	-	8	1.4	58	10.1
7:00 - 9:00 PM	8	2.2	-	-	-	-	-	-	-	-	-	-	8	1.4	-	-
TOTAL	350	100.0	350	100.0	78	100.0	78	100.0	150	100.0	150	100.0	578	100.0	578	100.0

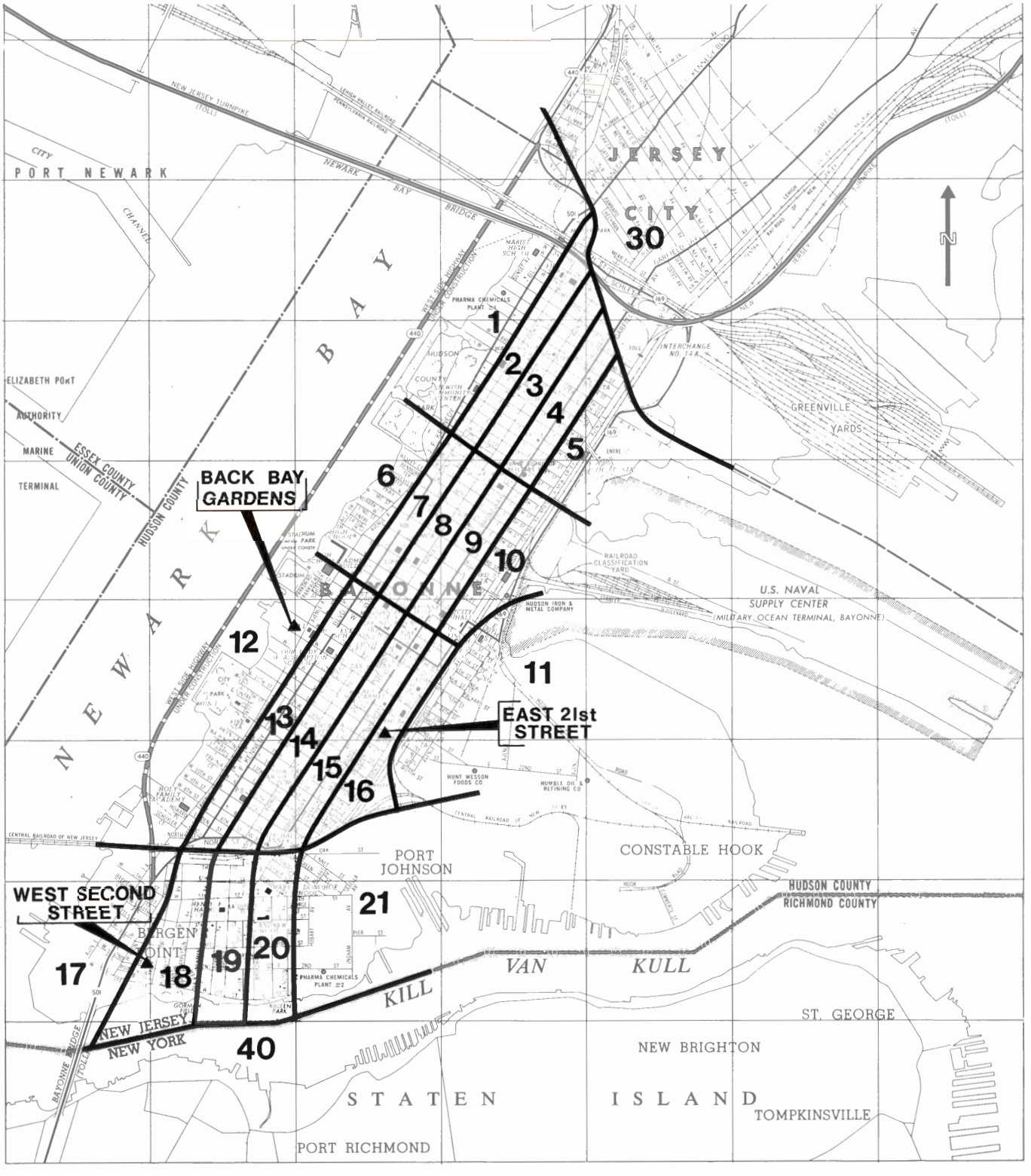
residents of the East 21st Street Development, and the 78 residents of the West Second Street Development were summarized and presented in the following pages.

The destination zones shown in the following summary tables are defined in Figure 27. Zone 30 represents all of the Jersey City area. However, almost 90 percent of persons indicating Zone 30 as their destination actually desired to go to either Journal Square or the Route 440 shopping area. Zone 40 represents Staten Island. It is noted that very few persons indicated interest in traveling outside of Jersey City, Bayonne, and Staten Island.

As shown in Table 47, 179 persons, or 51 percent of the Back Bay Gardens residents, wish to shop in Zone 15, which is the Bayonne shopping district along Broadway. An additional 41 percent indicated the Route 440 shopping area or Journal Square as their choice and the balance chose Staten Island or other Bayonne areas. It is noted that many of the respondees to the questionnaire indicated desire for shopping trips in both Bayonne and the Route 440 shopping center.

The social and entertainment trip destinations of the Back Bay Gardens residents were similar to the shopping trips with a total of 43 percent indicating Zones 9 and 15 (the Broadway area of Bayonne), and 39 percent indicating the Route 440 shopping area or Journal Square. Many of the senior citizens considered shopping trips to the Route 440 area as entertainment, thus the two functions, shopping and social, were intermixed.

Medical destinations from this development were distributed throughout Bayonne, with the highest number of persons (46 percent) indicating the area along Avenue C (where many of the physicians appear to be located) as their prime destination.



SENIOR CITIZEN SURVEY ZONES
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 27

Table 47

DESTINATIONS OF SENIOR CITIZEN TRIPS

Back Bay Gardens Development

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

DESTINATION ZONE CODE(1)	TRIP PURPOSE							
	Shopping		Social		Medical		Total	
	Trips	Per Cent	Trips	Per Cent	Trips	Per Cent	Trips	Per Cent
01	-	-	42	12	21	6	63	6
03	-	-	-	-	32	9	32	3
04	-	-	-	-	21	6	21	2
06	-	-	-	-	11	3	11	1
07	-	-	6	2	32	9	38	4
08	-	-	-	-	159	46	159	15
09	18	5	145	41	11	3	174	16
12	-	-	-	-	11	3	11	1
13	-	-	6	2	10	3	16	2
14	3	1	-	-	-	-	3	1
15	179	51	6	2	-	-	185	18
18	-	-	-	-	21	6	21	2
30	144	41	139	39	21	6	304	28
40	6	2	6	2	-	-	12	1
TOTAL	350	100	350	100	350	100	1,050	100

(1) For area descriptions, see Figure 27.

Overall, 16 and 18 percent of the senior citizens residing at Back Bay Gardens indicated that they wished to travel to Zones 9 and 15, respectively, for one purpose or another. Zone 8 was the trip destination of 15 percent of the senior citizens and Zone 30 (Journal Square and Route 440) was the destination of 28 percent of the residents.

Shown in Table 48 are the destinations of trip requirements of senior citizens residing at the East 21st Street Development. A major portion (71 percent) of these residents indicated that they wish to travel to Route 440 or Journal Square for shopping. However, since this Development is very close to the Broadway shopping area, it appears that the residents indicated an alternate shopping area. The balance of the residents indicated Broadway as their choice.

The social and entertainment preference of these residents is interesting in that 62 percent indicated Journal Square or Route 440 as their preference and 33 percent Staten Island. The balance (five percent) showed Zone 7, which is on Kennedy Boulevard.

Most of the medical trip destinations (68 percent) were along Avenue C in Zones 8 and 14. The balance indicated Zone 7 and Jersey City (13 percent each) as their preferences.

Overall, Jersey City, with 48 percent of the total trip desires, and Staten Island, with 11 percent, accounted for nearly 60 percent of the trip desires reported by these senior citizens. Zone 8, in Bayonne, accounted for another 19 percent and the balance was distributed among other areas of the City.

Most of the trip destinations of the West Second Street Development residents were to Zone 8, 31 percent; Zone 19, 26 percent; and Zone 15, 14 percent. Most of the Zone 8 trips were for social and entertainment purposes, the Zone 19 trips for shopping

Table 48

DESTINATIONS OF SENIOR CITIZEN TRIPS

East 21st Street Development

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

DESTINATION ZONE CODE(1)	TRIP PURPOSE						TOTAL	
	Shopping		Social		Medical			
	Trips	Per Cent	Trips	Per Cent	Trips	Per Cent	Trips	Per Cent
07	-	-	7	5	19	13	26	6
08	-	-	-	-	84	55	84	19
09	16	11	-	-	-	-	16	4
14	-	-	-	-	19	13	19	4
15	27	18	-	-	-	-	27	6
18	-	-	-	-	9	6	9	2
30	107	71	93	62	19	13	219	48
40	-	-	50	33	-	-	50	11
TOTAL	150	100	150	100	150	100	450	100

(1) For area descriptions, see Figure 27.

purposes, and the Zone 15 trips divided between shopping and medical needs. All trip destinations are shown in Table 49.

The three senior citizen developments are summarized in Table 50. As shown, Zone 30 was the most preferred, with 30 per cent of all senior citizens desiring to go to either Journal Square or the Route 440 shopping area. Zone 8, along Avenue C, was the most in demand for medical purposes and had an overall trip preference of 18 per cent of the senior citizens. Third was Zone 15, which is the shopping area along Broadway with 14 per cent of the trip demands, and fourth was Zone 9, which is another portion of the Bayonne shopping area, with 10 per cent preference. The destinations outlined herein are shown graphically in Figure 28.

Table 49

DESTINATIONS OF SENIOR CITIZEN TRIPS

West 2nd Street Development

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

DESTINATION ZONE CODE(1)	TRIP PURPOSE							
	Shopping		Social		Medical		TOTAL	
	Trips	Per Cent	Trips	Per Cent	Trips	Per Cent	Trips	Per Cent
04	-	-	20	26	-	-	20	9
07	-	-	-	-	30	37	30	13
08	-	-	58	74	16	21	74	31
15	16	21	-	-	16	21	32	14
16	-	-	-	-	16	21	16	7
19	62	79	-	-	-	-	62	26
TOTAL	78	100	78	100	78	100	234	100

(1) For area descriptions, see Figure 27.

Table 50

DESTINATIONS OF SENIOR CITIZEN TRIPS

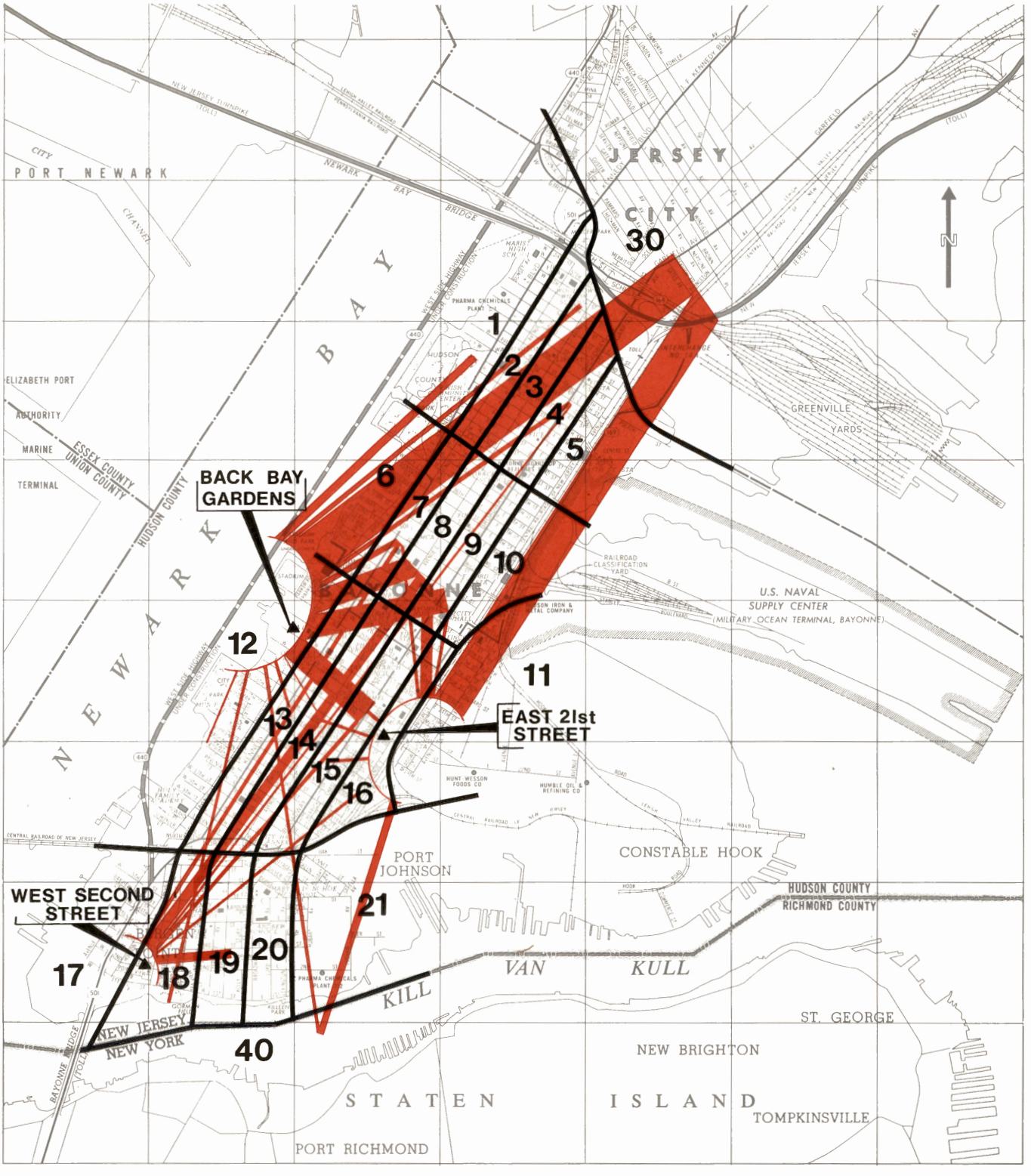
All Developments

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

DESTINATION ZONE COD (1)	TRIP PURPOSE							
	Shopping		Social		Medical		TOTAL	
	Trips	Per Cent	Trips	Per Cent	Trips	Per Cent	Trips	Per Cent
01	-	-	42	7	21	4	63	4
03	-	-	-	-	32	5	32	2
04	-	-	20	4	21	4	41	2
06	-	-	-	-	11	2	11	1
07	-	-	13	2	81	14	94	5
08	-	-	58	10	259	44	317	18
09	34	6	145	25	11	2	190	10
12	-	-	-	-	11	2	11	1
13	-	-	6	1	10	2	16	1
14	3	1			19	3	22	1
15	222	38	6	1	16	3	244	14
16	-	-	-	-	16	3	16	1
18	-	-	-	-	30	5	30	2
19	62	11	-	-	-	-	62	4
30	251	43	232	40	40	7	523	30
40	6	1	56	10	-	-	62	4
TOTAL	578	100	578	100	578	100	1,734	100

(1) For area descriptions, see Figure 27.



0 1,000 2,000 3,000 4,000 5,000 FEET

600
450
300
150

TRIP SCALE

LEGEND

ZONE BOUNDRY

SENIOR CITIZEN DEVELOPMENT

ORIGINS AND DESTINATIONS OF SENIOR CITIZEN TRIPS

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 28

Chapter 6

ROUTE EVALUATION AND COMPETITION

Chapter 6

ROUTE EVALUATION AND COMPETITION

Further evaluation of the areas served by bus routes in Jersey City and Bayonne was undertaken in an effort to relate socio-economic parameters of various neighborhoods with system-related values developed in Chapter 4. In addition, areas in which multiple bus services result in competition between bus companies for riders, were reviewed to identify the nature and extent of the competition.

Existing Bus Service and Socio-Economic Data

Three groups of residents of the study area are generally considered to be captive users of public transportation or persons who have no choice of transportation mode. These groups include senior citizens, members of families without automobiles, and low-income families. Comparison of the existing bus route service areas in Jersey City and Bayonne with the residence locations of these captive groups leads to determination of which routes serve the greatest number of captive users. Census tract densities of these captive resident groups, when related to bus routes, resulted in a rating which set priorities of importance to captive users. The service areas were those outlined earlier in this report with a 500-foot walking distance for all other residents. In addition to these analyses, a comparison of the existing route service with housing densities within the service area was also made.

Methodology - The conduct of these socio-economid route comparisons is described herein. Service areas defined by 500 and 1,500-foot walking distances from each route were outlined

outlined on maps of each local bus route. A sample map of TNJ Route 9 is shown in Figure 29.

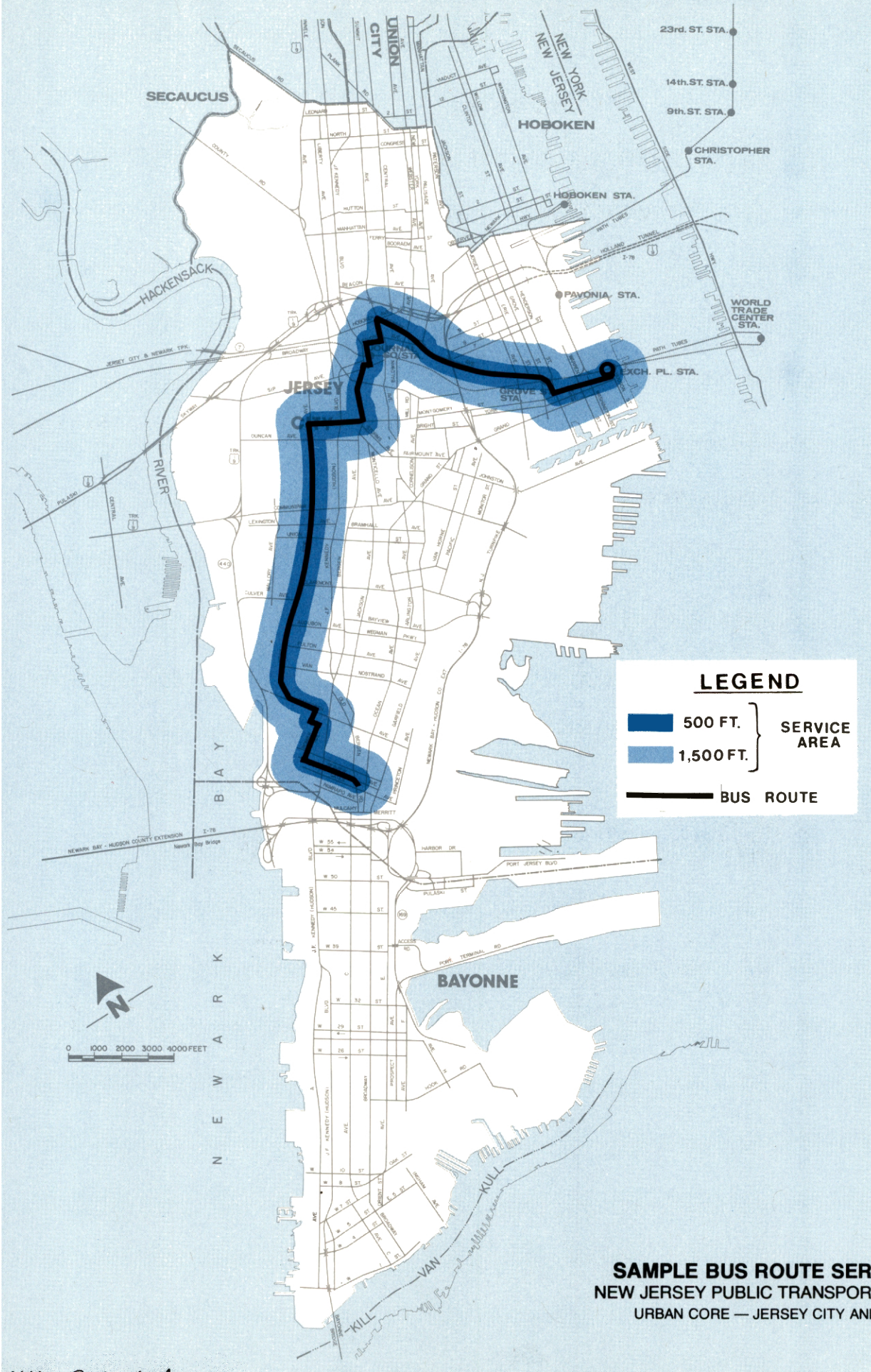
Numerical ratings were then assigned to statistics on the three groups of captive transit users and to housing densities by census tract, ranging from 1 to 3, 4, or 5. The resultant ratings are presented in Table 51 and are based on the data presented earlier in this report in Figures 17, 19, 21 and 22.

Each route was divided into small sectors represented by common statistics for each parameter. All the route sectors were then totaled and an average rating for the full route was determined by dividing to aggregate segment rating by the total length of route.

Analyses - Comparisons were thus possible for each of the 27 local bus routes serving the corridor based on the numerical ratings given to each route. It is noted that each of the four classifications has a different range of ratings (senior citizens ratings range between one and five and housing densities range from one to three) and comparisons between the individual parameters should not be made.

In the conduct of these analyses of service to the corridor, it was important, therefore, to divide the bus routes into categories. One category included all routes whose major service is to the corridor and the other category, those routes which begin in the study area but terminate outside of the study limits.

These data indicate that some routes are more important (rated more highly) to area residents. Such routes generally include those which more effectively penetrate areas with higher



SAMPLE BUS ROUTE SERVICE AREA
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 29

Table 51

RATINGS FOR EVALUATION OF BUS SERVICE

TO RESIDENTIAL DEVELOPMENT

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

	RATING BASIS	RATING
Senior Citizens		
(Persons in Census Tracts)	Under 250	1
	250 - 500	2
	500 - 750	3
	750 - 1,000	4
	Over 1,000	5
No-Vehicle Families		
(Families in Census Tracts)	Under 300	1
	300 - 599	2
	600 - 900	3
	Over 900	4
Housing Densities		
(Dwelling Units/Acre by	Under 40	1
Census Tracts)	40 - 79	2
	Over 79	3
Low-Income Families	PER CENT	
(Per Cent of All Families	Under 40	1
in Census Tract)	40 - 49	2
	50 - 59	3
	60 - 69	4
	Over 69	5

ratings in terms of senior citizens, no-car families and low-income families, and are thus major means of transportation within the urban core. These routes are referred to as local routes in the following discussions. The other routes provide intercity or interstate service and generally start from Journal Square or Exchange Place and terminate outside of the urban core. These routes include TNJ Nos. 1, 31, 43, 44, and 122/124. Also included are Hudson Bus Transportation Company No. 2, Downtown Bus No. 5, and North Hudson Boulevard No. 1.

Findings - Shown in Table 52 are the resulting ratings for each of the four socio-economic parameters of residents as well as a combined total of the four for each route.

Senior Citizens - The first column in Table 52 are the ratings of each route in terms of senior citizens served. Of the local routes more critical to the corridor, the Downtown No. 5 received the lowest rating, with 1.13. This means that on the average, the senior citizen population abutting this route is below 300 persons per census tract. The highest rating was received by the South Hudson County Boulevard No. 10, with a 3.55 rating, which indicates that an average of approximately 850 to 900 senior citizens per census tract reside along this route. Overall, three routes were rated between one and two, 11 routes between two and three, and two rated above three.

Of the intercity routes, the lowest rating was received by the TNJ No. 31 with a 0.81 rating. The highest was the North Hudson Boulevard IBOA with 3.77. However, this route serves a small portion of the Jersey City and its rating is based only on the Jersey City portion of the total route.

No-Car Families - These ratings are more evenly distributed with all of the local routes receiving ratings between

Table 52

BUS ROUTE COMBINED SERVICE RATINGS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

BUS ROUTE	RATING				
	SENIOR CITIZENS	NO VEHICLE FAMILIES	HOUSING DENSITY	LOW INCOME FAMILIES	TOTAL
TNJ #1 to Journal Square	2.91	3.07	1.30	1.79	9.07
TNJ #1 to Exchange Place	1.33	2.44	0.99	1.51	6.27
TNJ #7	2.78	2.60	1.50	2.44	9.32
TNJ #9	2.51	2.75	1.37	1.92	8.55
TNJ #14 Local	2.58	2.34	1.16	2.28	8.36
TNJ #14 Express	2.71	2.09	1.22	2.01	8.03
TNJ #16	2.01	2.70	1.40	2.08	8.19
TNJ #18	2.50	2.26	1.44	2.15	8.35
TNJ #31	0.81	1.57	1.08	2.29	5.75
TNJ #43 to Journal Square	1.55	2.70	1.13	1.82	7.20
TNJ #43 to Exchange Place	1.17	2.26	1.36	2.03	6.82
TNJ #44	2.16	1.86	1.53	1.92	7.47
TNJ #122/124	3.40	2.80	1.49	2.41	10.10
A&C IBOA Shopper	1.49	2.81	0.67	1.08	6.05
A&C IBOA Marion	2.04	2.67	0.86	1.60	7.17
Bergen Avenue IBOA	3.43	2.51	1.58	2.57	10.09
Broadway IBOA	2.57	2.20	1.02	2.08	7.87
Central Avenue IBOA to Gates Avenue	2.54	2.40	1.26	2.21	8.41
Central Avenue IBOA to CNJ Terminal	2.06	2.17	0.94	1.81	6.98
Downtown Bus Company #5	1.31	2.61	1.15	1.85	6.98
Downtown Bus Company #6	1.13	2.47	1.22	2.26	7.08
Hudson Bus Transportation Company #2	1.66	1.91	0.73	0.93	5.23
Lafayette and Greenville IBOA to Journal Square	2.94	2.85	1.05	2.72	9.56
Lafayette and Greenville IBOA to Exchange Place	1.97	2.31	1.21	2.31	7.80
Montgomery and West Side IBOA	2.47	2.48	1.26	1.79	8.00
North Hudson Boulevard IBOA #1	3.77	2.61	1.56	2.14	10.08
South Hudson County Boulevard IBOA #10	3.55	2.60	1.19	1.98	9.32

two and three. TNJ Route #14 express had the lowest rating with 2.09. The higher ratings were for Lafayette and Greenville to Journal Square, with 2.85; A & C IBOA Shopper with 2.81; and TNJ #9 with 2.75. Of the intercity routes, the TNJ #31 and #44 and Hudson Bus Transportation #1 were below the rating of 2.0, and the TNJ #1 to Journal Square received a rating of over 3.0. The other routes were all rated between two and three.

Housing Densities - The number of dwelling units per acre, summarized by census tract, provides the basis for relating housing to bus service. Three measures used were under 39 dwelling units per acre, 40 to 79 dwelling units per acre, and over 79 dwelling units per acre. Of all routes, the A & C's Shopper and Marion routes and the Central Avenue route to CNJ Terminal were below 1.0. It is noted that both of these routes serve areas which are predominantly commercial or industrial in nature. TNJ #7 averaged 1.50 and Bergen Avenue 1.58, to receive the highest ratings.

Among the intercity routes, the Hudson Bus Route #2 to Secaucus with 0.73 and the TNJ #1 to Exchange Place with 0.99, ranked lowest. The highest rated were the North Hudson Boulevard #1 at 1.56 and the TNJ #44 at 1.53.

Low Income Families - The incidence of low income families was evaluated based on the percentage of low-income families in each census tract. This percentage was divided into five ranges from under 39 percent to over 70 percent. Six of the local routes were rated between one and two, with the lowest being the A & C Shopper with a 1.08 rating. The highest ratings were received by the Lafayette and Greenville to Journal Square with 2.72, and the Bergen Avenue route with 2.57. Of the

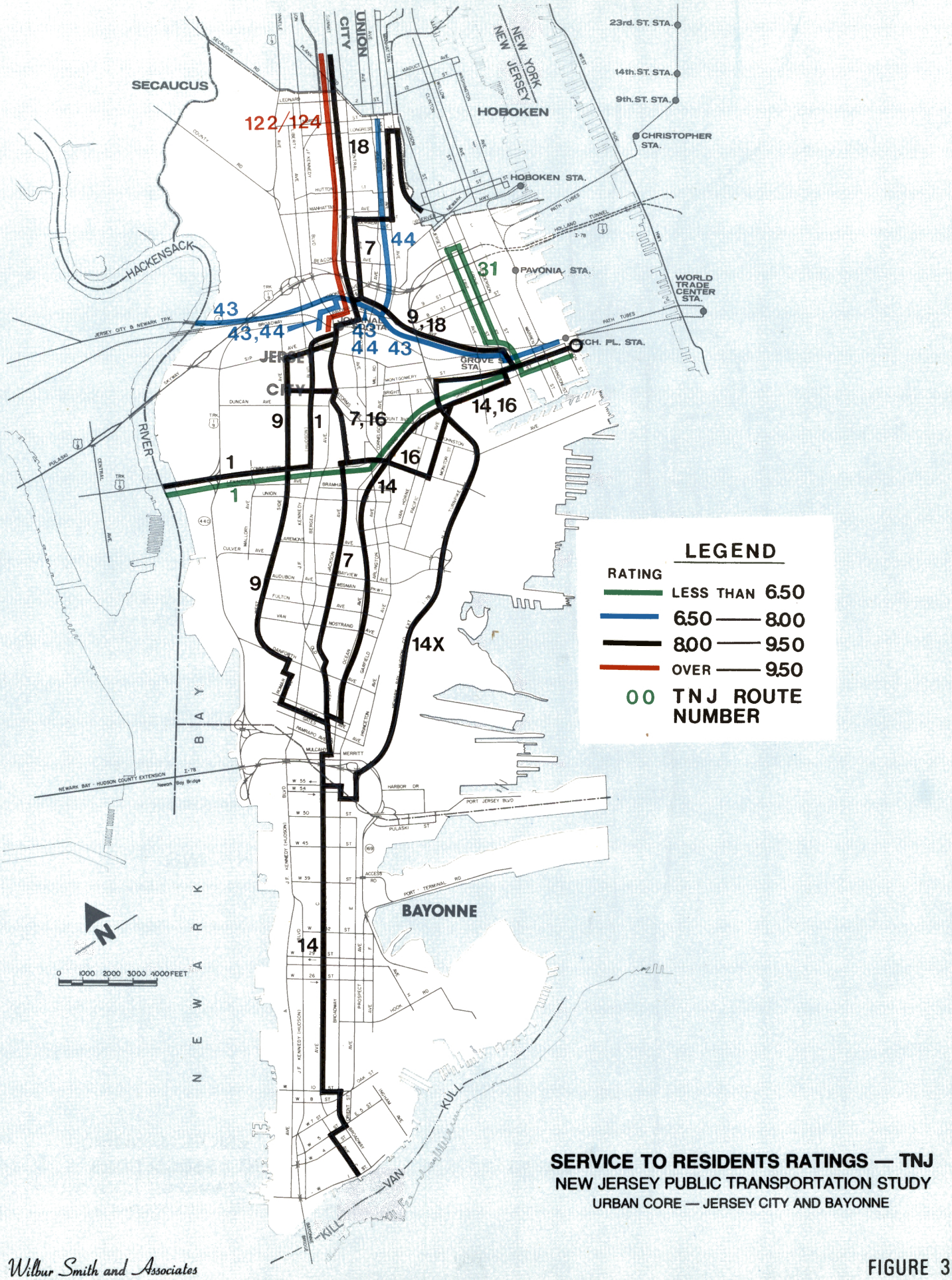
intercity routes, the lowest rating was received by the Hudson Bus Transportation #2 to Secaucus with 0.93 and the highest by the TNJ 122/124, with a rating of 2.41. Again each of these routes was only measured on the basis of the area served within Jersey City.

Composite Ratings - Shown in the last column of Table 52 are the composite ratings on each of the four socio-economic parameters. The Bergen Avenue route received the highest local route rating with 10.09. Other high ratings in this group were received by the Lafayette and Greenville-Journal Square, the South Hudson County Boulevard #10, and the TNJ #7, with ratings of 9.56, 9.32, and 9.32, respectively. Lowest rating was received by the A & C Shopper with 6.05. Other low ratings included the Central Avenue to CNJ Terminal and Downtown Bus #5 with 6.98 each. Overall, one route was rated above 10.0, three received ratings between 9 and 10, six between 8 and 9 and five below 8.

Of the intercity routes, the highest rankings were by the TNJ 122/124 and the North Hudson Boulevard #1 with over 10.0 each. Lowest ratings were by the Hudson Bus #2 to Secaucus with 5.23, and the TNJ #31 with 5.75.

The resulting ratings for the TNJ routes and independent operators are summarized in Figures 30 and 31, respectively.

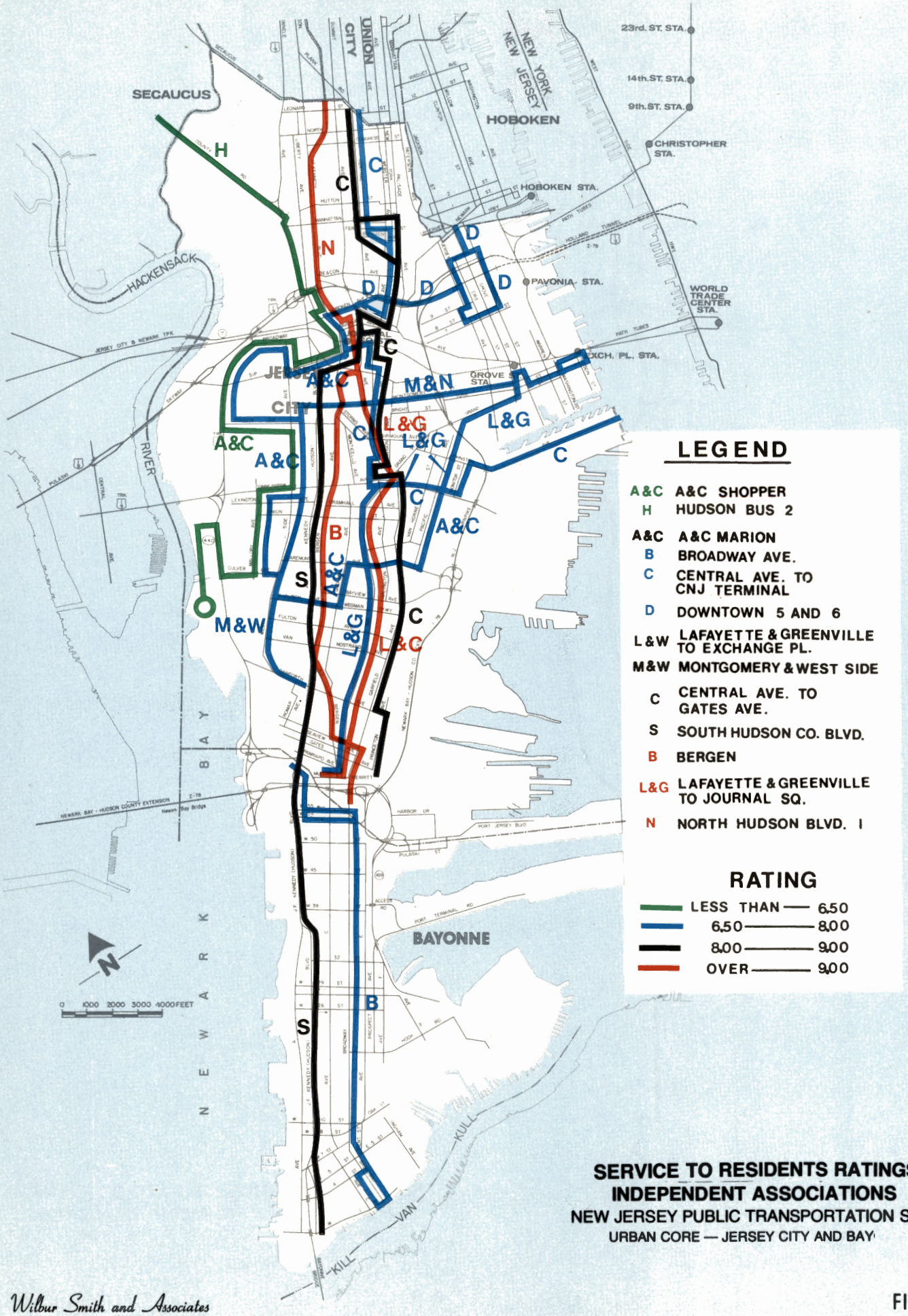
The data outlined above provide a basis for relating bus routes to residential land use and socio-economic data and development of a rating for each route. This rating is a measure of the importance of each route in the urban core. However, other factors have not come into consideration in determining these ratings. One is the extent to which a route serves commercial development. Some routes may not serve high concentrations of senior citizens or low income families, but may



SERVICE TO RESIDENTS RATINGS — TNJ
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 30



SERVICE TO RESIDENTS RATINGS
INDEPENDENT ASSOCIATIONS
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAY

Wilbur Smith and Associates

FIGURE 31

provide transportation from major commercial centers, such as Journal Square, to other shopping areas which attract large numbers of trips such as the Route 440 Shopping Center. Another consideration is that some routes, such as the Broadway Bus, may travel along a corridor of heavy commercial development, leaving little space for residential development. Such routes may not rank high in terms of serving residential areas, but are very important in terms of serving the shopping needs of the urban core residents.

Another consideration in the determination of comparative ratings is whether a route provides a needed link between two major generators or areas. Such a route may travel through undeveloped lands, but may be the only form of transportation available to the residents at either end of the route.

Table 53 lists local and intercity routes in the urban core in order of priority based on the rating each received for service to residential areas. The service performance ratings of each route as developed in Chapter 4 and summarized in Table 43 of this report are also shown. Of the local routes, the first seven listed received high ratings on their service performance as well as on residential areas served. This suggests that these routes are high in priority since they service a major portion of the study area's captive bus users and at the same time provide comfortable and reliable service.

Table 53 does not indicate, however, that all of the other routes do not provide a necessary and meaningful service to the corridor. The TNJ #14 Express, for instance, which runs only during the rush hours, is a popular route for commuters between Bayonne and Downtown Jersey City or New York. The Montgomery and West Side route has significant value in that it provides

Table 53

BUS ROUTE RATINGS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

LOCAL ROUTES	RESIDENCE RATING	SERVICE RATING (1)
Bergen Avenue	10.09	28
Lafayette and Greenville to Journal Square	9.56	28
TNJ #7	9.32	24
South Hudson County Boulevard #10	9.32	25
TNJ #9	8.55	28
Central Avenue to Gates Avenue	8.41	29
TNJ #14 Local	8.36	20
TNJ #16	8.19	13
TNJ #14 Express	8.03	20
Montgomery and West Side	8.00	25
Broadway	7.87	20
Lafayette and Greenville to Exchange Place	7.80	28
A&C Marion	7.17	13
Downtown Bus #6	7.08	27
Central Avenue to CNJ Terminal	6.98	29
A&C Shopper	6.05	13
INTERCITY ROUTES		
TNJ 122/124	10.10	13
North Hudson Boulevard #1	10.08	24
TNJ #1 to Journal Square	9.07	21
TNJ #44	7.47	25
TNJ #43 to Journal Square	7.20	13
Downtown Bus #5	6.98	27
TNJ #43 to Exchange Place	6.82	13
TNJ #1 to Exchange Place	6.27	21
TNJ #31	5.75	13
Hudson Bus Transportation Company #2	5.23	24

(1) From Table 43.

accessibility to the west side of Jersey City from Exchange Place and to the Route 440 shopping area and Roosevelt Stadium both of which are within a reasonable walking distance of the Montgomery and West Side route.

Broadway Bus, another route which has not received favorable ratings, in comparison to other routes, is very important to Bayonne residents in that it provides access to the Bayonne shopping district along Broadway.

The A & C Shopper route received the lowest ratings in both evaluations, service to captive users and service performance. Its importance, however, is related to the fact it is the only direct link to the Route 440 shopping areas from Journal Square and other portions of Jersey City. Presently, all shoppers who wish to go to this area have to transfer at Journal Square, or at another location, to this route if they do not wish to walk from West Side Avenue.

Review of the intercity routes indicates a lack of uniformity in the ratings. For example, one route, TNJ 122/124, shows high residence service ratings but a low transit service rating. This is because the route operates a short distance within the study area and passes through some highly residential areas. However, most of its passengers come from areas outside of the study limits. If the entire route had been analyzed, its residence service rating may have been much different. Similar differences have been experienced by the other intercity routes listed.

Conclusions - Several routes in the urban core appear to have minimal impact on the area residents and at the same time provide limited service. Such routes are the TNJ's #16 and #31. The TNJ #16 route travels between Journal Square and

Exchange Place via some portions of the Bergen and Lafayette neighborhoods. Its ratings were low with 8.19 and 13.0 in the residential and service analyses and the areas served are also served by several other routes. Further, the PATH system provides more direct and faster service between Journal Square and Exchange Place.

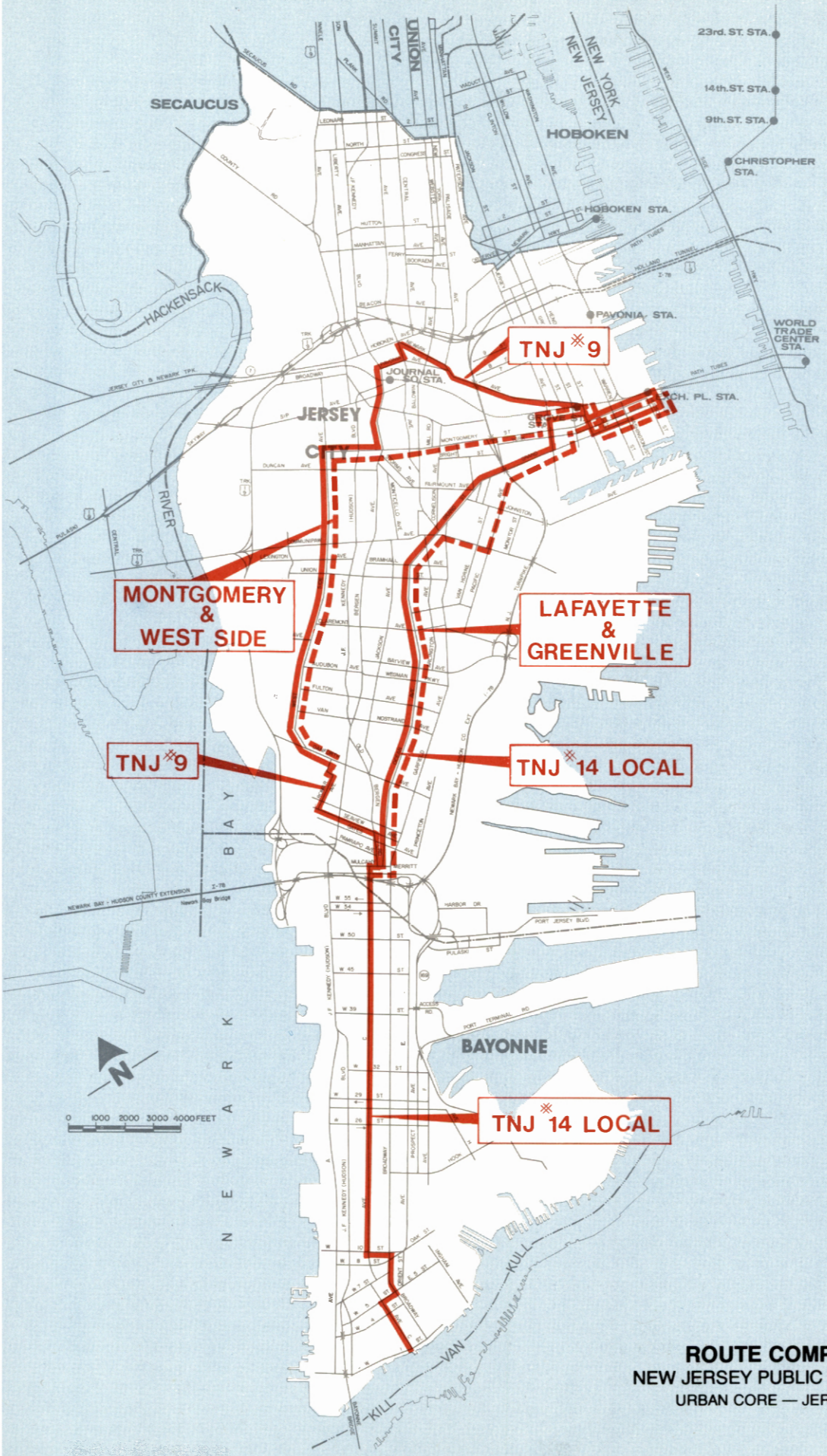
Most other routes appear necessary to the study area and should be maintained, although route length and schedule reductions may be warranted and are discussed in later chapters of this report.

Identification of Bus Route Competition Areas

Several areas in the study corridor are being served by more than one bus route operating in direct competition. This problem exists in Jersey City between the Lafayette and Greenville to Exchange Place route and a portion of the TNJ #14 Local as well as between parts of the Montgomery and West Side and TNJ #9 Routes. Competition areas of these four routes are shown in Figure 32.

Lafayette and Greenville and TNJ #14 - These routes are in direct competition in Jersey City throughout their length along Ocean Avenue and Grand Street.

A comparison of the two service ratings conducted on these routes indicates that the TNJ #14 Local received a more favorable rating than the Lafayette and Greenville to Exchange Place for service to captive users. However, since the two routes run throughout the same area of Jersey City, it appears that the TNJ #14 Local gets a higher rating based on the service it provides to Bayonne which Lafayette and Greenville does not serve. In the service reliability rating system, the



ROUTE COMPETITION AREAS
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 32

Lafayette and Greenville Route received a considerably higher rating of 28.0 versus 20.0 for the TNJ #14 Local. Further in 1974, Lafayette and Greenville served 3,550,185 passengers on its two lines and TNJ #14 served 1,310,670 persons on its local and express routes at a loss of $154,139.

It can be concluded that the TNJ #14 route would be terminated at the Greenville Garage and provide service within Bayonne only. A transfer program could be initiated whereby passengers can transfer to either a TNJ Route or an independent bus for continuation to Journal Square or Exchange Place. The Lafayette and Greenville to Exchange Place route could provide more buses to pick up the gaps in service created by the elimination of the TNJ #14 in Jersey City. The reduction in length of the TNJ #14 is expected to reduce manpower and operating expenses which will be discussed in later chapters.

In conjunction with the above concept for the TNJ #14 Local route, it may be desirable to provide the present express service via the New Jersey Turnpike throughout the day, possibly on a one-hour schedule. This express service is presently very popular and there appears to be considerable demand for it throughout the day.

Montgomery and West Side and TNJ #9 Competition - Competition in service also exists along West Side Avenue from Montgomery Street to Danforth Avenue between the Montgomery and West Side Independent Bus Owners Association and the TNJ #9 Route. Both of these buses begin at approximately the same location in the lower portion of Jersey City and continue to Exchange Place. However, the TNJ #9 passes through Journal Square and Newark Avenue and the Montgomery and West Side turns east on Montgomery Street.

A comparison of the two ratings received by each one of these two routes indicates that, although close, the TNJ #9 was more favorably rated under the two systems. The residential rating for this route was 8.55 versus 8.00 for the Montgomery and West Side and the service performance rating for TNJ #9 was 28.0 versus 25.0 for Montgomery and West Side. Further, the TNJ #9 route indicated in 1974 a net profit of $26,644.44. The Montgomery and West Side operation also indicated a profit for 1974.

Since the Montgomery and West Side bus provides service during limited hours only, and the TNJ #9 provides for a longer range of hours and at the same time serves the Journal Square PATH Station, it can be concluded that changes might not be made in this area.

Other areas of competition exist throughout the corridor, although they are not as acute as those just described. In most cases they traverse along the same arterial for a short distance only or travel along parallel routes. These areas have been reviewed and it was concluded that no changes are necessary.

The effect of the potential cutbacks in service in terms of patronage, operating costs, and net revenues will be discussed in later chapters.

Chapter 7

SERVICE MODIFICATIONS

Chapter 7

SERVICE MODIFICATIONS

The existing configuration and level of bus services throughout the Jersey City-Bayonne Urban Core is among the most intensive in New Jersey. Good areal coverage is provided and virtually all residences in the study area are within walking distance of bus service, most of which carries them to either the Journal Square Bus Terminal or the Downtown Jersey City area.

The basic problems with the existing operation are in the complexity afforded by the many independent operations, varying fare structures, the absence of transfer privileges between independent carriers, and the lack of coordinated effort in the public interest to optimize the available service.

Population figures suggest that Jersey City and Bayonne have declined in population over the past 15 years, indicating that there is no major increase in numbers of people in need of public transportation. However, this can be misleading, as there is a population turnover and the new arrivals are constantly in need of assistance in circulating about the community via public transportation.

Improvement Concepts

Concepts for improvement of public transportation in Jersey City and Bayonne, therefore, can be related chiefly to fare system rationalization, the institution of transfers between carriers, and the tightening of schedules on those competitive routes where subsidies are involved. The conveyance of the

proposed changes in service coordination and fare structures to the public, through an intensive marketing effort designed to upgrade the amenities provided by the system, is also a key ingredient of the proposed short-range plan, as is the implementation of the State's bus purchase programs and the extension of this program to achieve a modern, attractive and efficient fleet of transit vehicles over the next few years.

Building on the existing system, with the legal background established over the last 50 years for the independent operation of buses in these two communities, it does not appear feasible to expect, over a short-range planning period, to totally restructure the system. Efforts have thus been directed toward upgrading the following areas as being the most potentially rewarding for the community:

1. Fare rationalization between independent carriers;
2. Initiation of an inter-company transfer program;
3. Initiation of monthly or weekly fare passes to discount travel costs of regular users;
4. Minimization of competition between subsidized and unsubsidized carriers wherever possible;
5. Initiation of service adjustments in response to the above;
6. Add service variations for senior citizens and handicapped travelers which would permit them to make maximum utilization of the State's expanding half-fare program;

7. Continue efforts begun by individual communities (i.e., Jersey City) to provide amenities to encourage bus ridership through expanded shelter installations;

8. Initiate efforts on a state-supported, coordinated market improvement program using:

   - signs
   - telephone information
   - media advertising
   - traffic improvements
   - integrated special programs; and,

9. Continue efforts, initiated by the New Jersey Department of Transportation's bus purchase program, to reduce the average age of the bus fleets of all carriers operating in the two communities, through initiation of a five-year bus purchase program.

Other concepts were considered in seeking the optimum approach to improvements in bus service in Jersey City and Bayonne. The addition of crosstown, east-west service in the north end of Bayonne and in Jersey City south of Communipaw Avenue was suggested to meet needs not presently fulfilled by existing services. Reviews of competitive conditions involving subsidized and unsubsidized carriers, sometimes along a common route, were conducted to ascertain where costs could be cut with minimum reduction in service.

Alternative Service Concept

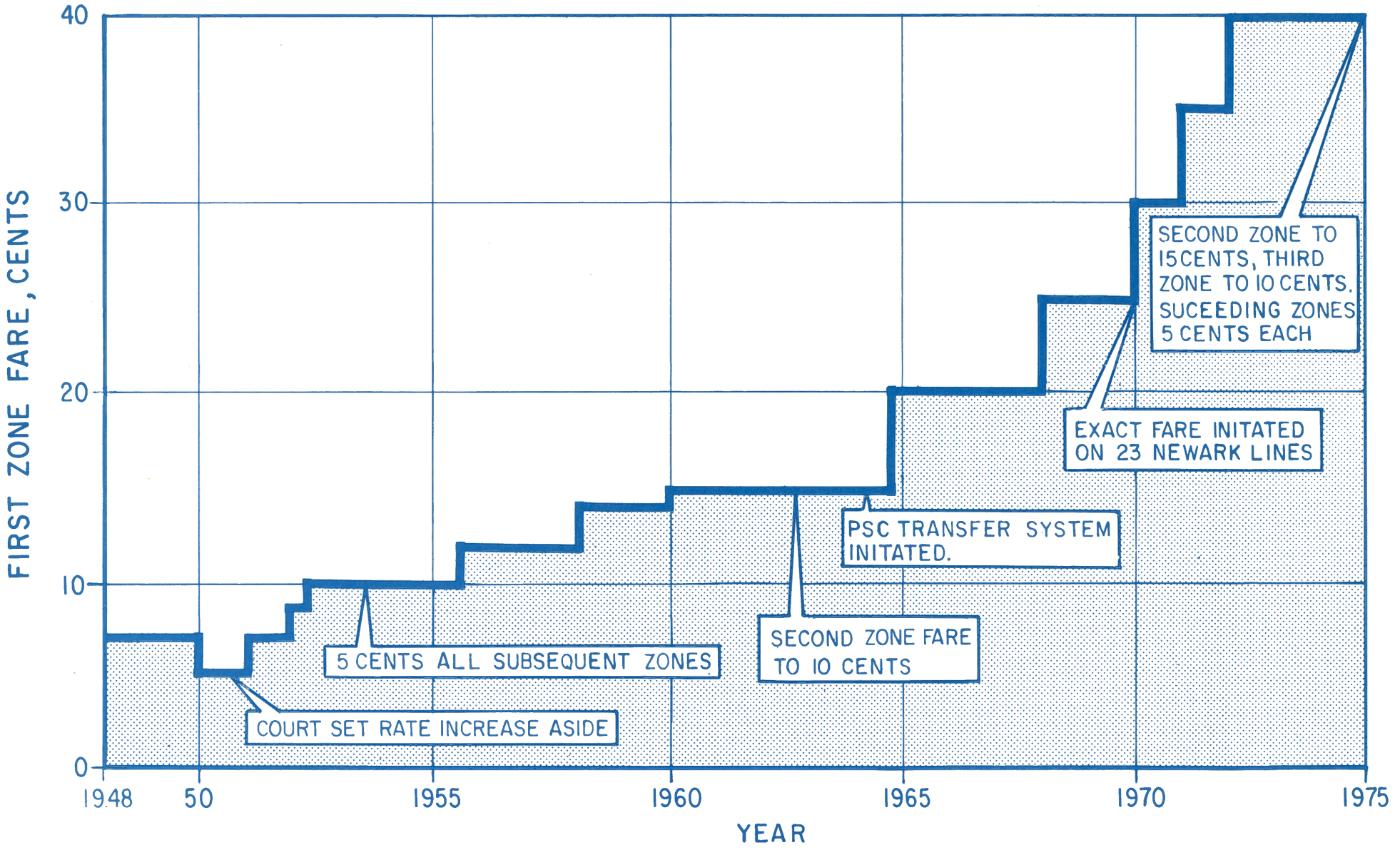
The extensive network of independent bus services in Jersey City and Bayonne suggests the possibility that one service concept worthy of consideration would consist of retention of the independent services, presently unsubsidized (except for three operating groups) and elimination of subsidy payments for TNJ operations requiring subsidy (all internal-Jersey City-Bayonne routes except Number 9-Gates Avenue-Exchange Place, based on 1974 statistics). This concept would eliminate much of the overlapping of service areas which is presently observed and would facilitate increased services by the independents, most of which presently hold franchises to operate more buses than they now have in service. TNJ's routes affected by this plan would be Nos. 7-Jackson, 14-Greenville, 16-Exchange Place and 31-Grove Street. Routes 7 and 14 run closely parallel and head-to-head,respectively, with independent operators over much of their length. Route 16 at present is a redundant service which only operates at peak periods between Journal Square and Exchange Place in the Lafayette neighborhood and Route 31 links the Hoboken Erie-Lackawanna Terminal at the south end of Hoboken with Exchange Place via the Grove Street PATH Station. While passenger volumes have remained fairly high on Routes 7 and 14, the lines are losing money based on TNJ accounting. The impact of the recent bus strike on passenger service along these lines did not appear to be a major problem to residents in the respective corridors in either Jersey City or Bayonne. Elimination of Route 31 may be more serious, although the level of riding on that route is far lower than on either Routes 7 or 14. Route 31, however, does not have a parallel competitor and it may isolate some potential patronage generators from the public bus network.

The resultant service plan has considered the above changes, at least in part, and has addressed the resolution of service problems through the steps outlined above. The complex of franchised operations of private carriers does not lend itself to a restructured system, without an administrative takeover by the State or other public authority. Over the short term, this does not appear likely at this time.

Fare Rationalization

Bus fares in Jersey City and Bayonne have followed a growth pattern over the years in response to changes in the fares of Transport of New Jersey and until 1971, its predecessor, Public Service Coordinated Transport. For many years, independent bus company fares were comparable, but as TNJ received increases in first-zone fares to 30 cents in 1970, 35 cents in 1971, and 40 cents in 1972, a major fare gap developed, with independent fares remaining at 25 and 30 cents for first-zone trips. Since 1972, TNJ fares have remained at 40 cents, with the only change initiated in December, 1975, when second-zone fares were increased to 15 cents and third-zone fares to 10 cents, and all succeeding zones were raised by 5 cents. The history of TNJ fares during the Post World War II years is traced in Figure 33.

During this same period, fares on independent carriers have responded to the inflationary trend, and the current fare differential is only 5 cents for most carriers, with several independents, operating under the Department of Transportation's subsidy program, now charging 40 cents for first-zone trips as does TNJ. This change occurred along with the multiple-zone fare change for TNJ in December, 1975. Present fares of bus routes in the area are shown in Figure 34.



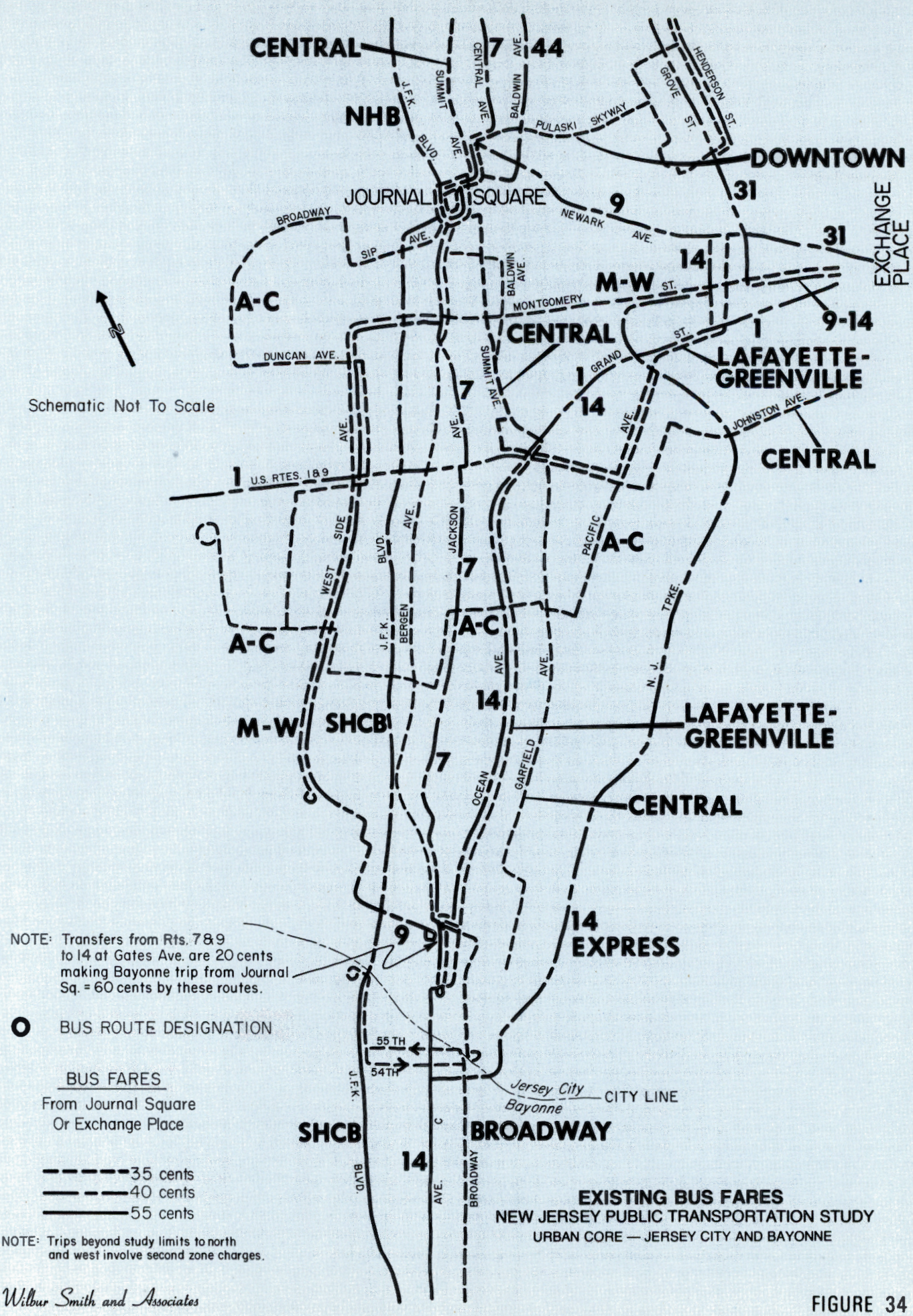
TNJ FARE HISTORY

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 33


CENTRAL
7
44
NHB
SUMMIT AVE.
J.F.K. BLVD.
CENTRAL AVE.
BALDWIN AVE.
PULASKI SKYWAY
GROVE ST.
HENDERSON ST.
DOWNTOWN
31
JOURNAL SQUARE
9
NEWARK AVE.
BROADWAY
SIP AVE.
31
EXCHANGE PLACE
14
M-W
MONTGOMERY ST.
A-C
BALDWIN AVE.
9-14
CENTRAL
1
GRAND ST.
LAFAYETTE-GREENVILLE
DUNCAN AVE.
SUMMIT AVE.
7
14
JOHNSTON AVE.
CENTRAL
Schematic Not To Scale
1
U.S. RTES. 1&9
JACKSON AVE.
PACIFIC AVE.
A-C
WEST SIDE BLVD.
7
A-C
A-C
J.F.K. BLVD.
BERGEN AVE.
TPKE.
N.J.
14
M-W
SHCB
LAFAYETTE-GREENVILLE
7
OCEAN AVE.
GARFIELD AVE.
CENTRAL
14 EXPRESS
NOTE: Transfers from Rts. 7&9 to 14 at Gates Ave. are 20 cents making Bayonne trip from Journal Sq. = 60 cents by these routes.
9
BUS ROUTE DESIGNATION
55TH
54TH
BUS FARES
From Journal Square
Or Exchange Place
Jersey City
Bayonne
CITY LINE
J.F.K. BLVD.
SHCB
BROADWAY
14
BROADWAY AVE.
35 cents
40 cents
55 cents
NOTE: Trips beyond study limits to north and west involve second zone charges.
EXISTING BUS FARES
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE
Wilbur Smith and Associates
FIGURE 34

To create a base on which to structure a transfer system in Jersey City and its adjacent communities, it is proposed that all first zone fares be leveled at 40 cents, with second and third zone fares also adjusted in accord with similar fares being charged by TNJ and the subsidized independents in the study area, South Hudson County Boulevard I.B.O.A., Hudson Bus Transportation Company, North Hudson Boulevard I.B.O.A. and Boulevard Buses. All of the independents who will be affected by this fare adjustment are at the 35-cent fare level and only Downtown Bus Company is involved in multiple-zone fares.

Inter-Company Transfer Program

The present bus system in Jersey City and Bayonne establishes barriers to convenient circulation between neighborhoods. One such barrier is the Jersey City-Bayonne city line which may be physically identified as the approximate alignment of the New Jersey Turnpike Hudson County Extension and New Jersey Route 169 as well as the Lehigh Valley-Penn Central Railroad track to the Claremont Terminal of the Lehigh Valley and the Greenville Piers of the Penn Central on Upper New York Bay. These facilities provide a natural land use barrier between the two cities. The configuration of bus routes in the city line area is shown in Figure 35. It will be noted that only TNJ's Route 14-Greenville and South Hudson County Boulevard's Independents, provide continuous service across the city line. Four independent and two additional TNJ routes terminate in the immediate vicinity of the city line from the north in Jersey City, while the Broadway-Bayonne IBOA terminates on Kennedy Boulevard at the city line from the south.

Other travel barriers in Jersey City and Bayonne are the unavailability of crosstown service in Jersey City south of

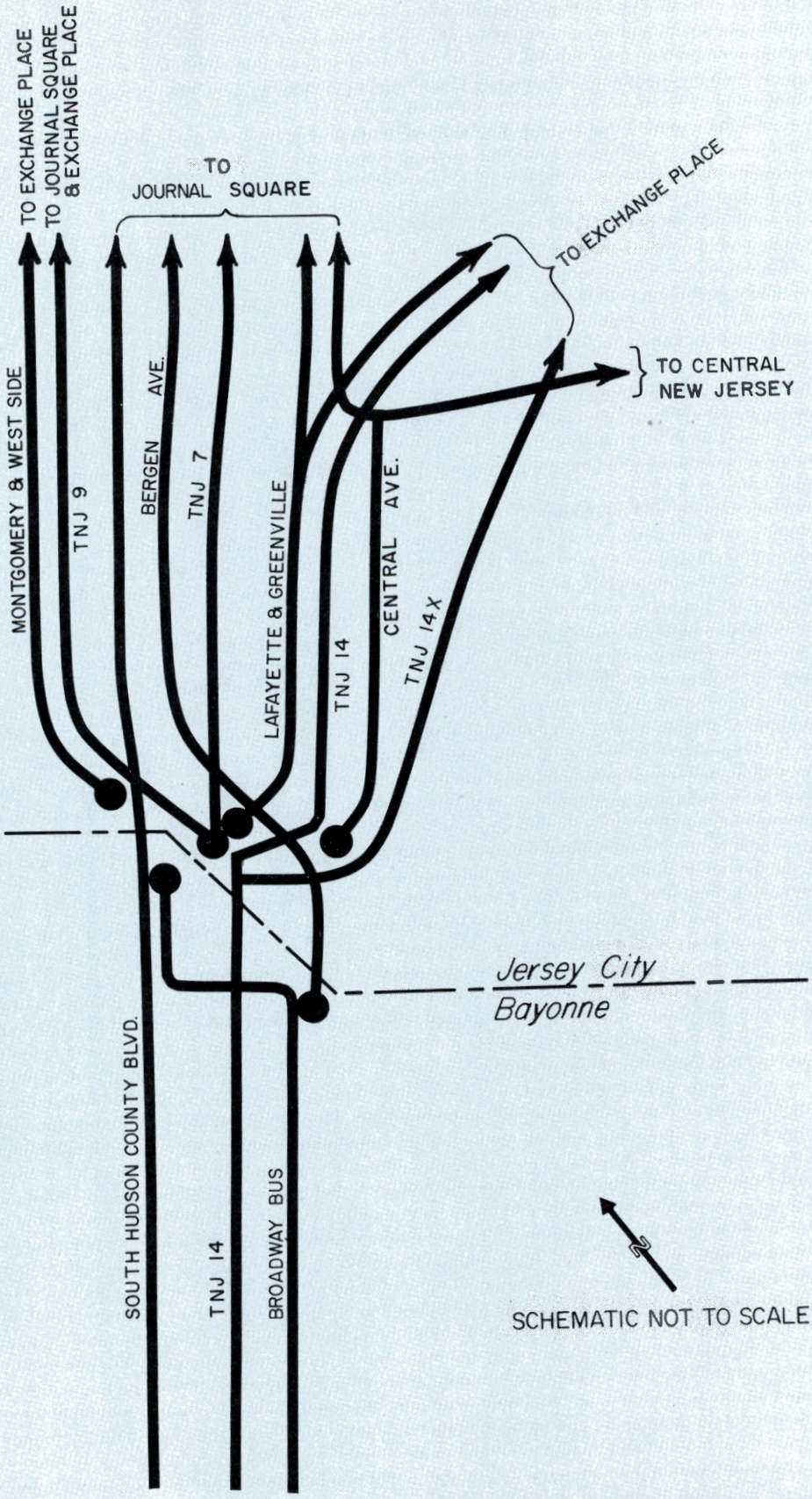
Montgomery Avenue and limited through service in a north-south direction at Journal Square, where only Central Avenue independents and TNJ's Route 7 Jackson travel through the Journal Square area from north to south.

In order to assess the impact of these barriers, reference has been made to the most recent comprehensive origin and destination survey of internal movements in Jersey City and Bayonne which was conducted in 1963-64 by the Tri-State Regional Planning Commission. That study subdivided Bayonne into two zones, north and south, and created seven zones in Jersey City closely approximating the basic neighborhood definitions used for other planning purposes.

Figure 36 presents the survey zones used in the 1963-64 survey. Tabulations of the zone-to-zone movements resulting from the 1963-64 survey are presented in Appendix Table 30. These tables develop a total of 190,534 interzonal trips,of which nearly 57,000 (30 per cent) were made by bus. In addition to these trips, 95,171 intrazonal trips were made between points within each of the nine zones or neighborhoods. Over 18,000 of these or 19 per cent were bus trips. Internal bus movements, therefore, total nearly 75,000 daily, amounting to over 26 per cent of total person movements within the study area.

Auto driver trips between zones totalled over 90,000 daily, nearly 48 per cent of total person trips, while intrazonal trips by auto drivers numbered 54,425 or 57 per cent of these trips. It is noted that the intrazonal trips by auto are a greater percentage of total trips than are the interzonal auto driver trips.

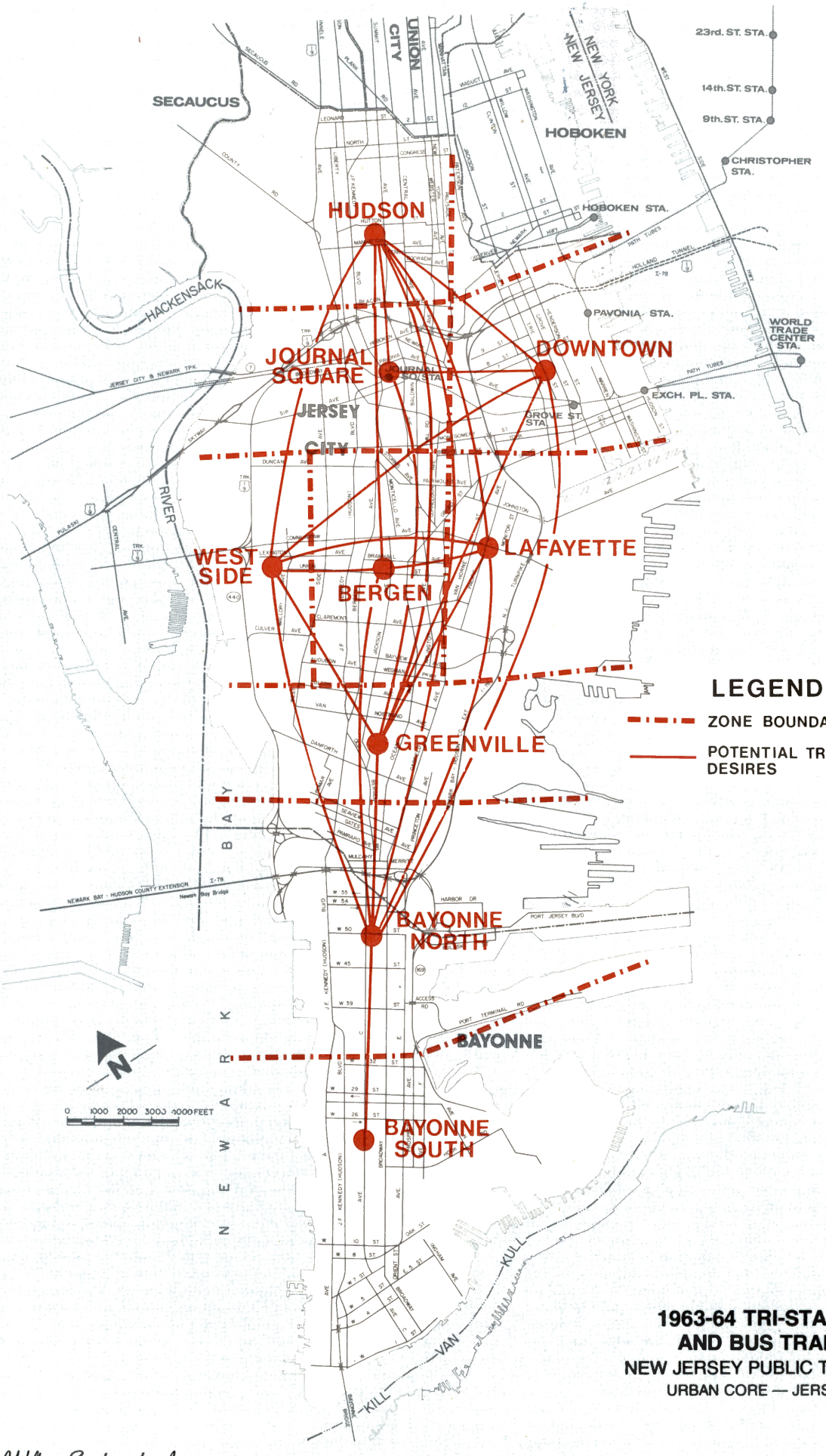
The data from the 1963-64 survey outlined above were initially not considered applicable for planning purposes in this



CONFIGURATION OF EXISTING SERVICE
CITY LINE AREA
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

FIGURE 35

Wilbur Smith and Associates



1963-64 TRI-STATE SURVEY ZONES AND BUS TRANSFER POINTS

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 36

study because of the time elapsed since data collection. However, studies by the staff at Tri-State Regional Planning Commission and other consultants[1] have indicated that comparability between recently collected bus ridership data and the 1963-1964 survey data is generally very good and hence it has been concluded that these survey data can be applied to develop estimation based travel figures in the survey area.

Of the nine zones identified in the 1963-1964 survey, most combinations are linked at least in part by present bus routings. Eight zone-to-zone combinations, however, as listed in Table 54 reflect data on trip interchanges where bus service is limited to either a very small part of the zone or by a low level of service on the links available. On these eight interchanges, three of which combine Bayonne or Bayonne/Greenville trips, a total of 29,000 trips were recorded, including 6,543 bus trips. While the bus trips between several pairs are very light, it is also observed that total trips between the same pairs are light as well. Over 4,000 of the 6,500 bus trips occur between the Bergen and Hudson zones and the Bergen and West Side zones, each of which has limited direct transit connections. Two additional linkages, West Side to Lafayette and Lafayette to Hudson, also have limited direct service.

Maximum potential for inter-company transfer, therefore, appears to exist in four zone-to-zone combinations: the three Bayonne-Greenville linkages and West Side-Hudson. These total 11,700 daily trips, of which only 1,574 are made by bus, about 13 percent of all trips. Auto-driver trips are heavy on these zone-to-zone movements numbering 6,763, or nearly 60 percent of

(1) Chase, Rosen and Wallace, Inc., Alexandria, Virginia.

Table 54

BUS TRANSFER POTENTIALS
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

ZONE TO ZONE MOVEMENT	DAILY PERSON TRIPS				
	Total	Bus	Auto Driver	Other	Per Cent Bus
Bayonne - West Side	4,393	678	1,801	1,914	15.4
Bayonne - Lafayette	1,002	---	554	448	----
Bayonne & Greenville to Hudson	3,268	678	2,368	222	20.7
West Side to Lafayette	1,249	448	573	228	35.9
Bergen to Hudson	6,696	2,506	3,055	1,135	37.4
Bergen to West Side	7,857	1,555	3,960	2,342	19.8
West Side to Hudson	3,043	218	2,040	785	7.2
Lafayette to Hudson	1,459	460	999	--	31.5
TOTAL	29,867	6,543	15,350	7,074	22.6

total trips. This leaves about 27 per cent of the trips (3,400) made by modes other than auto drivers or bus. The intercompany transfer program should be expected to induce some of these to the buses as well as small percentages of other movements where the transfer program results in reduced trip cost on established connecting services.

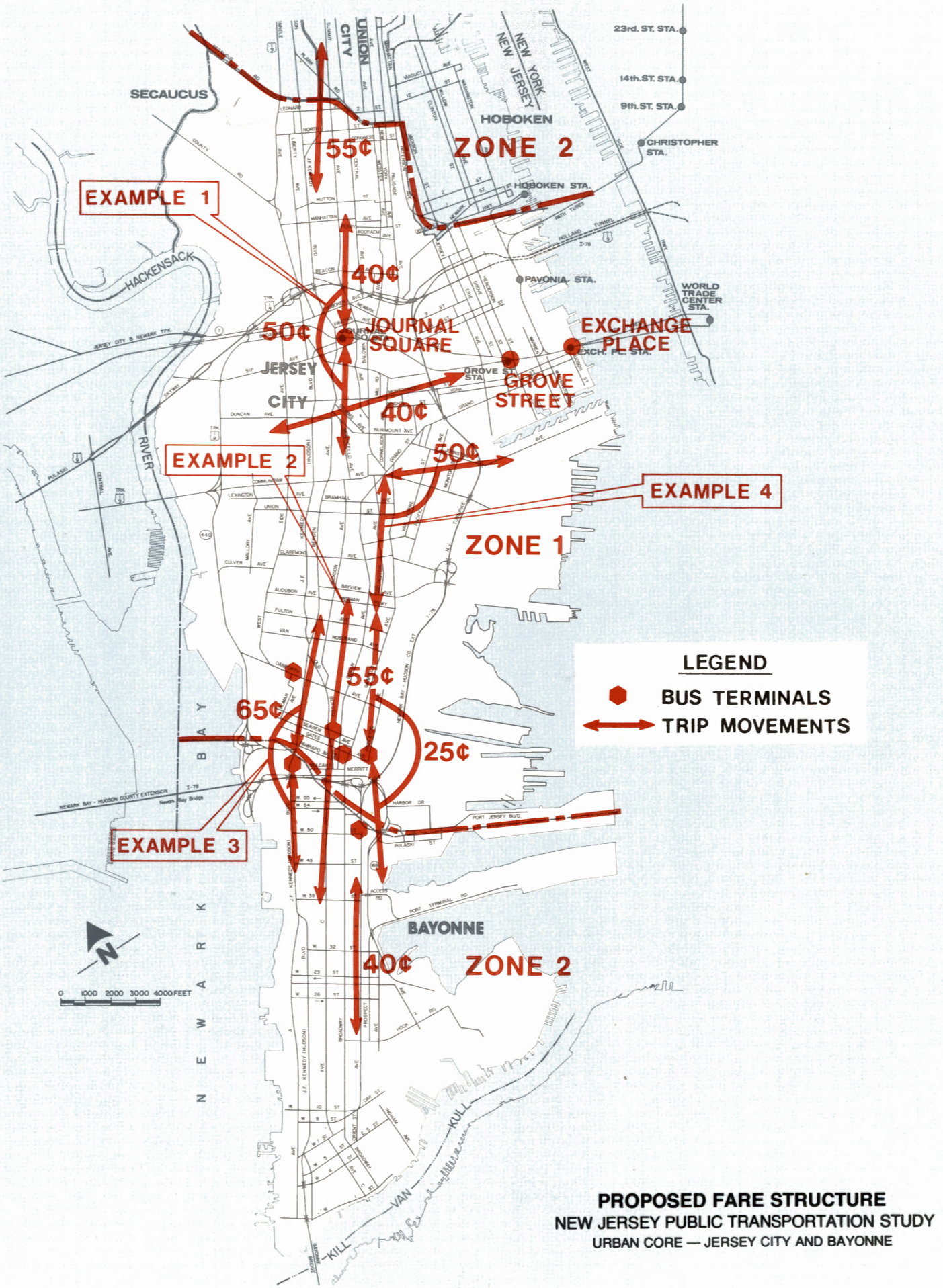
Bus Travel Costs - Table 55 sets forth the existing and proposed trip costs for a variety of trip combinations in Jersey City and Bayonne. The proposed system should reduce substantially the longer trip costs and in so doing, increase use of the system.

Implementation of the transfer program will be a costly matter in terms of monitoring and accounting. TNJ has performed the clearinghouse function for the Newark system, and because of this experience and their added clerical capability as compared to other carriers, it appears they would be the likely clearinghouse for the Jersey City system, with substantial Department of Transportation support and review.

Figure 37 suggests the types of movements and the cost impacts of the proposed transfer program which is outlined herein.

Proposed Transfer Policy - Building on present TNJ transfer policy, it is proposed that the following policy be initiated, with the Commuter Operating Agency to arrange for monitoring and administration:

1. Transfers will be issued by all intrastate carriers for continuous travel in either the first or second zones (including Jersey City and Bayonne) in accord with the following regulations:



PROPOSED FARE STRUCTURE
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 37

Table 55

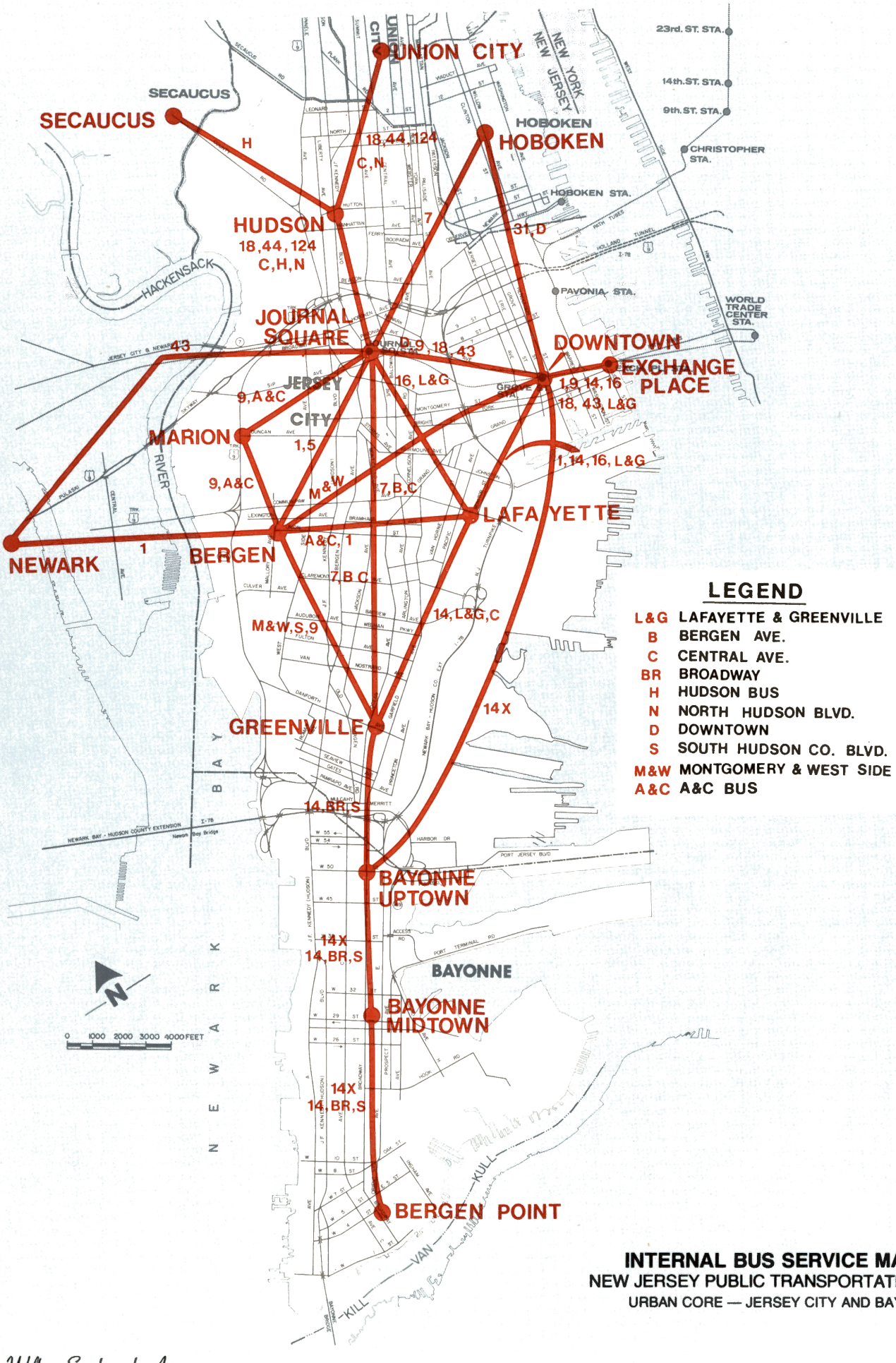
FARE STRUCTURE - EXISTING AND PROPOSED TRANSFER SYSTEM
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

ORIGIN	DESTINATION	ORIGINAL CARRIER	TRANSFER TO:	FARE Existing	FARE Proposed
Jersey City	Jersey City	TNJ	None	40	40
		"	TNJ	50	50
		"	Independent	75	50
		"	Subsidized Independent	80	50
		Subsidized Independent	None	40	40
		"	TNJ	80	50
		"	Independent	75	50
		"	Subsidized Independent	80	50
		Independent	None	35	40
		"	TNJ	75	50
		"	Independent	70	50
		"	Subsidized Independent	75	50
	Bayonne	TNJ	None	55	55
		"	TNJ	65	65
		"	Independent	90	65
		"	Subsidized Independent	95	65
		Subsidized Independent	None	55	55
		"	TNJ	95	65
		"	Independent	90	65
		"	Subsidized Independent	95	65
		Independent	None	--	--
		"	TNJ	75	65
		"	Independent	70	65
		"	Subsidized Independent	75	65

a. Continuous travel in Zone 1 (Jersey City) can be obtained through purchase or a Type A transfer for 10 cents with payment of the first zone or base fare (40 cents) on the originating carrier. This transfer will provide passage between any two points in Jersey City, except for reverse direction travel on the originating carrier. For example in Figure 37, Example 1 might represent a rider originating on Downtown Bus Company's Route 5 and transferring at Journal Square to the North Hudson Boulevard Route for a destination on Kennedy Boulevard. This trip would involve payment of the 40-cent fare to Downtown Bus Company plus 10 cents for a first zone (Type A) transfer to North Hudson Boulevard, or a total fare of 50 cents.

b. Continuous travel on one carrier between Jersey City and Bayonne (Zone 1 to Zone 2) is presently available on both South Hudson Boulevard's local and express Route 10 and on TNJ's Route 14. These fares would continue to be available in the present rate structure of 40 cents for the first zone plus 15 cents for the second zone, where no transfer is required. Example 2 in Figure 37 shows this type of travel.

c. Transfer trips from Zone 1 to Zone 2 as in Example 3 in Figure 38 would include a change in company or operating group in continuing the trip from Jersey City to Bayonne. In this instance, the transfer to the second zone would require payment of the base fare plus the 25-cent transfer, producing a total trip cost of 65 cents compared to the existing two full-fare trip cost of 75 cents.



LEGEND

L&G	LAFAYETTE & GREENVILLE
B	BERGEN AVE.
C	CENTRAL AVE.
BR	BROADWAY
H	HUDSON BUS
N	NORTH HUDSON BLVD.
D	DOWNTOWN
S	SOUTH HUDSON CO. BLVD.
M&W	MONTGOMERY & WEST SIDE
A&C	A&C BUS

INTERNAL BUS SERVICE MATRIX
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 38

d. Continuous travel between Jersey City and Bayonne involving multiple transfers is shown in Example 4 in which a single zone transfer of 10 cents is required as well as a second zone transfer of 25 cents, with the total trip costing 75 cents. If the same trip were made all on one route, such as TNJ's Route 14, the cost would be 55 cents.

Initiation of this program would involve intensive monitoring to assure that the transfers are not used improperly. Bus drivers would have to account for all transfers issued in both 10 and 25-cent denominations each day in their report forms and cash returns.

Reduced Fare Multiple Trip Tickets for Bus Riding

Monthly or weekly tickets or passes are being used increasingly throughout the transit industry as a means of inducing additional riding and simplifying fare collection and control. It is proposed for use on the urban routes in Jersey City and Bayonne where fare collection and security are problems of concern to the bus companies. While the passes add to the clerical requirement of the bus companies, they should also induce extra riding through the slight discount that is offered. Multiple types of passes may be considered for the individual companies so that single zone, two-zone, and senior's passes might be offered. Experimentation with one or two companies may be desired to establish the impacts that the passes have on both ridership and management. The results of the experiments should lead to elimination of problems with the system and to a broader use of the pass system, or to the decision to offer it on a company-by-company basis.

Consideration of inter-company use of passes is also a distinct possibility, assuming that the base fare is established

at 40 cents for all carriers. Here again, a step-by-step introduction of this type of fare collection appears called for with adequate checks and balances effected to insure that the pass system does not create a financial burden on any individual company or result in undesirable side effects and abuses.

Route Rationalization

As presented in Chapter 2, there is a considerable overlap of service areas of the approximately 30 routes providing local service in Jersey City and Bayonne. In some cases, competing routes use common street segments. The competitive nature of the available service has been described above in this report. It is presented graphically in Figure 38 which identifies the services linking the major neighborhoods in Jersey City and Bayonne without reference to specific route alignments. It is apparent from this figure that more than one service is available on nearly every link within the two study cities. While this dramatizes the problem in some areas, it clearly indicates that the communities have good coverage and that there appear to be opportunities to cut operating costs without substantial reductions in service.

When it is recognized that several of the Transport of New Jersey routes and a few of the independent carriers are being subsidized by the New Jersey Department of Transportation, the importance of effecting operating cost reductions becomes very clear. Actual subsidy amounts paid during fiscal 1975 to Jersey City bus operations included:

Hudson Bus Transportation Company	$293,000.80(1)
Baram/Rex	84,926.00(1)
Boulevard Buses	68,496.00(1)
Drogin Bus Company	93,921.00
TOTAL	$540,343.80

TNJ's general operating subsidy for fiscal 1975 was $14,431,000 which covered losses to Jersey City-Bayonne routes of approximately the following, by route:

Route 1 Newark	$ 59,000(2)
Route 7 Jackson	71,000
Route 14 Greenville	154,000
Route 31 Grove	28,000
Route 43 Jersey City	117,000(2)
Route 44 Bergenline	100,000(2)
TOTAL	$529,000

Estimated 1976 fiscal year subsidy requirements in the study area were tabulated as follows based on estimates provided by New Jersey Department of Transportation dated December 2, 1975:

Hudson Bus Transportation Company	$ 593,202
Baram/Rex	132,150
Boulevard Buses	110,615
Drogin Bus Company	426,704
TNJ routes (pro rated on the basis of 1975 route deficits to system total)	817,920
TOTAL	$2,080,591

(1) Includes operations to the north of Jersey City in Hudson County.
(2) Includes operations beyond Jersey City-Bayonne Study Area.
SOURCE: Transport of New Jersey, "Line Revenue and Expense Summary", 1974.

On this basis, it is noted that subsidy requirements in the study area for fiscal 1976 were nearly double the fiscal 1975 level. It is apparent that this rate of increase in subsidy payments must be checked quickly if New Jersey is to maintain a viable bus system at reasonable trip rates.

It should be acknowledged that the actual subsidies through the balance of fiscal 1976 may vary considerably from the estimates set forth above. Limitations on available State funds are the principal reason for this variation, although other possible reasons include fare rate adjustments which would reduce required subsidy amounts or across-the-board service cuts which could drastically reduce available service levels.

It is within this framework, therefore, that the route structure in Jersey City and Bayonne must be re-evaluated, with the recent labor contract settlement for TNJ employees as a further threat to existing service levels.

Proposed Service Changes

Changes proposed in several bus routes and schedules in response to the objectives outlined above, are set forth in the following discussion.

TNJ Route 14 Greenville vs. Lafayette and Greenville Independents - The head-to-head competition between TNJ's Route 14 and Lafayette and Greenville's independent buses along

Ocean Avenue between Merritt Street and Exchange Place has been noted previously. The passenger loadings on both routes are fairly good, with Lafayette and Greenville buses carrying over 3.5 million passengers in 1974 as compared to Route 14's 1.3 million. These loadings amount to 5.4 and 3.1 passengers per mile operated, respectively, for the two carriers.

TNJ also operates all the way to Bergen Point in Bayonne along Avenue C and offers in the peak hours express buses which use the Hudson County Extension of the New Jersey Turnpike from the Bayonne interchange 14A. These additional segments of the route tend to reduce the average loadings by adding heavily to mileage totals.

TNJ's service totals 66 round trips by the local buses and 19 additional round trips by the express service on the typical weekday. Lafayette and Greenville buses make 150 round trips between their Merritt Street terminal and Exchange Place and an additional 80 round trips between Merritt Street and Journal Square, on a route which is competitive as far as Summit Avenue in the Junction area of Jersey City.

Characteristics of ridership on Route 14 buses suggest that throughout the typical day nearly 60 per cent of northbound riders board in Bayonne and of this percentage about 88 per cent (52 per cent of total riders) leave the buses in Bayonne or in the Greenville area of Jersey City (south of Stevens Avenue). In the southbound direction 35 per cent of the riders board buses in the Greenville area of Jersey City or in Bayonne, and a total of 66 per cent of the route riders leave the buses in Bayonne. Table 56 shows the percentage distribution of riders on Route 14 buses in Jersey City and Bayonne.

Table 56

RIDERSHIP PATTERNS
TNJ ROUTE 14
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

NORTHBOUND	PER CENT OF RIDERS A.M.	Mid-day	P.M.	Total	SOUTHBOUND	PER CENT OF RIDERS A.M.	Mid-day	P.M.	Total
On in Bayonne	52	63	60	59	On in Jersey City	--	92	98	83
Off in Bayonne	33	26	39	36	Off in Jersey City	26	55	49	34
Off in Jersey City	19	37	21	23	Off in Bayonne	38	37	49	49
On in Jersey City	48	37	40	41	On in Bayonne	36	8	2	17
Greenville area of J.C.									
Off	--	32	17	16	On	32	20	16	18
Adjusted Figures									
Off in Bayonne and Greenville	33	58	56	52	On in Bayonne and Greenville	68	28	18	35

This clearly indicates that the bulk of the Route 14 ridership is Bayonne-oriented. When the express buses on Route 14, which operate over the New Jersey Turnpike from the Bayonne exit, 14A to Montgomery Street and the Grove Street PATH Station, are added to the local bus statistics, it becomes clear that Route 14 is basically a Bayonne service.

Lafayette and Greenville Independents - Ridership patterns on this route are considerably different than those of TNJ's Route 14 patronage. In the common section along Ocean Avenue, the ratios of Lafayette and Greenville to TNJ-14 riders observed are shown in Table 57. Clearly, the local riders in Jersey City are selecting the Lafayette and Greenville buses in preference to the higher-priced TNJ buses. In very few cases does the TNJ statistic exceed the Lafayette and Greenville and in each of these there were either no reported passenger movements on or off the Greenville buses or the movement in question was one which would obviously be attractive to Route 14 passengers but not to Lafayette and Greenville passengers.

As a result of the above statistics and of the expectation that increased service can be offered by the Lafayette and Greenville buses along Ocean Avenue in Jersey City, it is proposed that the Route 14 service be modified as follows:

1. All Route 14 local service be terminated at the Greenville Garage on trips inbound from Bergen Point, with continuing passengers to be transferred either to TNJ's Route 7 or to one of the independent lines originating in this area such as Bergen Avenue, Central Avenue, or Lafayette and Greenville.

Table 57

OCEAN AVENUE TRANSIT RIDERSHIP
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

RATIO L&G TO TNJ PASSENGERS

SECTION	NORTHBOUND A.M. Peak On	A.M. Peak Off	Midday On	Midday Off	P.M. Peak On	P.M. Peak Off
City Line to Stevens	5.6	--	23.5	0.4	6.3	0/10
Stevens to Myrtle	2.7	0/9	4.5	2.8	132/0	3.7
Myrtle to Bramhall	3.5	0/10	4.8	14.6	72/0	88/0
	SOUTHBOUND					
City Line to Stevens	0.2	24.1	0/66	11.6	1.4	13.9
Stevens to Myrtle	20.3	5.7	5.6	3.2	2.2	9.5
Myrtle to Bramhall	2.6	2.7	4.5	4.8	11.4	21.5

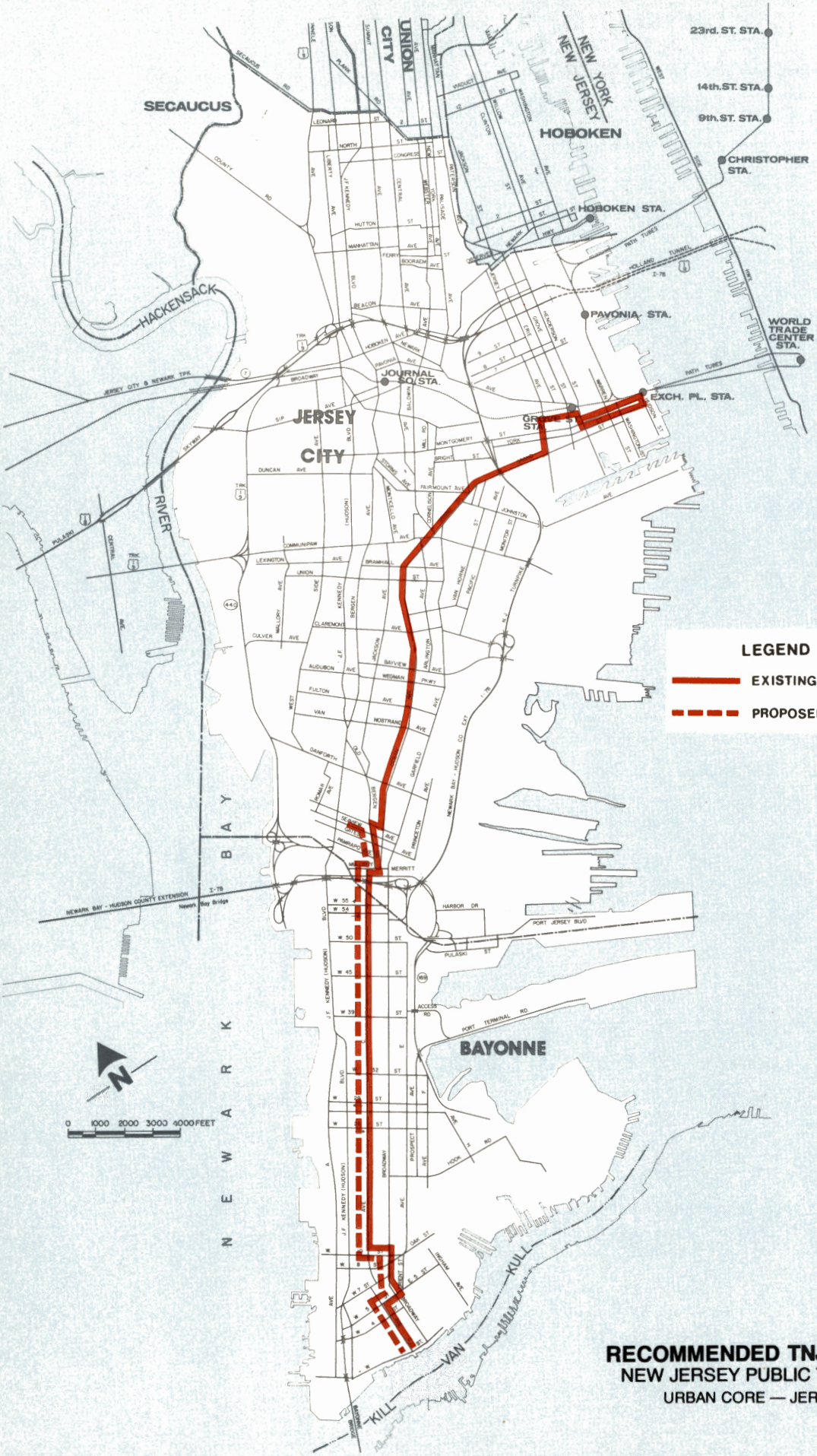
SOURCE: On-board surveys, May, 1975.

2. The express service on Route 14 should be expanded to include hourly trips to and from downtown Jersey City from the North end of Bayonne between 9:00 A.M. and 4:00 P.M. and the retention or expansion of present peak hour service to provide adequate capacity to accommodate all Bayonne traffic destined to or originating in Downtown Jersey City during peak periods. A proposed schedule for revised Route 14 local trips is presented in Table 58.

3. Lafayette-Greenville service along Ocean Avenue in Jersey City be expanded to provide four-minute peak hour headways and six-minute off-peak headways on the service to Exchange Place, with the same level of service currently provided to Journal Square retained. Figure 39 shows existing and proposed Route 14 configuration.

The impact of this service change on the level of service in Bayonne is expected to be advantageous in terms of Route 14 trips. A total of 12 express bus trips depart between 6:20 A.M. and 8:15 A.M., developing an average headway of 10 minutes. During the same time period, six local trips originate in Bergen Point, on headways averaging 20 minutes.

Proposed local service on Route 14 will retain 20-minute headways during both peak as well as midday hours, with 30-minute service to be operated daily after 7:00 P.M. The 20-minute midday service proposed will represent a reduction from present 30-minute headways in Bayonne. Peak hour service will be retained at present frequency with hourly trips during off-peak periods as noted above. The proposed weekday schedule for Lafayette and Greenville buses is presented in Table 59.



RECOMMENDED TNJ #14 ROUTE REVISION
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 39

Table 58

PROPOSED TNJ ROUTE 14 - BAYONNE WEEKDAY SCHEDULE
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

BERGEN POINT AND 1ST ST.	JERSEY CITY GATES AVENUE	LOOP	JERSEY CITY GATES AVENUE	BERGEN POINT AND 1ST ST.
			450	507
			520	537
510	527	534	540	557
			554	615
540	557	604	610	631
600	621	628	634	655
620	641	648	654	715
640	701	708	714	735
700	721	728	734	755
720	741	748	754	815
740	801	808	814	835
800	821	828	834	855
820	844	848	854	915
840	901	908	914	935
Every 20 minutes to 7:00 P.M.				
700	719	726	734	753
730	749	756	804	823
800	819	826	834	853
830	849	856	904	923
900	919	926	934	953
930	949	956	1004	1023
1000	1019	1026	1034	1053
1030	1049	1056	1104	1123
1100	1119	1126	1134	1153
1130	1149	1156	1204	1223
1200	1219			
1230	1249			

Bus Requirements - 3
Operators - 6
Total Trips - 53
Platform Hours - 52:33

Table 59

PROPOSED LAFAYETTE AND GREENVILLE TO
EXCHANGE PLACE WEEKDAY SCHEDULE
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

JERSEY CITY MERRITT TERMINAL	EXCHANGE PLACE TERMINAL	EXCHANGE PLACE TERMINAL	JERSEY CITY MERRITT TERMINAL
505	533	537	605
515	543	547	615
525	553	557	625
535	603	607	635
545	613	617	645
554	622	626	654
603	631	635	703
612	640	644	712
620	648	652	720
628	656	700	728
636	704	708	736
644	712	716	744
652	720	724	752
656 X (Express)	719	723 X	746
700	728	732	800
704 X	727	731 X	754
708	736	740	808
712 X	735	739 X	802
716	744	748	816
720 X	743	747 X	810
724	752	756	824
728 X	751	755 X	818
732	800	804	832
736 X	759	803 X	826
740	808	812	840
744 X	807	811 X	834
748	816	820	848
752 X	815	819 X	842
756	824	828	856
800 X	823	827 X	850
804	832	836	904
808 X	831	835 X	858
812	840	844	912
816 X	839	843 X	906
820	848	852	920
824 X	847	857	925
830	858	903	931
Every Six Minutes to 4:00 P.M.			
400	428	433	501
409 X	432	437 X	500
408	436	441	509
417 X	440	445 X	508
416	444	449	517
425 X	448	453 X	516
424	452	457	525
433 X	456	501 X	524
432	500	505	533
441 X	504	509 X	532
440	508	513	541

JERSEY CITY MERRITT TERMINAL	EXCHANGE PLACE TERMINAL	EXCHANGE PLACE TERMINAL	JERSEY CITY MERRITT TERMINAL
449 X	512	517 X	540
448	516	521	549
457 X	520	525 X	548
456	524	529	557
505 X	528	533 X	556
504	532	537	605
513 X	536	541 X	604
512	540	545	613
521 X	544	549 X	612
520	548	553	621
529 X	552	557 X	620
528	556	601	629
537 X	600	605 X	628
536	604	609	637
542	610	615	643
548	616	621	649
554	622	627	655
600	628	633	701
608	636	641	709
616	644	649	717
624	652	657	725
632	700	705	733
640	708	713	741
650	718	723	751
700	728	733	801
710	738	743	811
720	748	753	821
730	758	803	831
740	808	813	841
750	818	823	851
800	828	833	901
815	840	845	910
830	855	900	925
845	910	915	940
900	925	930	955
915	940	945	1010
930	955	1000	1025
945	1010	1015	1040
1000	1025	1030	1055
1015	1040	1045	1110
1030	1055	1100	1125
1050	1115	1120	1145
1110	1135	1140	1205
1130	1155	1200	1225
1150	1215	1220	1245
1210	1235	1240	105

	8:00 A.M.	10:00 A.M.	5:00 P.M.	9:00 P.M.
Bus Requirements:	15	11	16	5

Operators - 23
Total Trips - 168
Platform Hours - 180:17.

TNJ Route 9

This route developed the best revenue-cost relationship of any of TNJ's services in the urban core area based on 1974 statistics. In view of this experience and the demonstrated attraction of the service, there appear to be no significant changes in this service which would be demonstrably beneficial in terms of either ridership increase or cost decrease. On the assumption that the transfer program, as outlined above, can be implemented and all independent routes charge 40 cents for the one-zone trip, the patronage of Route 9 buses can be expected to increase slightly through removal of the fare differential which currently exists with Montgomery and West Side buses.

However, review of the on and off patterns of Montgomery and West Side riders in the section along West Side Avenue where a common route is shared, indicates only about 200 to 250 local trips are carried each day. There would also be some potential diversion of passenger trips from West Side Avenue to Exchange Place, but the volume here would not be significant, since it is clear that much of the Montgomery and West Side bus patronage is oriented to Montgomery Avenue in the area between West Side and Summit Avenues. As many as 400 daily round trips may exist between West Side Avenue and the City Hall-Exchange Place areas in Downtown Jersey City. The result of any diversion from Montgomery and West Side would not be likely to amount to over $30,000 annually since the Montgomery and West Side bus service will remain in operation.

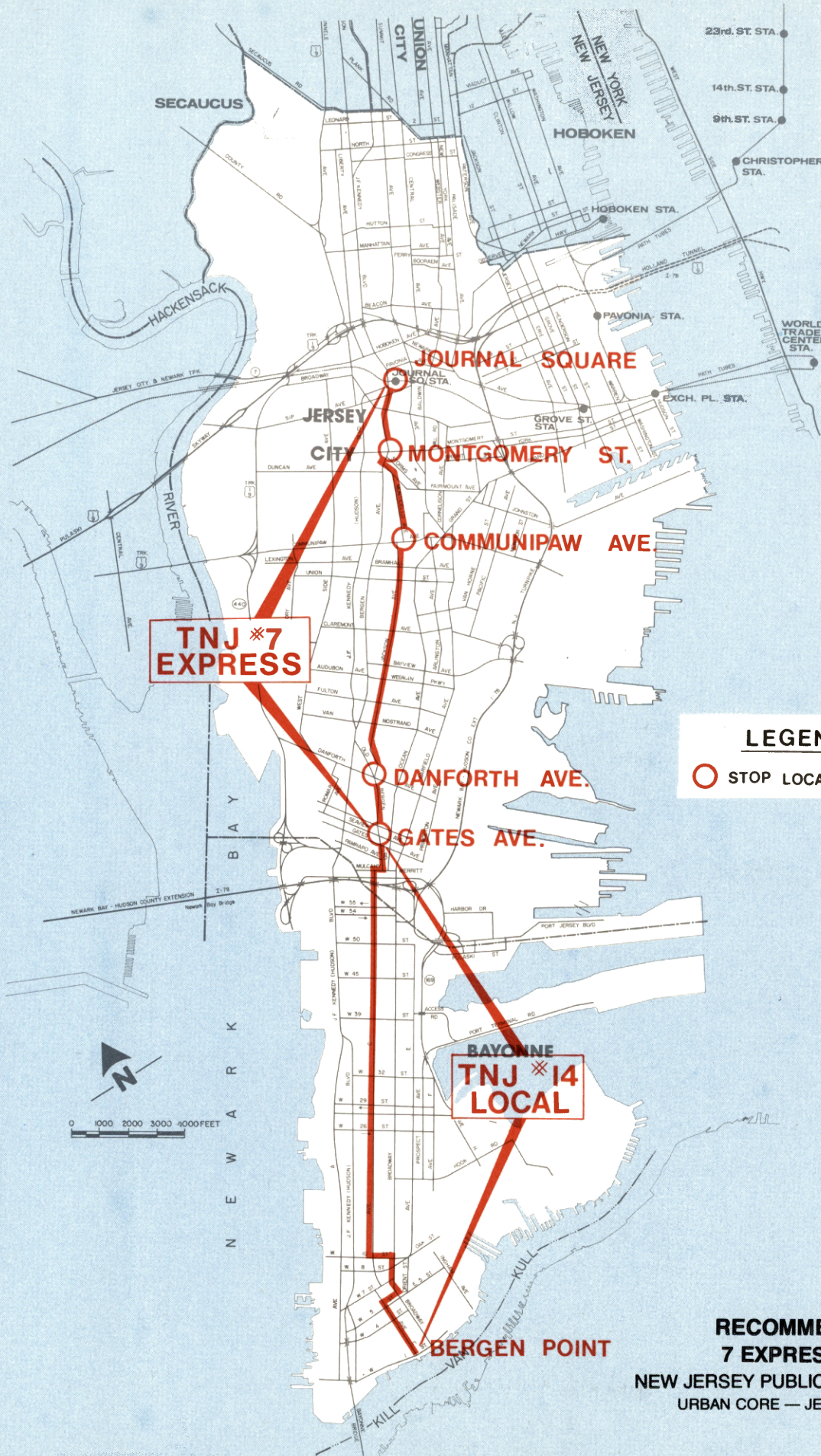
TNJ Route 7 - Jackson Avenue

At the outset of this study, service on Route 7 - Jackson Avenue, was provided with 12-minute peak hour and 15-minute off-peak headways. A total of 68 daily round trips were operated. As a result of the service adjustment made in February, 1976, the current schedule totals 53 daily round trips, with peak hour headways of 15 minutes and off-peak service at 20-minute frequency. This schedule change has dropped one bus from the route throughout the day, resulting in one less trip each hour over the system.

In the course of this study, a modification that reduced service from 68 to 60 daily round trips had been formulated. The current level of service on Route 7 should be retained and evaluated before any further adjustment is made. This plan also included peak hour limited express service between Gates Avenue and Journal Square. Two buses in this service would provide 20-minute headways, which would match the headways on the Route 14 local service between Bayonne and Gates Avenue and provide a reasonably direct trip to the Journal Square area from Bayonne. Operation of this service between 7:00 and 9:00 A.M. and between 4:30 and 6:30 P.M. would involve six round trips for the two buses daily and could be made at a cost estimated at 1976 levels of about $18.50 per hour, a total for the two peak periods of $148 per day, or $37,600 annually. This service could be provided, utilizing some of the Route 14 equipment eliminated from service, as a result of modifications proposed on that route. Figure 40 shows the Route 14 - Route 7 service.

TNJ Route 31-Grove

This route, which provides service between Hoboken Erie Lackawanna Terminal and Exchange Place in Jersey City via Erie



RECOMMENDED TNJ 14 and 7 EXPRESS COMBINATION

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 40

Street, has recently (February 7, 1976) been cut back from two buses operating on 15-minute headways to one bus on a 30-minute headway. The route has not developed substantial ridership in recent years as the neighborhood in Downtown Jersey City through which it operates has undergone change. Industries have closed up, redevelopment has been initiated, and new residential buildings are under construction. While there are schools along the route and some industrial and warehousing remain along with scattered old residential structures, the level of riding on this route does not suggest that a major turn-around can be expected.

The nearest "competition" for Route 31, is Downtown Bus Company's No. 6 line, which is basically an east-west line linking Journal Square with the downtown area and operating north and south along Jersey Avenue in the area between the Holland Tunnel approach roads and Eighth Street. PATH's trains between Hoboken and Exchange Place enroute to the World Trade Center provide strong end-to-end competition for the bus service.

However, the area along the route has no other surface transportation and, if comeback is to be achieved, a minimal bus service seems essential. It is proposed, therefore, that the Route 31 bus be maintained in operation with the hope that the residential renewal along the route may bring about the need to reinstate the second bus in operation to carry passengers between PATH stations at Hoboken, Grove Street, and Exchange Place, where connections are available to most of the public transportation serving Hudson County and the urban core of the Tri-State Region.

Route 31 patronage patterns as observed in on-board surveys in May and June, 1975, indicate that nearly 45 percent of northbound riders use the buses during the mid-day off-peak

periods, with two-thirds of these originating in the area of the Grove Street PATH Station and destined to areas along Erie Street between 6th Street in Jersey City and the Hudson Terminal in Hoboken. Southbound riding finds over half of the passengers originating at or near Hudson Terminal during the P.M. peak hours and destined to the area along Erie Street between 6th and 19th Streets. This same general pattern exists to a lesser degree during the midday hours, when about 40 per cent of the total southbound trips are made, with 85 per cent boarding in the Hudson Terminal area and nearly 60 per cent leaving the buses between 6th Street and the Henderson-Montgomery intersection.

TNJ Route 43 - Jersey City

Another victim of the February service reduction is this route which links Newark and Jersey City via New Jersey Route 7 (Newark Turnpike) across the Meadowlands. Prior to February, Route 43 buses operated to Exchange Place via Newark Avenue during both peak hours and terminated at the Journal Square Bus Terminal during off-peak hours. At present, however, there are only three round trips per day on this route, with one round trip scheduled between 10:00 P.M. and Midnight. This level of service is too low to be considered regular route service and approaches a special or industrial charter service.

Ridership patterns on this route, prior to the service reduction, indicated that about half of the riding took place in Jersey City. The predominant flow during peak hours appears to be from outside Jersey City to the west, to the section of Newark Avenue between Tonnelle Avenue and the New Jersey Turnpike.

When the service was oriented to Journal Square during off-peak hours, the major movement was between points outside

the study area and Journal Square. About 75 per cent of the line's Jersey City traffic used the peak hour Exchange Place service.

The current schedule has one morning peak period round trip originating at Exchange Place, another trip at 2:20 P.M. and the 10:20 P.M. trip noted above. Each round trip requires about one hour and 40 minutes. No further change is proposed in the Route 43 service, although it appears that the abandoned service, totalling 17 round trips to Exchange Place and 15 to Journal Square carried over 530,000 riders in 1974, the vast majority of which are now forced to find other ways to reach the transportation centers in Newark and Jersey City from the Meadowlands communities.

Bergen Avenue

This operation carries the third highest annual total passengers of any of the bus routes operating entirely within Jersey City and Bayonne. Passenger on and off counts indicate that the peak lcad area is between Fairview Avenue and Newkirk Avenue on the fringe of Jersey City's Journal Square business district. Over 70 per cent of riders on the Bergen Avenue line are on the buses in this area. Major boarding activity takes place, in addition to Journal Square where over 45 per cent of outbound passengers board, in the blocks between Fairview Avenue and Newkirk Street which find high numbers of boarding passengers. Major northbound boarding areas are between the Old Bergen Road-John F. Kennedy Boulevard intersection and Bergen Avenue at Audubon Avenue, where 23 per cent of riders board and along Bergen Avenue between Boyd and Fairview Avenue where 25 per cent of boardings occur.

Nearly half of the northbound passengers leave the buses between Fairview Avenue and Newkirk Street, while nearly 30

per cent terminate their trips at the Journal Square Bus Terminal.

Southbound passenger off-movements are spread more evenly over the route, with 28 per cent occurring between the Old Bergen Road-John F. Kennedy Boulevard intersection and the Bergen Avenue-Audubon Avenue intersection. All other sections find fewer people leaving the buses, indicating a relatively even distribution of off movements.

There appears to be no reason why the Bergen Avenue bus operation should be modified. With continued heavy ridership, this company should be able to provide a high level of service for several years. The Bergen Avenue route is a natural extension of Bayonne's Broadway Bus service, with the Bergen Avenue line initiating its inbound trips toward Journal Square at the city line of Jersey City in the area where the Broadway buses turn west to terminate on JFK Boulevard just north of the New Jersey Turnpike overpass. Initiation of transfer service should prove beneficial to both these lines in attracting additional transfer passengers between Jersey City and Bayonne.

Broadway Bus

While ridership on this route is slightly less than on the most heavily travelled lines, at 3.4 passengers per bus mile, it remains at a reasonably healthy level. Operating 119 round trips daily, this group of independents provide service on a seven-minute headway during peak periods and 10 minutes during base or off-peak periods throughout the day.

For the 16 hours between 6:00 A.M. and 10:00 P.M. on a typical day, this group carries approximately 6,500 passengers.

The pattern of accumulation indicates that loads peak in both directions at about 32nd Street. Northbound boardings are heaviest between 16th and 32nd Street amounting to about 43 per cent of northbound riders. Southbound boardings peak between 48th and 32nd Streets totaling about one-third of riders in that direction. Off movements are heaviest between 16th and 32nd Street for both northbound and southbound traffic and range between 33 and 40 per cent of total directional volumes.

Suggestions for modification of the Broadway Bus service are related to improving service in Bayonne for senior citizens, in particular, but all riders will be welcomed. Some crosstown service is proposed and initiation of regular senior citizen trips during off-peak hours is also to be implemented to offer a more attractive service.

Central Avenue

This independent group of bus operators serves two routes in operating from the north city line of Jersey City via Central Avenue, through the Journal Square Bus Terminal and south via Summit Avenue to Communipaw Avenue. At Communipaw and Garfield, the two routes split with one proceeding south on Garfield and Princeton Avenue to terminate at Gates Avenue and the other following Communipaw, Monitor, and Johnston Avenues to terminate at the end of the Jersey Central Railroad pier on the Hudson River. Seventy-six round trips are made on each route daily, with Saturday and Sunday service cut to 61 and 31 and 61 and 33 trips, respectively.

Central Avenue I.B.O.A. was second-ranked in the study area in total number of passengers carried, with over 4,016,000 riders carried in 1974. This total works out to 6.0 passengers

per bus mile, even though the Johnston Avenue route runs virtually empty between the company garage near Communipaw Avenue and Monitor Street and the former Jersey Central ferry terminal.

Peak loads on the Johnston Avenue route northbound are at Summit and Montgomery Avenues where over 30 per cent of the riders are on-board, while a second slightly lower peak occurs at Central Avenue and Laidlaw Street. In the southbound direction the same peak load locations appear, with slightly higher peaking levels, in the 40 to 45 per cent range.

Characteristics of loading on the Garfield Avenue route are similar to the Johnston Avenue route with the peak northbound loads at Summit and Montgomery when about 40 per cent of the total traffic is on board and southbound traffic also peaking at Baldwin Avenue and Laidlaw Street with about 50 per cent of the riders traveling past that point.

The Central Avenue routes are among the most fiscally healthy in Jersey City and only one specific route-oriented change is proposed. The elimination of service to the Jersey Central pier, except for selected trips would be beneficial in terms of cutting cost and improving service on this route. The approximately five-minute peak and seven-minute off-peak headways presently operated offer a high level of area coverage and good "visibility" of the buses. This operating group will participate with all others in the bus purchase program and related physical and marketing improvements which should beneficially impact all carriers in the study area.

Downtown Bus Company

The two routes of the Downtown Bus Company carried over 900,000 passengers in 1974. This company was the last of the

companies in Jersey City to receive permission to effect a fare increase to 35 cents for a first zone ride. This increase was received in the summer of 1975.

Downtown's Route 5 to Weehawken via Downtown Jersey City and through Hoboken develops peak ridership at Newark Avenue and Palisade Avenue shortly after leaving the Journal Square bus terminal. This loading is about 84 per cent of total ridership on the line in Jersey City. Return trips from Weehawken develop peak ridership leaving Jersey Avenue in the downtown area, where again over 80 per cent of route ridership is observed. The passengers on this route are thus primarily passengers between the Journal Square area and Weehawken, with some local service afforded in Downtown Jersey City.

Downtown's Number 6 route provides local service via a loop route through the downtown area from Journal Square. While ridership on the Number 6 route is not as heavy as on Number 5, it appears that about 45 per cent of all riders originate at Journal Square and nearly 60 per cent of the trips are destined to the downtown community. Thirty-four per cent of the riders originate in Downtown Jersey City and nearly all of these are destined in the Journal Square Area.

North Hudson Boulevard

Buses on this route, which include both subsidized and independent operators, run from the Journal Square Terminal to the north along JFK Boulevard to North Bergen. The route has only been reviewed as far as the Jersey City city line as part of this study. In this area, which includes only about one quarter of the total route, it appears, from passenger data collected between Journal Square to the city line, that about half of the typical days' passengers use this end of the line.

Two separate fare structures exist, depending on whether a subsidized or non-subsidized bus is encountered. The subsidized carriers are now charging 40 cents for first-zone rides, with 55 cents in the second zone in accord with Department of Transportation's orders. The remaining non-subsidized carriers are charging 35 cents in the first zone, and 45 cents for two-zone trips.

The predominant pattern of users of the North Boulevard line in Jersey City is in travel to and from the PATH Station at Journal Square. A predominant southbound A.M. peak and a heavy northbound P.M. peak are very evident. Mid-day hours find traffic nearly balanced by direction with 800 northbound from the Square and nearly 700 southbound to the Square.

Since 90 percent of peak hour traffic and 70 to 80 percent of off-peak traffic originates or is destined beyond Jersey City to the north, it is clear that this bus service is not primarily a Jersey City service. It is more sensitive to conditions of traffic circulation and population variants in Union City and North Bergen than in Jersey City.

No change in service schedule or routing has been proposed for the North Hudson Boulevard route. Its present 132 daily round trips, at six-minute peak-hour headways and 15-minute off-peak headways provide a good urban service for the highly developed Boulevard corridor.

South Hudson County Boulevard IBOA

Operating 180 local and 20 express round trips daily from Bergen Point to Journal Square, the South Hudson County Boulevard IBOA is the only direct bus service from the south end of Bayonne to Journal Square. With peak hour headways of four minutes, and off-peak headways of six to eight minutes, this service complements the North Boulevard service in affording both ends of John F. Kennedy Boulevard frequent and convenient service.

The South Hudson Boulevard service carried 4,211,268 passengers in 1974, and was the most heavily utilized bus route in the study area. Analysis of ridership characteristics indicate that about two-thirds of the originating trips northbound from Bayonne to Jersey City started in Bayonne. Northbound express passenger trips originating in Bayonne amounted to 62 percent of the total on the typical day.

The southbound traffic analysis indicates that about 51 percent of passengers were destined for Bayonne. Express traffic southbound in the evening peak hour is all destined for Bayonne.

Peak accumulation amounts to about 52 percent of total northbound traffic and is found at Clendenning Avenue in Jersey City. Southbound traffic peaks in the same area at about 53 percent of total traffic.

No proposals have been developed which would change the service provided by the South Hudson County Boulevard IBOA. During the last year, the Drogin Bus Company, representing about 80 percent of the South Boulevard companies, has come under the Department of Transportation's Subsidy Program, so that there are now both subsidized and non-subsidized buses operating this group. Two separate fare structures exist, depending on whether a subsidized or non-subsidized bus is encountered. The subsidized carriers are now charging 40 cents for first-zone rides, with 55 cents in the second zone in accord with DOT orders. The remaining non-subsidized carriers are charging 35 cents in the first zone, and 45 cents for two-zone trips. This is certainly a poor arrangement and is another strong argument to support the merger of PUC and DOT functions in the area of fare regulation and control as well as all other jurisdictions of bus operations.

Crosstown Route

Discussions with citizen groups, including block associations, action groups and senior citizens, as well as responses to the questionnaires distributed, indicated a need for a crosstown route in lower Jersey City. The proposed route would intersect existing north-south bus routes and serve the Route 440 shopping areas.

Existing Crosstown Service - There is presently available crosstown service in the northern portion of Jersey City and as far south as Communipaw Avenue via several bus routes including Montgomery and West Side, a portion of Central Avenue, and TNJ Routes 1 and 16. However, there is little service to areas farther south. The A&C Marion bus which provides some service terminates operations around 9:00 A.M. While the Route 440 shopping area is served by the A&C Shopper from Journal Square, there is no direct route from the Downtown area and southern Jersey City.

A route which would provide these apparently needed services, therefore, seems to be warranted. This route must also connect with buses serving Bayonne, as a need has been indicated to reach the Route 440 shopping centers by Bayonne residents.

Route Description - The proposed route is recommended to start at the Grove Street station area, travel southwest via Grand Street and Pacific Avenue, turn west on Claremont and Culver Avenues and stop at the Route 440 shopping center. From there, the route would turn south on Route 440, serve Roosevelt Stadium, then turn east on Danforth Avenue and south on Garfield Avenue to a loop near the Jersey City-Bayonne City Line via West 55th Street, Avenue C, and Mulcahy Street. The loop by the City

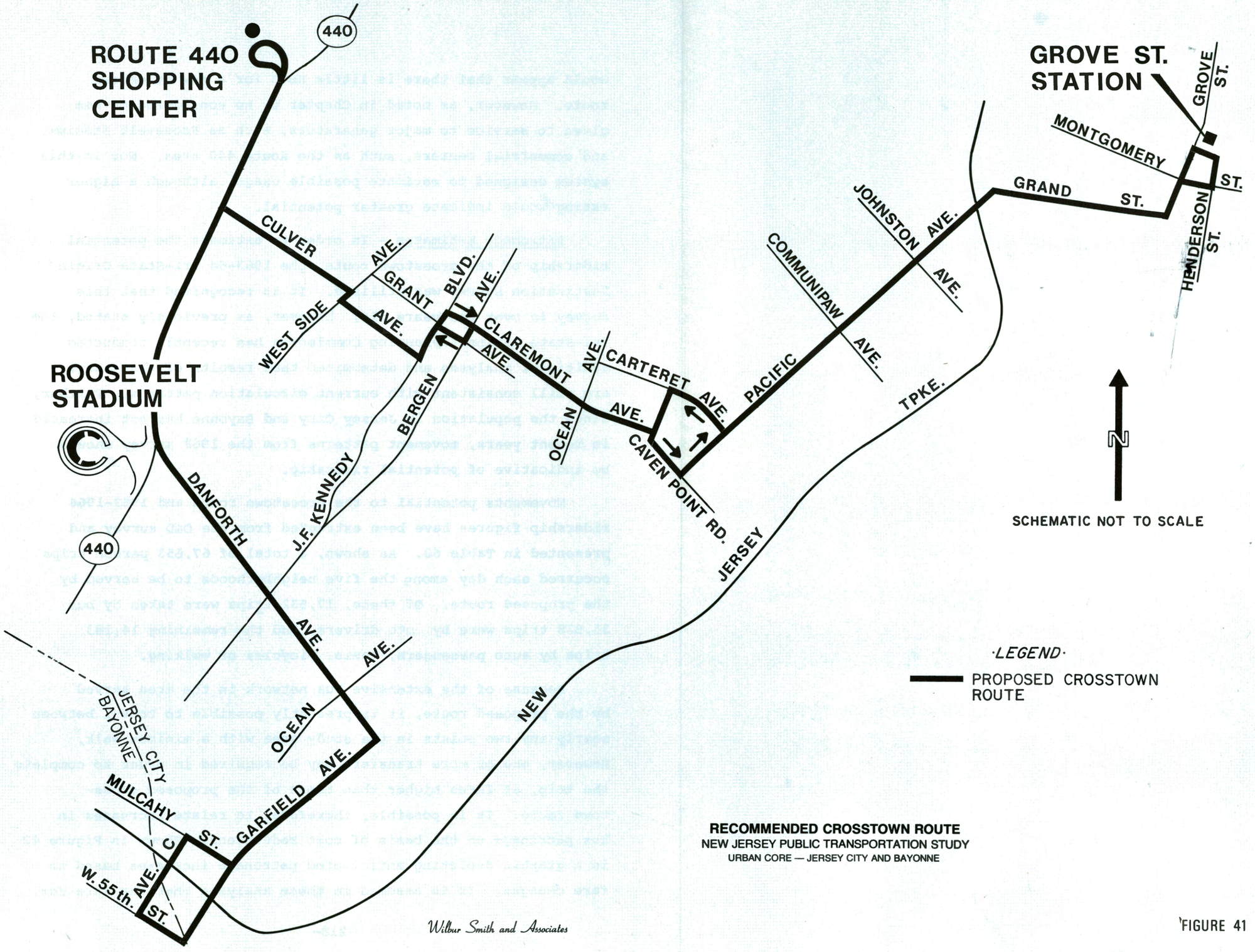
Line would allow connections and transfers from Bayonne routes including TNJ #14 and Broadway Bus as well as the proposed "senior citizen" diversion of the Broadway Bus route. Almost all north-south bus routes in Jersey City would also be intersected and transfers should be made available. The proposed route is shown in Figure 41.

Socio-Economic Comparisons - The areas to be served by the crosstown route are mostly residential in nature with a few schools, churches and commercial pockets along the way. Comparisons of socio-economic data, similar to those conducted on the existing routes, were made in order to see how this crosstown route would be rated against the existing service. The ratings received were as follows:

No-Car Families	2.08
Senior Citizens	2.57
Low-Income Families	1.73
Housing Densities	1.19
TOTAL	7.57

These ratings are relatively low when compared to the existing routes. In the No-Car Families category, 24 out of the 26 existing routes listed in Table 53 of Chapter 6 have higher ratings. A similar situation appears in the Low-Income Families category with 23 of the 26 existing routes rated higher. The crosstown route is rated somewhat better in the remaining two categories with rankings of eleventh and seventeenth in service to Senior Citizens and Housing Densities, respectively. Overall, the total rating of 7.57 would be sixteenth of 24 routes when compared to the existing routes.

This rating system was designed to determine relative importance of a given route to the study area residents, and it



RECOMMENDED CROSSTOWN ROUTE
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 41

would appear that there is little need for a new crosstown route. However, as noted in Chapter 6, no consideration was given to service to major generators, such as Roosevelt Stadium, and commercial centers, such as the Route 440 area. Nor is this system designed to estimate possible usage, although a higher rating would indicate greater potential.

Patronage Estimates - In order to estimate the potential ridership of the crosstown route, the 1963-64 Tri-State Origin/ Destination Survey was utilized. It is recognized that this survey is over ten years old; however, as previously stated, the Tri-State Regional Planning Commission has recently conducted additional analyses and determined that results of that survey are still consistent with current circulation patterns. Further, since the population in Jersey City and Bayonne has not increased in recent years, movement patterns from the 1963 survey should be indicative of potential ridership.

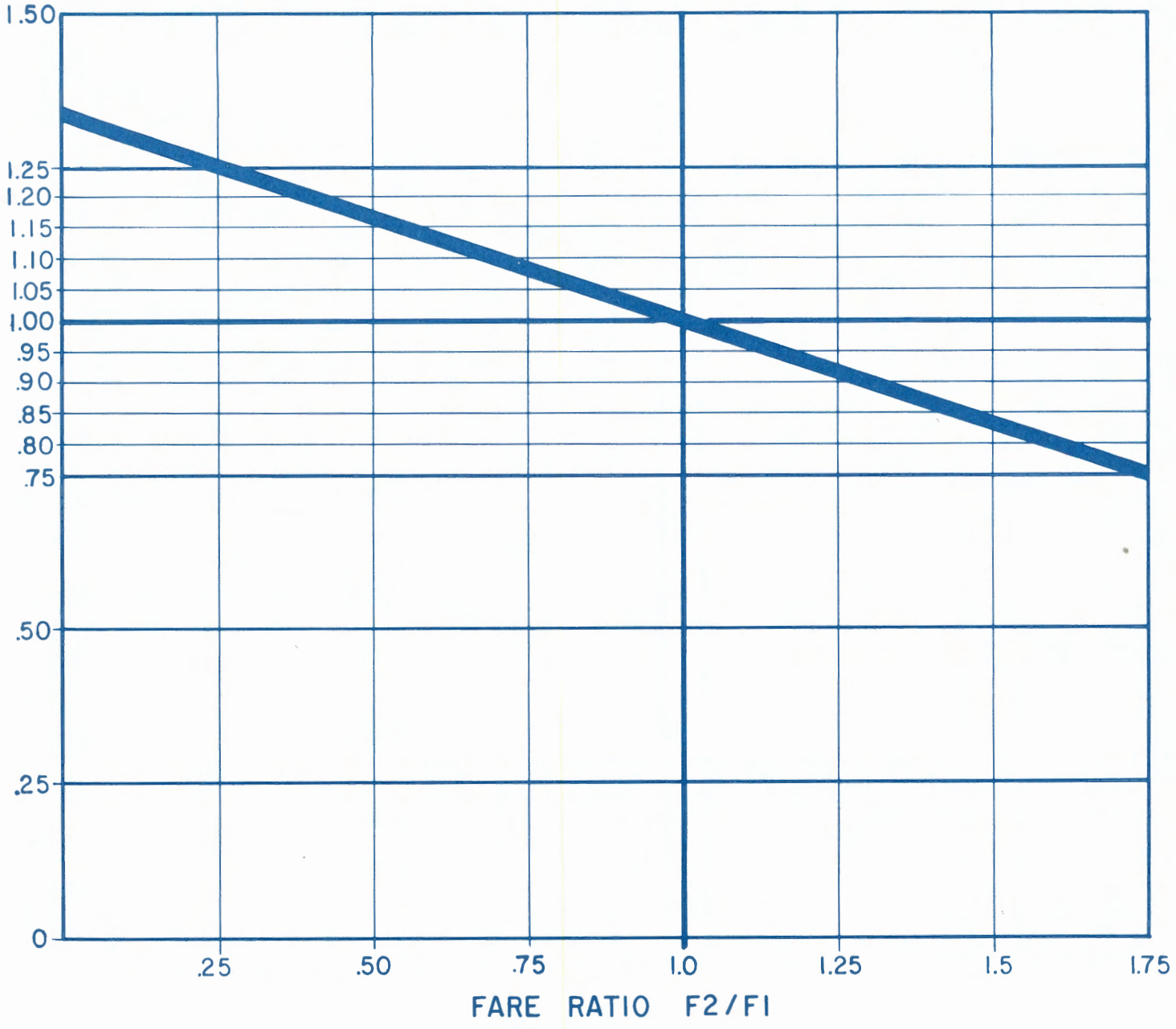
Movements potential to the crosstown route and 1963-1964 ridership figures have been extracted from the O&D survey and presented in Table 60. As shown, a total of 67,653 person trips occurred each day among the five neighborhoods to be served by the proposed route. Of these, 17,532 trips were taken by bus, 35,938 trips were by auto drivers, and the remaining 14,183 trips by auto passengers, taxis, bicycles or walking.

Because of the extensive bus network in the area served by the proposed route, it is presently possible to travel between nearly any two points in the study area with a minimum walk, However, one or more transfers may be required in order to complete the trip, at fares higher than those of the proposed cross-town route. It is possible, therefore, to relate increases in bus patronage on the basis of cost reductions. Shown in Figure 42 is a graphic depicting anticipated patronage increases based on fare changes. It is assumed in these analyses that the fare for

Table 60

PERSON TRIPS POTENTIAL TO THE
CROSSTOWN ROUTE
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

TRIPS BETWEEN	BUS	AUTO DRIVER	OTHER	TOTAL
Downtown and:				
Lafayette	2,041	1,700	337	4,078
Greenville	804	2,576	916	4,296
Bergen	3,540	5,677	1,259	10,476
West Side	800	1,012	796	2,608
North Bayonne	678	1,944	1,133	3,755
Lafayette and:				
Greenville	115	228	115	458
Bergen	2,050	1,125	573	3,748
West Side	448	573	228	1,249
North Bayonne	0	449	448	897
Bergen and:				
West Side	1,555	3,960	2,342	7,857
Greenville	3,055	6,740	3,181	12,976
North Bayonne	329	2,253	114	2,696
West Side and:				
Greenville	789	3,342	776	4,907
North Bayonne	678	1,363	675	2,716
Greenville and:				
North Bayonne	650	2,996	1,290	4,936
TOTAL	17,532	35,938	14,183	67,653



Source: Demand Estimation Techniques
Haddonfield Dial-a-Ride, May, 1974

NORMAL FARE — PATRONAGE RELATIONSHIP
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

the crosstown route would be $0.40 and that other existing route fares would remain at present levels. It is also assumed that all new bus passenger trips would utilize the crosstown route since that route will provide the direct service that is decreasing the present costs.

Shown in Table 61 is the analysis of bus passenger growth based on fare decreases. In the first column are shown the present fare requirements for the greater portion of the residents making each of the movements listed. It is assumed that the increases would be from movements not presently served by one route and that transfers are necessary. In the second column is the ratio of the crosstown route fare to the existing fares, and in the third column the resulting increase in bus passengers. In the last two columns are the trips making each movement and the generated trips on the crosstown route.

As shown, about 2,150 daily bus trips would be made on the crosstown route resulting in approximately 671,000 annual trips and $268,000 gross annual revenues. The proposed route is 14.5 miles per round trip and is scheduled to make 37 round trips daily. Thus, 537 bus miles will be made each day resulting in 4.1 passengers and gross revenues of $1.60 per mile. The passengers per mile rate compares favorably to the existing route rates shown in Table 25 in Chapter 4, as about one-half of the routes listed have higher figures.

Shown in Table 62 is the recommended schedule of the crosstown route. Service is expected to commence at 8:00 A.M. from the terminal near the Jersey City-Bayonne City Line and terminate at 9:56 P.M. at the same location. Most of the passengers on this route are expected to be for shopping or recreational purposes at the Route 440 shopping areas. Buses will operate every 20 minutes and the round trip travel time will be

Table 61

ESTIMATES OF PASSENGERS ON CROSSTOWN ROUTE
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

TRIPS BETWEEN	EXISTING FARE (cents)	FARE RATIO (CROSSTOWN/ EXISTING)	BUS PASSENGER GROWTH RATE (per cent)	EXISTING DAILY BUS TRIPS	GENERATED DAILY CROSSTOWN TRIPS
Downtown and:					
Lafayette	70	.57	15	2,041	306
Greenville	50	.80	8	804	64
Bergen	75	.53	20	3,540	708
West Side	75	.53	20	800	160
North Bayonne	40	1.00	0	678	0
Lafayette and:					
Greenville	60	.67	10	115	12
Bergen	60	.67	10	2,050	205
West Side	75	.53	20	448	90
North Bayonne	40	1.00	0	0	0
Bergen and:					
Greenville	40	1.00	0	3,055	0
West Side	75	.53	20	1,555	311
North Bayonne	40	1.00	0	329	0
West Side and:					
Greenville	75	.53	20	789	158
North Bayonne	75	.53	20	678	136
Greenville and:					
North Bayonne	40	1.00	0	650	0
TOTAL				17,532	2,150

Table 62

RECOMMENDED CROSSTOWN SERVICE WEEKDAY SCHEDULE
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

W. 55 ST. AND AVE. "C"	CULVER & WEST SIDE AVE.	GROVE ST. STATION	GROVE ST. STATION	CULVER & WEST SIDE AVE.	W. 55 ST. AND AVE. "C"
800	834	856	900	922	956
820	854	916	920	942	1016
840	914	936	940	1002	1036
900	934	956	1000	1022	1056
920	954	1016	1020	1042	1116
940	1014	1036	1040	1102	1136
1000	1034	1056	1100	1122	1156
1020	1054	1116	1120	1142	1216
1040	1114	1136	1140	1202	1236
1100	1134	1156	1200	1222	1256
1120	1154	1216	1220	1242	116
1140	1214	1236	1240	102	136
1200	1234	1256	100	122	156
1220	1254	116	120	142	216
1240	114	136	140	202	236
100	134	156	200	222	256
120	154	216	220	242	316
140	214	236	240	302	336
200	234	256	300	322	356
220	254	316	320	342	416
240	314	336	340	402	436
300	334	356	400	422	456
320	354	416	420	442	516
340	414	436	440	502	536
400	434	456	500	522	556
420	454	516	520	542	616
440	514	536	540	602	636
500	534	556	600	622	656
520	554	616	620	642	716
540	614	636	640	702	736
600	634	656	700	722	756
620	654	716	720	742	816
640	714	736	740	802	836
700	734	756	800	822	856
720	754	816	820	842	916
740	814	836	840	902	936
800	834	856	900	922	956

Bus Requirements - 6
Operators - 10
Total Trips - 37
Platform Hours - 80:26

about 56 minutes. Six buses and ten operators are needed to run the schedule shown. Based on present costs (1974) of operating the Montgomery and West Side, A&C Marion, Lafayette and Greenville, Central Avenue, and TNJ's Routes 7, 9 and 14 in this area, it may be estimated that operating costs for the proposed route would approximate $1.90 per mile and based on recent escalation, it is proposed that a figure of $2.00 per mile would be appropriate.

It is apparent, therefore, that this will not be a self-sustaining operation initially and a decision must be made as to subsidization for this route. Full consideration should be given to the impacts of the other proposals for this corridor in arriving at the final decision on this service.

Senior Citizen Route

Responses to the senior citizen questionnaires distributed in Bayonne were analyzed to determine route location, passenger trip generations, hours and frequency of service, and anticipated revenues.

Trip Generations - The responses to the questionnaire indicated that senior citizens average one shopping and one recreational trip per week. Medical trips are generally one every month. Shown in Table 63 are the trips generated by the three senior citizen developments. The 578 senior citizens would generate 216 trips per weekday and 168 and 48 trips on Saturday and Sundays, respectively.

Recommendations - This number of trips cannot be expected to support a separate regular bus route. Further, a special route designed to serve senior citizens would require that they pay full fare. On the other hand, if the senior citizens were to utilize

Table 63

SENIOR CITIZEN TRIP GENERATIONS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

PURPOSE	TRIPS			
	WEEKLY	WEEKDAY[2]	SATURDAY	SUNDAY
Shopping	578	96	96[2]	0
Recreational, Social	578	96	48[3]	48[2]
Medical	144[1]	24	24[2]	0
TOTAL	1,300	216	168	48

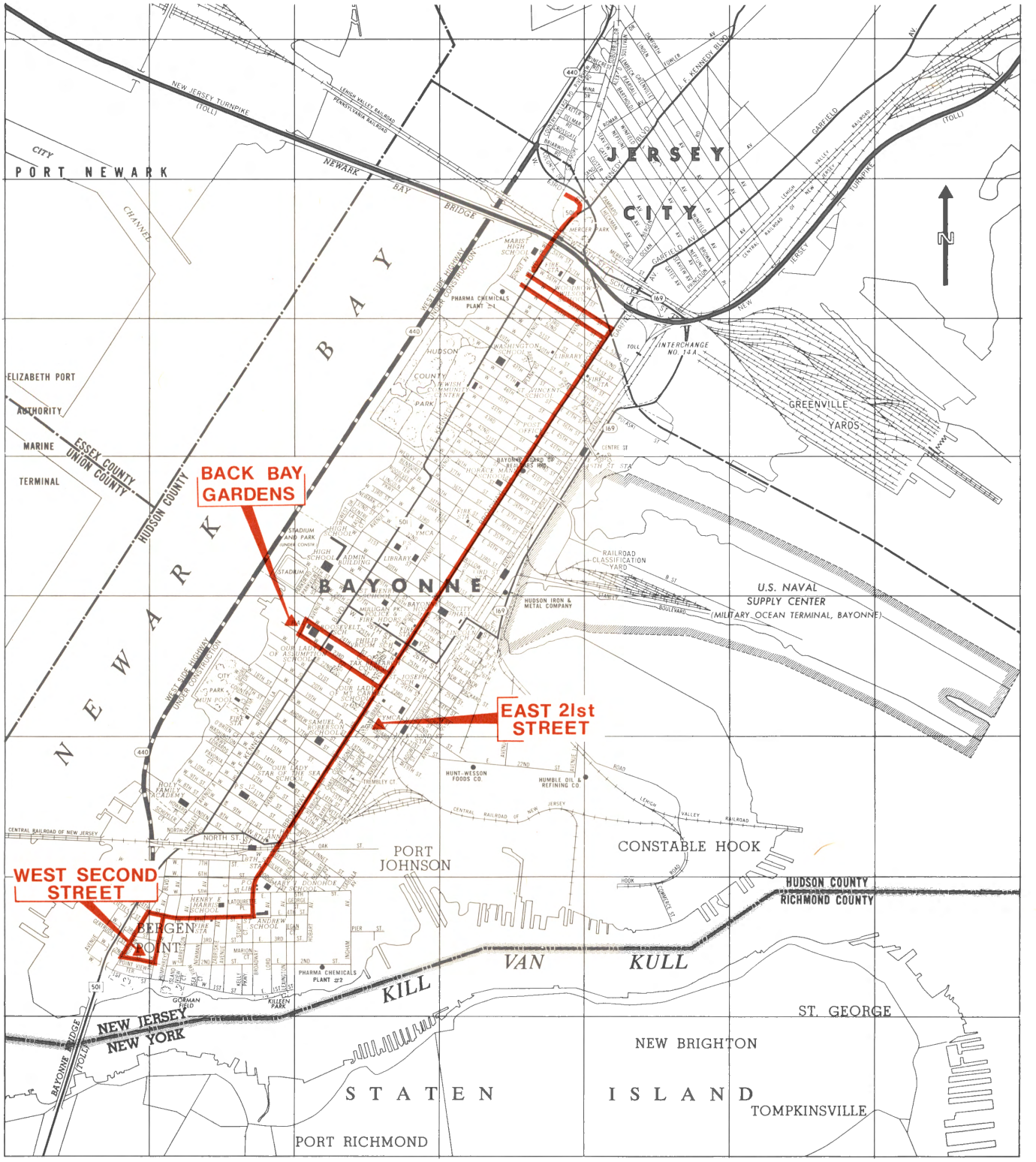
(1) 578 Monthly Trips Divided by Four Weeks.
(2) One-sixth of Weekly Trips.
(3) One-twelfth of Weekly Trips.

an existing bus route, or a modification of an existing route, they would be able to use the senior citizens' half-fare program being sponsored by the State of New Jersey. It is recommended, therefore, that a variation of an existing route be utilized. Since most of the Bayonne destinations were for Broadway, it appears most feasible that the Broadway Independent Owners Association establish a special variation to their regularly scheduled route, as shown in Figure 43.

The proposed route remains the same from the Association's terminal at 55th Street to 24th Street. From there the route would turn west to Avenue A in order to pick up passengers at the Back Bay Gardens Development, turn south to 23rd Street and then east back to Broadway and south. When the route reaches East 4th Street, it is recommended that it turn west along 4th Street to Kennedy Boulevard, then south to Second Street in order to serve the West Second Street Development. It is not necessary for this route to make any diversions in order to pick up residents at East 21st Street since this housing is within walking distance of Broadway.

It is recommended that this senior citizens' diversion be scheduled once every 30 minutes on weekdays between the hours of 9:00 A.M. and 5:00 P.M. Weekend service could be provided once every hour between 11:00 A.M. and 7:00 P.M. in accord with the desires indicated by the senior citizens. This route would also provide access to the Route 440 shopping center via a connection at Broadway and 55th Street to a crosstown route discussed above.

Since the diversion is minimal, it is not expected that the existing revenues of the Broadway Independent Bus Owners Association will be reduced significantly. Increased revenues from the additional senior citizens' trips should be expected.



0 1,000 2,000 3,000 4,000 5,000 FEET

LEGEND

- BUS ROUTE
- SENIOR CITIZEN DEVELOPMENT

RECOMMENDED BROADWAY BUS VARIATION

NEW JERSEY PUBLIC TRANSPORTATION STUDY

URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 43

Similar diversions to the Back Bay Gardens area should be considered for the South Hudson Boulevard #10 local route and the TNJ #14 local route.

Operation of the Journal Square Transportation Center

During the days immediately following its opening in April, 1975, the Journal Square Transportation Center experienced problems typical of most new buildings such as parking garages, truck facilities, or bus stations and terminals. Complicating the problems of the new terminal, in addition to the unfamiliarity of bus riders and pedestrians with the optimum routes through the facility, was the continued operation of Transport of New Jersey's private off-street terminal adjacent to the Port Authority's facility. During the first year of operation, however, the increasing familiarity of the pedestrians with the location of bus platforms and the optimum routes in and out of the building, combined with the results of closing the TNJ terminal and the entry of the TNJ buses into the Port Authority Terminal, have resulted in alleviation of most operating problems. At present, the Terminal is an effective modal change site and has resulted in greatly improved traffic circulation patterns in and adjacent to Journal Square.

Prior to the entry of TNJ's buses, it appeared that the directional split between northbound and southbound buses through the Terminal was unbalanced, with the result that extra traffic congestion was developed at the south end of the Terminal along Sip Avenue. Counts made in the Terminal during May, 1975, supplemented by the introduction of the TNJ buses in their present pattern of movement, indicates that a good balance has been achieved between northbound and southbound movement through the Terminal. The statistics set forth in Table 64 reflect

Table 64

BUS MOVEMENTS BY PLATFORM
JOURNAL SQUARE BUS TERMINAL
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

PLATFORM	BUS MOVEMENTS A.M. Peak Hour	P.M. Peak Hour	Daily (7:00 A.M. to 6:00 P.M.)
A	40	42	366
B	43	40	310
Subtotal Southbound	83	82	676
C	36	40	308
D	39	44	335
Subtotal Northbound	75	84	643
TOTAL	158	166	1,319

numbers of bus trips operated in May, 1975, and with service cutbacks in certain TNJ routes during February, 1976, may not accurately reflect current platform movements. However, the operation when TNJ moved into the Terminal was very nearly balanced by direction, and traffic congestion observed earlier along Sip Avenue, was largely eliminated.

Tables 65 and 66 present numbers of buses and passengers arriving and departing the Transportation Center in May, 1975. Total passenger volumes are nearly balanced during the eleven-day survey period, with arriving passengers totalling 15,331, and departing passengers totalling 16,768. The counts suggest a greater reliance on buses for trips from Journal Square than to the Square, which probably reflects a greater amount of ride-sharing or car-pooling on trips originating at the "home" end. Disparity of return trip times would be the major reason for this imbalance, resulting in greater bus utilization by passengers leaving Journal Square for Jersey City and Bayonne destinations.

The pattern of total bus passenger arrivals and departures at Journal Square is shown in Figure 44.

Patronage and Income Impact of Proposed Fare Adjustment

The impact of the proposal to increase fares on independent bus operations in Jersey City and Bayonne to 40 cents for single zone trips to match first zone fares of TNJ and other subsidized operators and provide a base from which an inter-company transfer program may be initiated has been assessed for each of the companies and operating groups involved. Table 67 presents anticipated loss in annual passengers resulting from the increase in base fare from 35 to 40 cents for the independent bus operators, as well as anticipated increase in gross revenues as a result of the fare increase. For the ten independent companies and groups listed, including the North Hudson Boulevard

Table 65

BUS AND PASSENGER ARRIVALS - May, 1975
Journal Square Terminal
New Jersey Public Transportation Study
Urban Core-Jersey City and Bayonne

ROUTES		A.M. PEAK HOUR Buses	A.M. PEAK HOUR Passengers	MID-DAY HOUR 1:00-2:00 P.M. Buses	MID-DAY HOUR 1:00-2:00 P.M. Passengers	P.M. PEAK HOUR Buses	P.M. PEAK HOUR Passengers	DAILY TOTAL 7:00A.M.-6:00P.M. Buses	DAILY TOTAL 7:00A.M.-6:00P.M. Passengers
Terminating Routes									
A&C Marion		2	45	-	-	-	-	6	71
A&C Great Eastern		-	-	3	21	4	10	25	129
Bergen Avenue		12	350	7	170	12	212	103	2,162
Blue and White		1	19	-	-	1	9	10	53
DeCamp		3	81	1	11	3	18	14	231
Downtown #5		6	96	4	52	5	110	52	674
#6		7	51	2	9	4	34	48	387
Hudson #2		6	66	2	18	9	89	37	449
Lafayette-Greenville #3		6	92	6	68	6	64	60	632
No. Boulevard #1		18	597	7	107	13	173	113	2,028
#5		4	7	3	3	5	42	29	195
South Boulevard #10		16	350	10	110	18	212	137	2,097
Domenico		1	16	-	-	1	13	4	29
TNJ #1		4	19	2	5	4	30	23	110
#43		1	2	3	12	-	-	10	43
#124		3	65	2	12	3	45	27	253
#122		1	15	-	-	1	12	5	53
#44		9	158	6	73	11	131	80	991
#16		1	12	-	-	2	-	7	26
Unknown		2	-	-	-	-	-	7	3
Greyhound		-	-	-	-	-	-	-	-
Subtotal		103	2,101	61	732	102	1,204	797	10,614
Through Routes									
South Boulevard #55		1	1	1	-	7	7	19	19
Central Ave. (Johnston)	NB	9	140	6	51	8	57	79	786
	SB	8	113	5	30	9	60	66	563
Central Ave. (Garfield)	NB	3	32	1	5	5	50	30	211
	SB	4	76	6	33	6	47	57	459
Hudson Bus #99S		1	1	1	4	4	7	14	26
TNJ #7		12	216	9	48	11	60	102	753
TNJ #9		17	302	11	136	19	159	156	1,630
TNJ #119		3	96	1	30	5	29	20	270
Subtotal		58	977	41	337	74	476	543	4,717
GRAND TOTAL		161	3,078	102	1,069	176	1,680	1,340	15,331

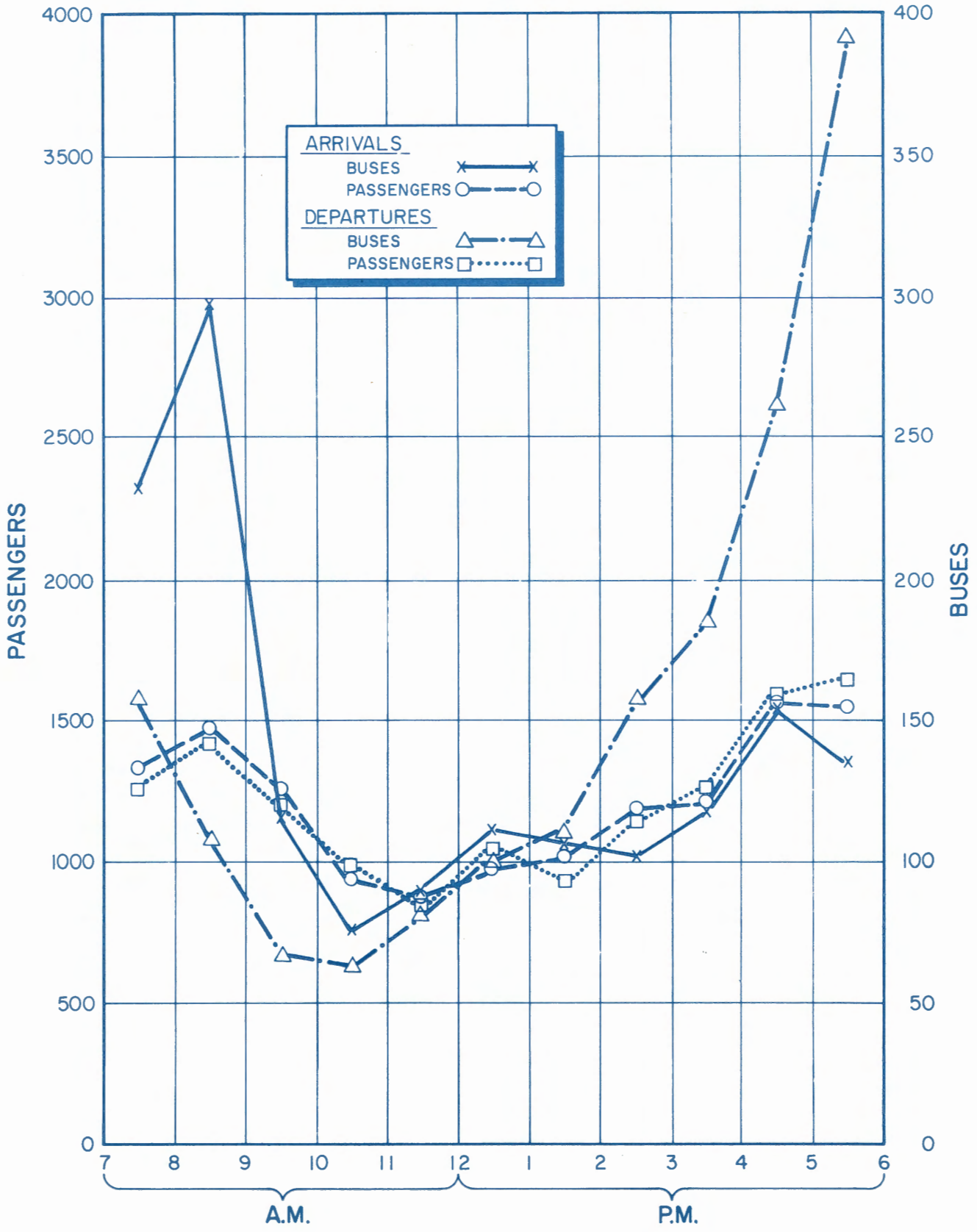
SOURCE: Counts by Port Authority of New York and New Jersey.

Table 66

BUS AND PASSENGER DEPARTURES - May, 1975
Journal Square Terminal
New Jersey Public Transportation Study
Urban Core-Jersey City and Bayonne

ROUTES	A.M. PEAK HOUR Buses	A.M. PEAK HOUR Passengers	MID-DAY HOUR 1:00-2:00 P.M. Buses	MID-DAY HOUR 1:00-2:00 P.M. Passengers	P.M. PEAK HOUR Buses	P.M. PEAK HOUR Passengers	DAILY TOTAL 7:00A.M.-6:00P.M. Buses	DAILY TOTAL 7:00A.M.-6:00P.M. Passengers
Terminating Routes								
A&C Marion	2	19	-	-		-	6	38
A&C Great Eastern	-	-	3	30		72	25	340
Bergen Avenue	12	216	7	128	12	472	105	2,081
Blue & White	2	14	-	-	1	14	10	80
DeCamp	2	16	1	18	3	125	12	258
Downtown #5	5	113	3	46	5	68	53	715
#6	6	128	2	11	4	35	47	407
Hudson #2	6	176	2	38	4	58	37	636
Lafayette-Greenville #3	6	27	6	68	7	184	60	702
No. Boulevard #1	11	153	7	163	11	514	101	1,998
#5	2	20	1	4	9	44	27	179
So. Boulevard #10	15	323	8	115	20	800	131	2 995
Domenico	-	-	-	-	1	40	4	79
TNJ #1	3	20	1	23	4	40	23	181
#43	1	-	3	23	-	-	10	82
#124	4	41	2	36	4	85	27	330
#122	1	11	-	-	1	14	5	51
# 44	9	101	6	84	10	215	80	1,058
#16	1	1	-	-	2	5	7	14
Unknown	2	58	-	-	2	20	7	85
Greyhound	-	-	-	-	-	-	-	-
Subtotal	90	1,437	52	797	104	2,805	777	12,300
Through Routes								
S. Boulevard #55	1	1	1	1	8	9	22	19
Central Ave.(Johnstown) NB	9	39	6	82	8	233	80	805
SB	8	73	4	36	9	91	62	484
Central Ave.(Garfield) NB	3	16	1	7	6	94	30	296
SB	4	38	6	35	6	114	58	422
Hudson Bus #995	1	1	1	2	4	4	15	12
TNJ #7	12	25	9	39	11	132	102	675
TNJ #9	17	77	11	105	20	379	156	1,498
TNJ #119	2	11	1	-	5	168	20	257
Subtotal	57	281	40	307	77	1,224	543	4,468
GRAND TOTAL	147	1,719	92	1,094	181	4,029	1,320	16,768

SOURCE: Counts by Port Authority of New York and New Jersey.



BUS PASSENGER MOVEMENTS
AT JOURNAL SQUARE
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Table 67

FARE ADJUSTMENT-RIDERSHIP IMPACT

New Jersey Public Transportation Study

Urban Core - Jersey City-Bayonne

COMPANY	1974 PASSENGERS	PROPOSED ADJUSTED FARE RATIO F2/F1	PATRONAGE ADJUSTMENT FACTOR P2/P1	ANTICIPATED 1976 PASSENGERS (1)	1974 REVENUES	1974 REVENUE/ PASSENGERS	ESTIMATED 1976 REVENUE
Bergen Avenue IBOA	3,843,262	1.14	.953	3,662,600	$1,345,142	.350	$1,465,040
Broadway IBOA	2,179,042	1.14	.953	2,076,600	562,466	.258	639,590
Central Avenue IBOA	4,016,720	1.14	.953	3,827,900	1,365,684	.340	1,492,880
Downtown Bus Company	1,632,228	1.15	.950	1,550,600	551,521	.338	601,630
Hudson Bus Transportation Co. - Secaucus #2	625,280	1.13	.957	598,400	265,744	.425	284,240
Lafayette and Greenville IBOA	3,550,185	1.14	.953	3,383,300	1,207,192	.340	1,319,490
Montgomery and West Side IBOA	1,875,169	1.14	.953	1,787,000	653,072	.348	711,230
South Hudson Boulevard IBOA (2)	4,211,268	1.13	.957	4,030,200	1,838,089	.436	1,958,680
North Hudson Boulevard IBOA (2)	3,607,569	1.13	.957	3,452,400	1,358,713	.377	1,474,180
A & C Bus Company	402,017	1.14	.953	383,200	140,706	.350	153,280
	25,942,740			24,752,200	9,288,329		$10,100,240

(1) Based on generalized fare-patronage relationship, Figure 42.
(2) These groups adjusted fares late in 1975. The statistics are presented for comparison purposes, recognizing that the impact of the change has already occurred.

and South Hudson County Boulevard IBOA's, and Hudson Bus Transportation Company, each of which has been operating at the higher fare level under the C.O.A.'s subsidy program for the past few months, the patronage loss is estimated at about 4.5 per cent, while the increased income generated by the higher fare will be approximately 8.7 per cent.

Transfer Program Impact

Analysis of person trip movements between the nine zones established in Jersey City and Bayonne and the comparative costs of typical transit trips between these zone combinations under existing fare structure and with the proposed transfer program in effect, indicates that a patronage increase of about ten per cent could be anticipated as a result of the improved mobility afforded. This level of increased daily trips would amount to about 3,100 daily trips, of which 2,800 would be 50-cent trips, 265 would be 65-cent trips, and 35 trips would be at the 75-cent fare level. The added fares collected would thus total about $1,600 daily or nearly $500,000 annually. Details of this analysis are set forth in Appendix Table 31. No attempt has been made to relate these estimates to individual bus companies or routes. It would be expected that all routes would share in the transit revenue to some extent.

The actual transfer income to be derived from the above estimated trips would average $360 daily and about $112,000 annually. This income should pay for the operation of the program and should be considered as an inducement to the added bus trips that could generate the base fares amounting to $388,000 for the various companies originating transfer trips.

TNJ and the Transfer Program

Transport of New Jersey, which is currently operating at the 40-cent fare rate and extending transfer privileges to its passengers in the urban core would appear to have the least to gain as a result of the initiation of the transfer program. It is suggested, however, that TNJ ridership should pick up in volume throughout the area as a result of the increase of the base fare for all independents to 40 cents. The extent of this increase is difficult to estimate, but on the theory that it can be related to the loss in passengers suffered by the independents as a result of increased fares, an estimate is possible. The difference between 1974 passengers carried on the independents and the estimate of ridership at the increased fares is about 1,190,000 annual passengers. Recognizing that many of these are not residents of areas served by TNJ and that much of this reduction is related to rejection of the bus system as a result of the fare increase, it still seems appropriate to expect as many as 300,000 of these passengers to find their way to TNJ buses. This level of riding would represent an increase in Jersey City-Bayonne local trips of about 3.3 per cent for TNJ based on annual riding of approximately 9,000,000 passengers.

Chapter 8

CAPITAL REQUIREMENTS

Chapter 8

CAPITAL REQUIREMENTS

The successful implementation of the operation plan outlined in this report is dependent upon incorporating major improvements in the capital facilities of the Urban Core bus system. A primary component of improved capital facilities will be the rehabilitation and revitalization of the existing bus fleet. Today, the existing fleet averages 14 years of age, whereas the New Jersey Department of Transportation is proposing to replace all buses 12 years old or older. Allocations of new buses to be provided have already been established by the New Jersey DOT under the bus purchase program initiated in 1975 with deliveries to commence in 1976. This chapter will identify the need for additional buses beyond the present program and will propose a basis for distribution to operators within the study corridor.

Other capital improvements proposed include general upgrading of the identification and marking of bus stop locations, the provision of shelters in key locations in heavily traveled portions of the corridor, and the development of a package of passenger amenities which will stimulate greater use of the bus transit network. All of these are important requirements if the achievement of the proposed operations plan is to be realized.

Existing Capital Improvement Programs

Two programs are currently planned statewide which are designed to revitalize and up-grade bus transit equipment. These prograr are identified as follows:

The New Jersey 1975 Bus Purchase Program - The New Jersey Department of Transportation has purchased 866 new buses and will allocate them statewide to nearly all bus companies.

The New Jersey 1975 Bus Rehabilitation Program - This statewide program is designed to rehabilitate 515 buses from the fleets of Transport of New Jersey and the Somerset Bus Company. Buses, manufactured from 1965 to 1970, will be refitted with air conditioning for passenger comfort and new fuel injection equipment to reduce air pollution.

Bus Fleet Requirements

A fleet of 307 buses presently serves the Jersey City-Bayonne area. This fleet is considerably smaller than that shown in Chapter 2 of this report because it reflects recent reductions in TNJ service (2/7/76). An inventory by age groups of buses operating on the study area route system is presented in Table 68. As shown, 157 buses were built in 1963 or earlier and under the New Jersey DOT purchase program, would be subject to replacement immediately. Another 58 buses were built between 1964 and 1967, inclusive, and would require replacement within the next five years. The remaining 92 buses would qualify for replacement during the years after 1980. A complete inventory of buses in the corridor by year built is presented in Appendix Table 32.

1976 New Bus Requirements - In order to determine the number of new buses required to up-grade the existing fleet, the data in the inventory have been summarized. All buses 12 years or older are considered as being in the retirement age and require replacement as soon as possible. By subtracting the number of buses planned to be allocated to each bus company

Table 68

1976 BUS FLEET INVENTORY BY AGE GROUPS
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

COMP NY/ROUTE		1963 OR EARLIER	1964	1965	1966	1967	1968 OR LATER	TOTAL
Transport of New Jersey	#1	6	-	4	3	-	9	22
	#7	-	-	-	-	-	7	7
	#9	1	-	-	-	-	15	16
	#14	-	-	-	-	-	14	14
	#16	-	-	-	-	-	1	1
	#18	-	-	-	-	-	1	1
	#31	-	-	-	-	-	1	1
	#43	-	-	-	-	-	1	1
	#44	-	-	-	2	-	19	21
	#124	-	-	-	1	-	6	7
Subtotal		7	0	4	6	0	74	91
A & C IBOA		7	-	-	-	-	-	7
Bergen Ave. IBOA		19	-	1	-	-	2	22
Broadway IBOA		26	-	-	-	-	-	26
Central Ave. IBOA		13	2	-	5	-	4	24
Downtown Bus Co.		3	3	2	1	2	4	15
Hudson Bus Transp. Co.		13	3	-	-	-	4	20
Lafayette & Greenville IBOA		11	3	3	2	2	2	23
Montgomery & West Side IBOA		13	-	2	-	-	-	15
North Hudson Blvd. IBOA		12	-	10	1	3	2	28
South Hudson County Blvd. IBOA		33	-	3	-	-	-	36
Subtotal		150	11	21	9	7	18	216
TOTAL		157	11	25	15	7	92	307

SOURCE: 1973 Public Utilities Commission Reports.
Wilbur Smith and Associates 1976 Surveys.
Transport of New Jersey.

or independent association by New Jersey DOT from the total number of buses 12 years old or older, an estimate of the number of new buses needed in addition to the present program is derived.

Presented in Table 69 are the existing bus fleet of each association, the number of buses 12 years old or older, the planned New Jersey DOT allocations to companies in the study area, and the additional number of buses needed. As shown, only seven of the TNJ buses in operation within the urban core are presently over twelve years of age. This is a result of the retirement of most of the older buses operated by TNJ following the service reductions on routes serving the study area in February 7, 1976. Based on current estimates, New Jersey DOT is planning to allocate 33 new buses to the routes serving the urban core. These are considerably more than required in 1976 and it is recommended that the extra 26 buses be allocated to other TNJ routes or independent associations where they are in greater need.

Of the independent associations, also shown in Table 69, 150 buses require replacement in 1976. New Jersey DOT is planning to replace 85 buses leaving 65 buses which are presently qualified for future replacement. Of the existing fleet, South Hudson County Boulevard, Broadway, and Bergen Avenue have the highest number of buses 12 years old or older in 1976 with 33, 26 and 19 vehicles, respectively. These associations have also been scheduled to receive the greatest numbers of buses under the current New Jersey DOT purchase program. However, these companies or independent associations will retain substantial numbers of buses eligible for replacement.

It is proposed that the extra 26 buses scheduled to be allocated to TNJ in the urban core as part of the 1976 program

Table 69

1976 NEW BUS ALLOCATIONS AND ADDITIONAL REQUIREMENTS

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

COMPANY/ROUTE	EXISTING BUS FLEET	BUSES 12 YRS. OR OLDER IN 1976	SCHEDULED 1976 NEW BUS ALLOCATION BY NJDOT	1976 ADDITIONAL NEW BUS REQUIREMENTS
Transport of New Jersey				
Greenville Garage	41 (1)	1	27 (2)	26 Excess
Route #1	22	6	6	0
Route #44	21	0	0	0
Route #124	7	0	0	0
Subtotal	91	7	33	0
A & C IBOA	7	7	2	5
Bergen Avenue IBOA	22	19	10	9
Broadway IBOA	26	26	14	12
Central Avenue IBOA	24	13	10	3
Downtown Bus Company	15	3	2	1
Hudson Bus Transportation Co.	20	13	5	8
Lafayette & Greenville IBOA	23	11	9	2
Montgomery & West Side IBOA	15	13	9	4
North Hudson Blvd. IBOA	28	12	9	3
South Hudson County Blvd. IBOA	36	33	15	18
Subtotal	216	150	85	65
TOTAL	307	157	118	39

(1) Transit Type Buses in Local Route Service Only.
(2) Estimated Based on the Number of Buses Assigned to the Hilton Garage.
SOURCE: 1974 Public Utilities Commission Reports.
Wilbur Smith and Associates 1976 Surveys.
Transport of New Jersey.

be distributed to the following associations (in addition to the presently scheduled allocations):

ASSOCIATION	NUMBER OF BUSES
A&C IBOA	4
Bergen Avenue IBOA	3
Broadway IBOA	7
Montgomery and West Side IBOA	3
South Hudson County Blvd. IBOA	9
TOTAL	26

Five-Year Program - If the proposed new allocation program is implemented, and the "excess" 26 buses are allocated as above, only 39 additional buses would require replacement in 1976 instead of the 65 previously stated. Table 70 presents the distribution of these buses as well as a five-year program for bus replacement to 1980. The four and six TNJ buses indicated for replacement in 1978 and 1979, respectively, will be rehabilitated under the New Jersey DOT program.

This recommended program is expected to assure that a modern and well-equipped fleet of buses serve the Urban Core resulting in a more attractive mass transportation bus fleet.

Existing Bus Shelters

An inventory of bus passenger amenities conducted as part of the on-board survey of ridership, indicated that very few shelters were available for passengers throughout the system. Although Journal Square and Exchange Place provide essential passenger amenities, randomly-scattered shelters or benches appear principally at hospitals, government buildings, and some commercial/retail business areas.

Table 70

FIVE-YEAR NEW BUS REQUIREMENTS
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

COMPANY/ROUTE	NEW BUS REQUIREMENTS 1976	1977	1978	1979	1980	TOTAL
Transport of New Jersey						
Greenville Garage	0	0	0	0	0	0
Route #1	0	0	4	3	0	7
Route #44	0	0	0	2	0	2
Route #124	0	0	0	1	0	1
Subtotal	0	0	4	6	0	10
A & C IBOA	1	0	0	0	0	1
Bergen Avenue IBOA	6	0	1	0	0	7
Broadway IBOA	5	0	0	0	0	5
Central Avenue IBOA	3	2	0	5	0	10
Downtown Bus Company	1	3	2	1	2	9
Hudson Bus Transportation Co.	8	3	0	0	0	11
Lafayette & Greenville IBOA	2	3	3	2	2	12
Montgomery & West Side IBOA	1	0	2	0	0	3
North Hudson Blvd. IBOA	3	0	10	1	3	17
South Hudson County Blvd. IBOA	9	0	3	0	0	12
Subtotal	39	11	21	9	7	87
TOTAL	39	11	25	15	7	97

SOURCE: 1974 Public Utilities Commission Reports.
Wilbur Smith and Associates 1976 Surveys.
Transport of New Jersey.

Jersey City - The Jersey City Planning Division is involved in an on-going program to provide shelters throughout the City and has received approval from New Jersey DOT for shelters in the 24 locations listed in Table 71. Another list of proposed locations, shown in Table 72, was recently submitted to the New Jersey DOT for approval.

Analyses were conducted of ridership patterns in Jersey City to determine locations where shelters are warranted. Shelters were considered warranted at locations where 600 or more passengers per day were observed boarding buses. In addition, senior citizen residential developments, hospitals, and major trip generators, not identified with 600 daily passenger volumes, were included as priority locations.

Review of passenger boarding data set forth in Appendix Tables 1-27 were initially utilized to establish sections along individual routes experiencing 600 daily boarding passengers or more. Having established these priority segments the actual on-board passenger survey was reviewed to identify particular intersections within the segment generating the highest boarding totals. A field review of these selected locations was then conducted to ensure that bus shelter installations could effectively and safety be incorporated within the selected street intersection environs.

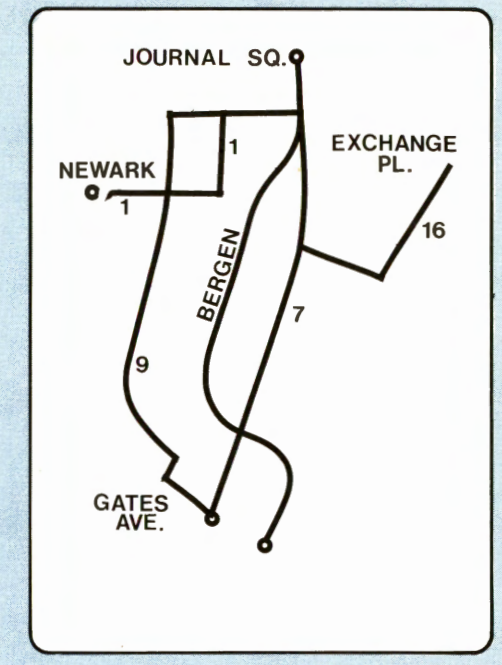
A comparison of the resulting list of Jersey City priority locations with that of the Planning Division indicated a very close similarity with most shelter locations being within one block of those recommended by that group. It was decided, therefore, that the existing program prepared by the City is sufficient for the needs in Jersey City. Further, discussions with Planning Division representatives indicated that this



SIGN 1



SIGN 2



SIGN 3

ROUTE	SERVICE AREA	SERVICE FREQUENCY
1	NEWARK JOURNAL SQ.	6-9 AM. / 3-6 PM. } 30 MIN. 9AM.-3PM. / 6PM.-1AM } 40 MIN.
7	HOBOKEN GATES AVE.	6-9 AM. / 3-6 PM } 12 MIN. 9AM.-3PM / 6PM.-1AM } 15 MIN.
9	GATES AVE. EXCHANGE PL.	4AM.-1AM.-10 MIN.
16	JOURNAL SQ. EXCHANGE PL.	6-9 AM. / 3-6 PM. } 60 MIN. NO OTHER SERVICE
BERGEN	JOURNAL SQ. GARFIELD AVE.	5AM-MIDNIGHT-6 MIN.

SIGN 3A

BUS STOP SIGNS
NEW JERSEY PUBLIC TRANSPORTATION STUDY
URBAN CORE — JERSEY CITY AND BAYONNE

Wilbur Smith and Associates

FIGURE 46

Chapter 9

MARKETING AND ADMINISTRATION

Chapter 9

MARKETING AND ADMINISTRATION

Public bus transit has historically been a vehicle of the "captive" user. The automobile has thus become an obstacle to the maintenance of a self-supporting public bus network. It, therefore, becomes apparent that implementation of a transit plan must provide positive incentives to the public, which will reinforce the system's capabilities and flexibility. A primary component of the transit plan must be a strong transit marketing program. The objectives of the transit marketing program should focus upon:

- Public Information Programming
- System Performance and Monitoring

These objectives should be designed to make people aware of the area's transit service and to improve the image of transit service as a viable, safe and efficient personal transportation alternative.

Public Information Programming

The Jersey City-Bayonne bus system today is supported by users who have become knowledgeable of the existing system primarily through utilization. However, no broad-based public information program exists to describe the system's availability and versatility in satisfying major travel desires. Although TNJ has printed schedules, the primary source of information in the corridor service area presently is the bus driver. The unavailability of bus schedules for the independent routes and varied fare zone systems and fare collection practices have placed an unnecessary burden upon the general public. Further,

although Transport of New Jersey has maintained bus schedule publications, the format has not been effective and again,the bus driver has become the primary information source.

Although service changes within the existing system may not be extensive since the level of service generally has remained high, information must be communicated to the public which will provide an understanding of the system and ultimately encourage greater patronage usage. Several methods of communicating with the public are outlined.

Maps

Simplified route maps should be a convenient guide. Mapping would establish confidence in the passenger, reassuring him about his geographical location in relation to the service route and/or system.

Single Route Maps - This map must contain a legend to identify alternate routes, directions of travel, route number, landmarks, park and ride locations, transfer points, and major generators. The level of detail described upon the map must be tailored to the specific needs of the transit riders in that particular route. (1)

The following information should be provided for each route:

- Street line and name detail;
- Street intersections;
- Major alternate routes along the corridor;
- Transferring route potentials along the single route;
- Locations of express stops; and,
- Major generators along the route.

(1) Transit Marketing Handbook, U. S. Department of Transportation, Urban Mass Transportation Administration, November, 1975.

Additional components of the individual route map should include a verbal route description, time schedule, fare information, and advertising space.

Area/Multi-Line Maps - Complementing the single route map, larger area or multi-line system maps should be visible at bus shelters, transfer points, and central business districts. The objective of this map should be to identify transit routes within the immediate area of boarding. The functional characteristics of this map should:[2]

1. Provide a sense of system structure;
2. Facilitate the display of the area map where a total system map cannot be accommodated; and,
3. Provide specific corridor information relating to major travel generators.

The area map should include time schedules to common destinations and should be posted at bus stop shelters, transfer stations, and upon transit vehicles.

Full System Map - As the name implies, the purpose of this map would provide the public with an overview of the entire transit system. The full system map can be illustrated either schematically or to scale. The scale map would provide the transit user with detailed major street information for the purpose of trip planning. In addition, points of interest, major generators, other pertinent area information, and all transit route detail should be provided. Copies of this map should appear on bus shelter facilities at major transfer locations and at information offices. This map should be prepared for all of Hudson County rather than only Jersey City and Bayonne.

(2) See page 9-2, Transit Marketing Handbook.

The schematic full system map is a simplistic presentation including major streets, highway landmarks, and geographic information pertaining to the total system. Identification of transit activity areas such as transfer locations, and express stops should be made throughout the entire transit system.

A component of the full system map should be an insert map of pertinent locations surrounding major passenger boarding areas. This map could identify adjacent streets to inform pedestrians of their proximity to nearby trip generators, schools, hospitals, churches, etc.

Telephone Service - Within the study area, bus transit information is only available through contacting the individual bus companies. No central information telephone is available to assist the public in coordinating trip planning with available transit service. The use of one telephone number in providing this service tends to eliminate confusion and the number becomes readily identifiable throughout the service area. This service should be maintained toll free, as an incentive to attract new patronage and provide a more responsive system in fulfilling travel needs.

News Media - Radio, television, and newspapers are a means of daily contact with the total service area population. Public service announcements describing the transit system would alert the public to the availability and convenience of transit utilization. Marketing the transit system through this media would encourage new patronage to "test" the transit network to assure themselves that the system can replace a car for travel in the area.

Public information processes and techniques can establish incentives for utilizing transit services. Summarizing

the ways in which the media should be used in the support of the public transit program, the following functions should be noted:

1. Create a public awareness of the transit service availability in the corridor;
2. Attain community support for both bus and passenger rail transit utilization;
3. Describe in detail service changes, innovations, and ridership improvement efforts;
4. Identify and describe special services; and,
5. Report regularly on the transit network activities, accomplishments and plans.

The encouragement of bus ridership through the media should be an important objective of an active marketing program. There is a virtually endless number of themes which can be built upon in developing press releases geared to the encouragement of transit utilization. These range from the idea of catching up on your reading while riding transit to the avoidance of traffic and parking worries. In addition to routine and continuing releases, special events and special services should be highlighted and related to the transit network's ability to serve the area. This may frequently involve coordination of advertising for such events as art shows, athletic events and other special activities so that the transit access to the event is featured in the publicity of the event.

Utilization of special transit fare programs such as the ten-trip tickets proposed for use in this study area and the senior citizen half-fare program of the Department of Transportation can be featured at regular intervals. It is also apparent that an important element of a solid marketing program would be the development of a close working relationship with

media personnel in the study area so that joint efforts could be directed toward the development of a program which would respond to the needs of the transit system for public information release and also would be beneficial to the media, in staying current with public affairs and local news items.

Monitoring Bus Operations

Field supervisors, also known as starters or inspectors, have been one of the first groups to feel the pinch of rising costs and reduced revenues in the transit industry. In view of the integral position of the New Jersey Department of Transportation in total transit operating matters throughout the State as a result of the extensive bus subsidy program, it would appear that the function of monitoring the bus operators should fall to the State. Availability of current information on each of the bus services in the area in terms of ridership at selected checkpoints, on-time performance, conditions of buses, and related operating details should permit the Division of Commuter Services to evaluate requests for additional subsidy on related matters.

Within the Jersey City-Bayonne corridor a high level of bus activity is supported by numerous operators and affiliates. Due to the existing complex organizational structure and the 405-vehicle bus fleet, two or more people should be assigned full time to review the operations in the corridor, become familiar with the schedule frequency and utilization of buses, and identify unusual occurrences, off-schedule performance, and other undesirable or improper operations. A routine schedule of field inspections should be maintained so that each bus route would be reviewed at least monthly if not more frequently, and reports would be on file in the Department of Transportation in Trenton within a matter of one or two days after the field inspection

so that staff concerned with any problem related to a particular route or area could check the files for data on current operations.

The State now has a group of bus inspectors operating out of Trenton on assignment to each of the various areas in the State. This group is not large enough to establish exclusive local areas of concern and should be expanded as time and personnel permit to perform the functions outlined above.

As a part of general operations monitoring, the impacts of the marketing program should be noted in terms of ridership, revenues and community attitudes.

Specific items to be monitored include:

- Changes in riderships and fares based on
  - line-revenue statistics
  - line profiles (on and off counts of passengers);
- Changes in passenger travel patterns based on interviews with bus riders on vehicles; and,
- Changes in travel attitudes and perceptions based on rider and non-rider interviews at destination points.

Surveys for innovative or special services should be done one day per week over a four-week period, and repeated every three months.

Counts of riders entering and leaving the major stations and terminals should be undertaken on an annual basis, and as principal components of the transit development plan are

implemented. These should be tied to selective maximum-load point checks on bus routes to: (a) identify effectiveness of improvements; and (b) to scale services to actual needs.

Communities should be given ample opportunities to respond to major service and fare changes, to suggest new route developments, and identify special service needs. Two-way communication is essential to inform public representatives of the costs of bus operation and to focus their thinking on major potentials rather than individual specialized travel desires.

Evaluation of system performance with identified performance criteria will establish the effectiveness of both service alternatives and marketing efforts. The performance and monitoring activities will reflect changing priorities and values necessary for a progressive and responsive transit service.

Marketing - Corridor versus Statewide

An extensive effort in development of a statewide marketing program for public transportation was outlined in the first phase of the New Jersey Public Transportation Study. The Division of Commuter Services of the Department of Transportation took initial steps to establish the Bureau of Analysis and Marketing and several new staff assignments were made. The Bureau has been functioning in analysis of both bus and rail problems, but has not made progress in the area of a detailed marketing program on either a statewide or area basis. The Division of Commuter Services has been hard-pressed during the past year to keep up with the subsidy programs for both rail and bus service and has not been able to undertake new areas of responsibility

If a marketing program is to be developed on a local basis, for example in the Urban Core - Jersey City and Bayonne Corridor, it would appear that local involvement will be required to maintain appropriate local interest in terms of both manpower and financial support. This suggests a joint effort between the Division of Commuter Services and a local advisory group such as a transit coordinating committee to oversee the administration of a marketing program.

Transit Management and Administration

Marketing is not the only aspect of the transit operations in the study corridor that requires attention by local people as well as the staff of the New Jersey Department of Transportation, while under the bus subsidy program, the regulation of subsidized carriers is with the Commuter Operating Agency, there appears to be limited local input into the deliberations of the COA and the follow-through on their directives by the staff of the Division of Commuter Services.

With the operators under subsidy, relinquishing their responsibility for improvements in their operation experience and with the public removed from the COA by the distance to Trenton, local control of the bus operations is effectively lost. If DOT is to regulate the private carriers operating under subsidy, it needs locally-based monitors to watch, advise and recommend on day-to-day activities, including the entertainment of local ideas, suggestions, questions, and complaints on current services. This monitoring function falls under the Bureau of Bus Operations of the Division of Commuter Services of DOT.

Formalization of a coordinating group is suggested, with membership to include:

Chief, Bureau of Bus Operations, Division of Commuter Services, New Jersey Department of Transportation

Chief, Bureau of Analysis and Marketing, Division of Commuter Services, New Jersey Department of Transportation

Representative, Hudson County Planning Board

Representative, Jersey City Planning Board

Representative, Bayonne Planning Board

Three Citizen Members Selected from Jersey City and/or Bayonne

Northern Division Superintendent, TNJ

Garage Supervisor, Greenville TNJ

Three representatives, Hudson County Independent Bus Owners Association

Representative, Port Authority Trans Hudson Corporation

This group can be reduced in number to be more effective, but in some measure, the representation outlined herein is required to establish a responsive coordinating agency and reflect local needs and desires in public transportation.

Chapter 10
IMPLEMENTATION PLAN

Chapter 10

IMPLEMENTATION PLAN

The adoption and implementation of a five-year program for improvement of bus transportation in the urban core area of Jersey City and Bayonne constitute the acknowledgement of the area's problems and the need to attack these problems in a direct, timely and meaningful way. The bus network serving the urban core is among the most comprehensive in New Jersey. The problems which have been identified are results of continuing to provide service at levels which reflect demands of another era. When this is balanced against the increasing subsidy programs being administered by New Jersey Department of Transportation, it becomes clear that service consolidation and coordination are essential to minimizing the subsidy requirement. Transport of New Jersey, South Hudson County Boulevard IBOA, North Hudson Boulevard IBOA, and Hudson Bus Transportation Company are all receiving subsidy payments from the Commuter Operating Agency of the NJ DOT to sustain their present service levels and fare structures. Bus service at the level provided in Jersey City and Bayonne requires that all facilities be effectively utilized and that all costs be directly related to the service provided. There is no room for any operation but a trimmed-down, cost effective transit service.

Accordingly, duplication and competition as well as barriers to convenient circulation, created by independently based fare structures which do not permit transfer between lines, except within the TNJ system, are major concerns which must be addressed to achieve optimization of bus service.

The components of the transit improvement plan presented herein are tailored to the five-year time frame of a short-range plan. In addition to the service plan with its suggested service changes and the adjusted fare program to establish a common base fare of 40 cents for all operations with initiation of a transfer program to eliminate barriers to circulation throughout the area, there is a continuing need to modernize the bus fleet, construct new passenger shelters and add bus stop signs throughout the corridor. A major marketing effort is required to advise the community about the advantages it has with the extensive bus network presently in operation.

Over all of these proposals is the urgent need for the State to resolve its administrative problem which finds regulation of about half of the study area service under the New Jersey Board of Public Utility Commissioners and the remainder under the Commuter Operating Agency of the New Jersey Department of Transportation. At the very least, the merger of functions of the PUC into the NJ DOT organization should be achieved as soon as possible to clear the way for meaningful coordination of bus transportation statewide.

Implementation of the short-range plan outlined herein does not appear to be limited by availability of capital funds for buses, shelter or signs. There are no major capital expenditures required beyond the continued upgrading of the bus fleet, based on the bus purchase program initiated by the NJ DOT in 1975 with the first new buses currently beginning to reach the operators.

Table 74 presents the proposed plan for implementation of the proposals presented herein. This program is summarized in terms of capital costs in Table 75 . A total five-year program amounting to $6,648,000 is outlined.

Table 74

1976-1980 TRANSIT DEVELOPMENT PROGRAM
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

YEAR	ITEM	DESCRIPTION
1976	1	Initiate action to establish a common 40-cent first-zone fare for all bus service in the urban core, including formulation of an appropriate coordinating agency between NJ DOT and PUC to expedite the action required to permit this arrangement.
	2	Eliminate TNJ Route 14 local service between Gates Avenue at Old Bergen Road and Montgomery Street and Jersey Avenue.
	3	Schedule service on Route 14 in Bayonne to provide headways of 20 minutes in the A.M. throughout the day.
	4	Increase service on the TNJ Route 14 Express between Bayonne and Downtown Jersey City at Grove Street by providing an hourly express in each direction during the hours beginning at 9:00 A.M. and ending at 3:00 P.M.
	5	Increase service provided by Lafayette and Greenville IBOA along Ocean Avenue and over the existing route to Exchange Place with headways of four minutes in A.M. and P.M. peak hours and six minutes during midday base periods and 8-10 minutes during evening hours, with the last bus scheduled at 12:40 A.M.
	6	Add a limited express service on TNJ Route 7 - Jackson Avenue between the Greenville Garage at Gates Avenue and Old Bergen Road and Journal Square.
	7	Maintain existing service levels on all other TNJ routes within the study area including Routes 1, 9, 31, 43, and 44.

(continued)

Table 74 (Cont.)

YEAR	ITEM	DESCRIPTION
1976	8	Maintain existing service levels on all other independent routes within the study area, including A & C Shopper, Bergen Avenue, Broadway (Bayonne), Central Avenue, Downtown, Hudson, Lafayette and Greenville (Journal Square), Montgomery and West Side, North Hudson Boulevard, and South Hudson County Boulevard.
	9	Initiate a new trial crosstown bus route to link the Grove Street PATH Station, Route 440 shopping centers and the various TNJ and independent routes terminating in the Greenville area of Jersey City and terminate at the Bergen Avenue Bus Terminal at Broadway and 55th Street in Bayonne. This service would operate 37 trips per day at headways of 20 minutes from 8:00 A.M. to 9:56 P.M.
	10	Eliminate the morning peak hour only service presently provided by the A & C Marion line over a part of the route proposed for the crosstown service and retain the A & C shopper service linking Journal Square and the Route 440 shopping center.
	11	Modify the Broadway (Bayonne) bus schedule to serve the senior citizen housing projects in Bayonne as outlined in detail in Chapter 7 of this report.
	12	Initiate a major marketing program to be integrated with implementation of fare changes and the proposed transfer plan and the route changes outlined herein.
	13	Establish policies in operations monitoring and assign bus inspectors to report at least weekly on all bus services in the Jersey City-Bayonne area.
	14	Initiate services by the new buses to be delivered during 1976 to the bus companies in the area and take advantage of this in marketing program.
	15	Continue with the shelter program being developed independently by Jersey City and expand program to Bayonne by installing 8 bus shelters as indicated in Chapter 8.

(continued)

Table 74 (Cont.)

YEAR	ITEM	DESCRIPTION
1976	16	To assist in the implementation of plans outlined herein, formulate a Jersey City-Bayonne Bus Policy Advisory Board to work with NJDOT, NJPUC and the local bus operators.
1977	1	Acquire 11 new buses (to be owned by NJDOT) and distribute to bus operators as indicated in Chapter 8.
	2	Review and update marketing program.
	3	Install 10 bus shelters as the second stage of this program including 7 in Jersey City and 3 in Bayonne. Install 500 bus stop signs including 350 in Jersey City and 150 in Bayonne.
	4	Expand monitoring program to insure on-time operation and improved patron amenities.
	5	Update Transit Development Program as required.
1978	1	Acquire 25 new buses (to be owned by NJDOT) and distribute to bus operators as indicated in Chapter 8.
	2	Review and update marketing program.
	3	Install 10 bus shelters in Jersey City and Bayonne.
	4	Expand monitoring program to insure on-time operation and improved patron amenities.
	5	Update Transit Development Program as required.
1979	1	Acquire 15 new buses (to be owned by NJDOT) and distribute to bus operators as indicated in Chapter 8.
	2	Review and update marketing program.

(continued)

Table 74 (Cont.)

YEAR	ITEM	DESCRIPTION
1979	3	Install 10 bus shelters in Jersey City and Bayonne.
	4	Expand monitoring program to insure on-time operation and improved patron amenities.
	5	Update Transit Development Program as required.
1980	1	Acquire 7 new buses (to be owned by NJDOT) and distribute to bus operators as indicated in Chapter 8.
	2	Review and update marketing program.
	3	Install 10 bus shelters in Jersey City and Bayonne.
	4	Expand monitoring program to insure on-time operation and improved patron amenities.
	5	Update Transit Development Program as required.

Table 75

SUMMARY OF CAPITAL COSTS, 1976-1980
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

ITEM	CAPITAL COSTS (000's) 1976	1977	1978	1979	1980	Total
New Buses (1)	$2,535.0	$ 715.0	$1,625.0	$1,072.5	$ 500.5	$6,448.0
Bus Shelters (2)	25.6	38.4	32.0	32.0	32.0	160.0
Bus Stop Signs (3)	15.0	10.0	5.0	5.0	5.0	40.0
TOTAL	$2,575.6	$ 763.4	$1,662.0	$1,109.5	$ 537.5	$6,648.0

(1) Based on an estimated cost of $65,000 per transit type bus, with a 10 per cent escalation in 1979.
(2) Based on an estimated cost of $3,200 per bus shelter.
(3) Based on $20.00 per sign.

Table 76 sets forth in summary form the estimated impacts of service adjustments presented in Chapter 7. It is observed that the overall impact of the immediate action plan, all of which is proposed for first-year implementation forecasts increased bus patronage of over 750,000 annually with increased net revenues of nearly $1,250,000. While several individual items prove to be deficit operations, the added revenue produced for the total system indicates that the deficit operations can easily be subsidized by the profits resulting from the fare adjustment and transfer programs, which are the key items producing the new revenues.

Table 76

SUMMARY OF SERVICE CHANGES, PATRONAGE, REVENUES AND COSTS
New Jersey Public Transportation Study
Urban Core - Jersey City-Bayonne

ITEM	DESCRIPTION	CHANGE, ON ANNUAL BASIS			
		Patronage	Revenue	Cost	Revenue-Cost
1	Increase base fare for independent buses	-1,190,540	+$811,900	---	+$811,900
2	Impact of Item 1 on TNJ ridership	+ 300,000	+$123,000	---	+$123,000
3	Initiation of inter-company transfer system (all companies)	+ 967,200	$386,880 108,300 $495,180	$50,000	+$445,180
4	Eliminate TNJ Rt. 14 Local service in Jersey City	- 298,000			
5	Additional TNJ Rt. 14 Local service in Bayonne	+ 100,000	-$ 65,300	-$66,500	$ 1,200
6	Additional TNJ Rt. 14 Express service	+ 39,000			
7	Increase Lafayette and Greenville local service to Exchange Place in Jersey City	+ 298,000	+$119,200	+$105,000	+$ 14,200
8	Add limited express service in peak hours on TNJ 7 - Jackson Avenue	+ 70,200	+$ 28,080	+$ 37,600	-$ 9,520
9	Initiate new crosstown bus service	+ 645,000	$258,000	$322,200	-$ 64,200
10	Eliminate A & C Marion Bus in AM peak hour	- 247,500	-$ 86,625	-$ 26,675	-$ 59,950
11	Modify Broadway bus schedule to serve senior citizen housing projects	+ 67,400	+$ 13,500	+$ 30,000	-$ 16,500
	TOTAL	+ 750,760	+$1,696,935	+$451,625	+$1,245,310

APPENDIX

Table A-1

TNJ #1 TO EXCHANGE PLACE

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	A.M. PEAK (6:00-9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00-6:00 P.M.) On	P.M. PEAK (3:00-6:00 P.M.) Off	EVENING OFF-PEAK (6:00-10:00 P.M.) On	EVENING OFF-PEAK (6:00-10:00 P.M.) Off	TOTAL (6:00 A.M.-10:00 P.M.) On	TOTAL (6:00 A.M.-10:00 P.M.) Off
WESTBOUND BUSES											
1	Exchange Place to Grand Street at Henderson Street	126	0	32	0	204	0	16	0	378	0
2	Grand Street from Henderson Street to Monmouth Street	44	0	24	0	0	0	0	0	68	0
3	Grand Street from Henderson Street to Communipaw Avenue	96	0	63	0	31	0	8	0	198	0
4	Communipaw Avenue from Grand Street to West Side Avenue	229	0	95	0	408	0	10	0	742	0
5	Communipaw Avenue from West Side Avenue to City Line	22	15	0	0	31	16	0	0	53	31
6	On Bus Outside Study Area	—	502	—	214	—	658	—	34	—	1,408
EASTBOUND BUSES											
1		0	92	0	8	0	10	0	10	0	120
2		0	11	0	8	0	22	0	3	0	44
3		32	35	16	41	11	27	3	8	62	111
4		32	14	8	49	5	27	5	2	50	92
5		35	7	90	8	0	97	0	5	125	117
6		60	—	0	—	167	—	20	—	247	—

Table A-2

TNJ #1 TO JOURNAL SQUARE

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	Off	P.M. PEAK (3:00-6:00 P.M.) On	Off	EVENING OFF-PEAK (6:00-10:00 P.M.) On	Off	TOTAL (6:00 A.M.-10:00 P.M.) On	Off
WESTBOUND BUSES											
1	Journal Square to JFK Boulevard at Tonnele Avenue	245	0	142	0	314	0	138	0	839	0
2	JFK Boulevard from Tonnele Avenue to Montgomery Street	37	0	0	0	16	0	23	0	76	0
3	JFK Boulevard from Montgomery Street to Kensington Street	44	0	8	0	16	0	0	0	68	0
4	JFK Boulevard at Kensington Street to Communipaw Avenue at West Side Avenue	118	7	71	0	63	0	34	0	286	7
5	Communipaw Avenue at West Side Avenue to City Line	22	7	0	0	0	0	23	23	45	30
6	On Bus Outside Study Area	—	452	—	221	—	409	—	195	—	1,277
EASTBOUND BUSES											
1		0	52	0	107	0	114	0	8	0	281
2		0	0	0	8	0	16	0	7	0	31
3		0	17	0	0	0	11	0	2	0	30
4		0	52	0	57	0	65	0	20	0	194
5		21	21	8	16	0	86	0	9	29	132
6		121	—	180	—	292	—	46	—	639	—

Table A-3

TNJ #7 TO HOBOKEN

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	Off	P.M. PEAK (3:00-6:00 P.M.) On	Off	EVENING OFF-PEAK (6:00-10:00 P.M.) On	Off	TOTAL (6:00 A.M.-10:00 P.M.) On	Off
NORTHBOUND BUSES											
1	Old Bergen Road at Gates Avenue to Jackson Avenue at Stevens Avenue	145	12	177	0	41	0	118	29	481	41
2	Jackson Avenue from Stevens Avenue to Myrtle Avenue	85	0	149	21	49	8	59	0	342	29
3	Jackson Avenue from Myrtle Avenue to Bramhall Avenue	169	0	71	36	66	16	147	29	453	81
4	Jackson Avenue from Bramhall Avenue to Fairview Avenue	36	48	28	14	56	8	59	0	179	70
5	Jackson Avenue at Fairview Avenue to Bergen Avenue at Newkirk Avenue	48	60	78	99	59	49	0	60	185	268
6	Bergen Avenue at Newkirk Avenue to Summit Avenue at Pavonia Avenue	48	290	50	142	57	57	0	147	155	636
7	Summit Avenue at Pavonia Avenue to Central Avenue at Laidlaw Avenue	24	12	28	71	16	33	29	29	97	145
8	Central Avenue from Laidlaw Avenue to Franklin Avenue	36	48	7	64	0	42	0	0	43	154
9	Central Avenue at Franklin Avenue to City Line	217	48	50	28	0	82	0	0	267	158
10	On Bus Outside Study Area	0	290	0	163	0	49	0	118	0	62
SOUTHBOUND BUSES											
1		11	96	0	187	0	218	0	44	11	545
2		0	21	0	86	9	288	0	58	9	453
3		0	0	14	173	10	158	14	30	38	361
4		0	21	29	72	19	140	14	14	62	247
5		0	53	43	58	20	102	73	30	136	243
6		32	191	187	216	316	101	75	73	610	581
7		64	11	101	14	93	19	29	29	287	73
8		117	32	72	30	158	130	31	16	378	208
9		138	11	187	28	158	268	29	15	512	322
10		85	11	260	29	641	0	44	0	1,030	40

Table A-4

TNJ #9 TO EXCHANGE PLACE

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	A.M. PEAK (6:00-9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00-6:00 P.M.) On	P.M. PEAK (3:00-6:00 P.M.) Off	EVENING OFF-PEAK (6:00-10:00 P.M.) On	EVENING OFF-PEAK (6:00-10:00 P.M.) Off	TOTAL (6:00 A.M.-10:00 P.M.) On	TOTAL (6:00 A.M.-10:00 P.M.) Off
NORTHBOUND BUSES											
1	Terminal at Gates Avenue to West Side Avenue at Van Nostrand Avenue	196	7	224	0	31	0	137	0	588	7
2	West Side Avenue from Van Nostrand Avenue to Stegman Parkway	42	0	112	20	23	0	25	0	202	20
3	West Side Avenue from Stegman Parkway to Virginia Avenue	105	7	275	10	23	0	75	250	478	42
4	West Side Avenue from Virginia Avenue to Kensington Avenue	112	49	224	71	55	8	38	38	429	166
5	West Side Avenue from Kensington Avenue to Fairmont Avenue	112	0	296	20	0	8	50	0	458	28
6	West Side Avenue at Fairmont Avenue to Bergen Avenue at Highland Avenue	21	14	122	133	23	16	50	75	216	238
7	Bergen Avenue at Highland Avenue to Journal Square	35	161	265	581	47	23	38	63	385	828
8	Journal Square to Newark Avenue at Oakland Avenue	84	210	255	337	78	16	25	100	442	663
9	Newark Avenue from Oakland Avenue to New Jersey Turnpike	175	49	92	41	0	23	0	25	267	138
10	Newark Avenue from New Jersey Turnpike to Erie Street	0	140	20	478	0	108	0	50	20	776
11	Newark Avenue at Erie Street to Mercer Street at Henderson Street	0	84	20	102	0	31	0	0	20	217
12	Mercer Street at Henderson Street to Exchange Place	0	161	0	112	0	47	0	62	0	382
SOUTHBOUND BUSES											
1		4	39	55	255	7	234	0	119	66	647
2		0	20	0	55	0	7	15	14	15	96
3		4	39	46	73	28	43	0	40	78	195
4		23	20	55	200	7	114	12	53	97	387
5		0	8	18	164	14	57	13	15	45	244
6		4	23	73	127	43	57	26	13	146	220
7		31	27	200	256	99	64	66	10	396	357
8		31	39	273	264	92	105	79	12	475	420
9		20	43	127	127	64	64	11	26	222	260
10		98	4	319	9	178	71	40	0	635	84
11		20	0	227	0	85	0	14	0	346	0
12		27	0	137	0	199	0	26	0	389	0

Table A-5

TNJ #14 LOCAL

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION		A.M. PEAK (6:00-9:00 A.M.)		MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.)		P.M. PEAK (3:00-6:00 P.M.)		EVENING OFF-PEAK (6:00-10:00 P.M.)		TOTAL (6:00 A.M.-10:00 P.M.)	
Number	Limits	On	Off	On	Off	On	Off	On	Off	On	Off
NORTHBOUND BUSES											
1	Avenue C at 1st Street in Bayonne to Broadway at 8th Street	36	0	51	0	3	0	16	0	106	0
2	Broadway at 8th Street to Avenue C at 16th Street	36	0	29	0	10	0	8	0	83	0
3	Avenue C from 16th Street to 32nd Street	92	46	139	15	20	0	16	0	267	61
4	Avenue C from 32nd Street to 48th Street	15	5	22	22	3	7	10	0	50	34
5	Avenue C from 48 Street to Jersey City Line	41	87	15	15	0	7	6	0	62	109
6	Avenue C at Jersey City Line to Ocean Avenue at Stevens Avenue	41	0	15	102	14	10	8	8	78	120
7	Ocean Avenue from Stevens Avenue to Myrtle Avenue	61	9	58	23	0	3	24	9	143	44
8	Ocean Avenue from Myrtle Avenue to Bramhall Avenue	51	10	37	7	0	0	24	7	112	24
9	Ocean Avenue at Bramhall Avenue to Grand Street at New Jersey Turnpike	41	11	0	22	7	3	0	25	48	61
10	Grand Street at New Jersey Turnpike to Jersey Avenue at York Street	5	20	7	21	3	0	0	23	15	64
11	Jersey Avenue at York Street to Henderson Street at Montgomery Street	0	180	0	131	0	10	0	16	0	337
12	Henderson Street at Montgomery Street to Exchange Place	0	51	0	15	0	20	0	24	0	110
SOUTHBOUND BUSES											
1		0	57	0	15	0	24	0	70	0	166
2		0	105	0	0	0	20	0	16	0	141
3		38	199	7	102	3	65	8	48	56	414
4		29	29	15	44	3	37	0	50	47	160
5		114	30	5	10	0	17	16	0	135	57
6		105	19	66	32	48	37	40	24	259	112
7		10	29	22	80	20	61	24	32	76	202
8		48	19	15	30	17	20	16	0	96	69
9		57	20	51	29	20	31	8	16	136	96
10		10	0	15	0	24	0	0	8	49	8
11		86	0	124	7	160	0	120	0	490	7
12		10	0	29	0	17	0	32	0	88	0

Table A-6

TNJ #14 EXPRESS

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00 - 9:00 A.M.) On	A.M. PEAK (6:00 - 9:00 A.M.) Off	P.M. PEAK (3:00 - 6:00 P.M.) On	P.M. PEAK (3:00 - 6:00 P.M.) Off	TOTAL (6:00 A.M. - 6:00 P.M.) On	TOTAL (6:00 A.M. - 6:00 P.M.) Off
NORTHBOUND BUSES							
1	Avenue C at 1st Street in Bayonne Broadway at 8 Street	83	0	26	0	109	0
2	Broadway at 8 Street to Avenue C at 16 Street	29	0	16	0	45	0
3	Avenue C from 16 Street to 32 Street	138	10	36	0	174	10
4	Avenue C from 32 Street to 48 Street	49	0	0	16	49	16
5	Avenue C from 48 Street to New Jersey Turnpike	29	0	0	0	29	0
6	New Jersey Turnpike to Montgomery Street at Jersey Avenue	0	0	0	0	0	0
7	Jersey Avenue at Montgomery Street to Henderson Street at Montgomery Street	0	127	0	31	0	158
8	Henderson Street at Montgomery Street to Exchange Place	0	191	0	31	0	222
SOUTHBOUND BUSES							
1		0	14	0	63	0	77
2		0	0	7	42	7	42
3		9	9	0	126	9	135
4		0	0	0	70	0	70
5		9	0	0	84	9	84
6		0	0	0	0	0	0
7		5	0	49	0	54	0
8		0	0	329	0	329	0

Table A-7

TNJ #16

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION		A.M. PEAK (6:00 - 9:00 A.M.)		P.M. PEAK (3:00 - 6:00 P.M.)		TOTAL (6:00 A.M.-6:00 P.M.)	
Number	Limits	On	Off	On	Off	On	Off
EASTBOUND BUSES							
1	Journal Square to Bergen Avenue at Academy Street	1	0	30	0	31	0
2	Bergen Avenue from Academy Street to Communipaw Avenue	7	0	8	22	15	22
3	Communipaw Avenue from Bergen Avenue to Pacific Avenue	10	4	4	2	14	6
4	Pacific Avenue at Communipaw Avenue to Grand Street at Jersey Avenue	19	1	0	11	19	12
5	Jersey Avenue at Grand Street to Henderson Street at Montgomery Street	0	16	0	7	0	23
6	Henderson Street at Montgomery Street to Exchange Place	0	16	0	0	0	16
WESTBOUND BUSES							
1		0	41	0	22	0	63
2		10	20	7	28	17	48
3		14	13	7	9	21	22
4		29	10	18	4	47	14
5		28	0	18	0	46	0
6		3	0	13	0	16	0

Table A-8

TNJ #18

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00 - 9:00 A.M.) On	A.M. PEAK (6:00 - 9:00 A.M.) Off	P.M. PEAK (3:00 - 6:00 P.M.) On	P.M. PEAK (3:00 - 6:00 P.M.) Off	TOTAL (6:00 A.M. - 6:00 P.M.) On	TOTAL (6:00 A.M. - 6:00 P.M.) Off
NORTHBOUND BUSES							
1	Exchange Place to Montgomery Street at Henderson Street	20	0	70	0	90	0
2	Montgomery Street at Henderson Street to Newark Avenue at Monmouth Street	23	1	45	6	68	7
3	Newark Avenue from Monmouth Street to Summit Avenue	11	12	19	32	30	44
4	Summit Avenue from Newark Avenue to Manhattan Avenue	1	12	3	0	4	12
5	Summit Avenue from Manhattan Avenue to Bleeker Street	0	17	0	42	0	59
6	Summit Avenue from Bleeker Street to City Line	0	7	0	29	0	36
7	On bus Outside Study Area	-	6	-	28	-	34
SOUTHBOUND BUSES							
1		0	128	0	3	0	131
2		0	37	3	2	3	39
3		6	62	10	10	16	72
4		28	1	5	3	33	4
5		89	0	2	4	91	4
6		85	1	3	6	88	7
7		21	-	5	-	26	-

Table A-9

TNJ #31

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	A.M. PEAK (6:00-9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00-6:00 P.M.) On	P.M. PEAK (3:00-6:00 P.M.) Off	EVENING OFF-PEAK (6:00-10:00 P.M.) On	EVENING OFF-PEAK (6:00-10:00 P.M.) Off	TOTAL (6:00 A.M.-10:00 P.M.) On	TOTAL (6:00 A.M.-10:00 P.M.) Off
NORTHBOUND BUSES											
1	Exchange Place to Montgomery Street at Henderson Street	44	0	26	0	21	0	8	0	99	0
2	Henderson Street at Montgomery Street to Erie Street at 6th Street	48	0	103	4	32	4	12	4	195	12
3	Erie Street from 6th Street to 19th Street	0	59	20	66	18	25	4	12	42	162
4	Erie Street at 19th Street to Hudson Terminal	0	33	0	79	0	42	0	8	0	162
SOUTHBOUND BUSES											
4		20	0	104	4	130	0	4	0	258	4
3		7	0	18	22	35	4	0	4	60	30
2		0	13	0	70	0	126	4	0	4	209
1		0	14	0	26	0	35	0	4	0	79

Table A-10

TNJ #43 TO EXCHANGE PLACE

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION		A.M. PEAK (6:00 - 9:00 A.M.)		P.M. PEAK (3:00 - 6:00 P.M.)		TOTAL (6:00 A.M. - 6:00 P.M.)	
Number	Limits	On	Off	On	Off	On	Off
EASTBOUND BUSES							
1	On Bus Outside Study Area	53	-	239	-	292	-
2	City Line to Newark Avenue at Tonnele Avenue	4	18	46	8	50	26
3	Newark Avenue from Tonnele Avenue to Summit Avenue	11	0	8	108	19	108
4	Newark Avenue from Summit Avenue to New Jersey Turnpike	53	22	15	100	68	122
5	Newark Avenue from New Jersey Turnpike to Barrow Street	9	18	0	46	9	64
6	Newark Avenue at Barrow Street to Montgomery Street at Henderson Street	2	29	0	38	2	67
7	Montgomery Street at Henderson Street to Exchange Place	0	45	0	8	0	53
WESTBOUND BUSES							
1		-	104	-	55	-	159
2		0	0	0	0	0	0
3		18	22	16	5	34	27
4		27	31	22	16	49	47
5		36	4	3	8	39	12
6		67	0	8	0	75	0
7		13	0	35	0	48	0

Table A-11

TNJ #43 TO JOURNAL SQUARE

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	MID-DAY OFF-PEAK (9:00 A.M. - 3:00 P.M.) On	Off	EVENING OFF-PEAK (6:00 - 10:00 P.M.) On	Off	TOTAL (9:00 A.M. - 10:00 P.M.) On	Off
EASTBOUND BUSES							
1	On Bus Outside Study Area	62	-	44	-	106	-
2	City Line to Newark Avenue at Tonnele Avenue	0	0	0	0	0	0
3	Newark Avenue at Tonnele Avenue to Summit Avenue at Pavonia Avenue	0	26	0	44	0	70
4	Summit Avenue at Pavonia Avenue to Journal Square	0	36	0	0	0	36
WESTBOUND BUSES							
1		-	161	-	3	0	164
2		0	0	0	0	0	0
3		43	0	0	0	43	0
4		118	0	3	0	121	0

Table A-12

TNJ #44 BERGENLINE

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	A.M. PEAK (6:00-9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00-6:00 P.M.) On	P.M. PEAK (3:00-6:00 P.M.) Off	EVENING OFF-PEAK (6:00-10:00 P.M.) On	EVENING OFF-PEAK (6:00-10:00 P.M.) Off	TOTAL (6:00 A.M.-10:00 P.M.) On	TOTAL (6:00 A.M.-10:00 P.M.) Off
NORTHBOUND BUSES											
1	Journal Square to Summit Avenue at Pavonia Avenue	255	0	504	0	574	0	477	0	1,810	0
2	Summit Avenue at Pavonia Avenue to Palisade Avenue at Pulaski Skyway	61	0	86	57	41	0	95	32	283	89
3	Palisade Avenue from Pulaski Skyway to Franklin Street	82	30	39	134	21	113	191	33	333	310
4	Palisade Avenue from Franklin Street to City Line	112	0	29	57	21	51	64	190	226	298
5	On Bus Outside Study Area	-	480	-	410	-	493	-	572	-	1,955
SOUTHBOUND BUSES											
1		0	235	0	387	0	85	0	120	0	827
2		0	92	7	73	0	56	5	40	12	261
3		16	8	0	59	56	28	15	15	87	110
4		84	42	80	44	0	141	15	20	179	247
5		277	-	476	-	254	-	160	-	1,167	-

Table A-13

TNJ #122/144

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00 - 9:00 A.M.) On	Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	Off	P.M. PEAK (3:00-6:00 P.M.) On	Off	EVENING OFF-PEAK (6:00-10:00 P.M.) On	Off	TOTAL (6:00 A.M.-10:00 P.M.) On	Off
NORTHBOUND BUSES											
1	Journal Square to Summit Avenue at Newark Avenue	164	0	81	0	197	0	61	0	503	0
2	Summit Avenue from Newark Avenue to Laidlaw Avenue	15	15	9	0	29	6	5	0	58	21
3	Summit Avenue from Laidlaw Avenue to Manhattan Avenue	45	0	9	4	3	20	5	0	62	24
4	Summit Avenue from Manhattan Avenue to Bleeker Street	15	0	7	11	3	61	14	5	39	77
5	Summit Avenue from Bleeker Street to City Line	0	30	5	5	0	14	9	0	14	49
6	On Bus Outside Study Area	-	194	-	91	-	131	-	89	-	505
SOUTHBOUND BUSES											
1		0	213	3	87	0	44	0	16	3	360
2		3	16	0	19	2	9	0	11	5	55
3		29	5	6	3	2	9	0	0	37	17
4		21	0	0	9	0	11	11	16	32	36
5		23	0	9	9	2	0	5	0	39	9
6		158	-	109	-	67	-	27	-	361	-

Table A-14

A&C IBOA MARION

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	Off
SOUTHBOUND BUSES			
1	Journal Square to Sip Avenue at Tonnele Avenue	19	0
2	Sip Avenue at Tonnele Avenue to Broadway at Wright Avenue	40	0
3	Broadway at Wright Avenue to Duncan Avenue at Mallory Avenue	76	0
4	Duncan Avenue at Mallory Avenue to West Side Avenue at Communipaw Avenue	95	39
5	West Side Avenue at Communipaw Avenue to Culver Avenue at Mallory Avenue	38	36
6	Culver Avenue at Mallory Avenue to Audubon Avenue at JFK Boulevard	10	41
7	Audubon Avenue at JFK Boulevard to Claremont Avenue at Ocean Avenue	45	10
8	Claremont Avenue at Ocean Avenue to Pacific Avenue at Communipaw Avenue	0	49
9	Pacific Avenue from Communipaw Avenue to Grand Street	0	150
NORTHBOUND BUSES			
1		0	84
2		17	50
3		15	67
4		34	53
5		84	14
6		0	50
7		101	185
8		235	0
9		17	0

Table A-15

A&C IBOA SHOPPER

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	Off	P.M. PEAK (3:00-6:00 P.M.) On	Off	TOTAL (9:00 A.M.-6:00 P.M.) On	Off
SOUTHBOUND BUSES							
1	Journal Square to Sip Avenue at Tonnele Avenue	149	0	201	0	350	0
2	Sip Avenue at Tonnele Avenue to Broadway at Wright Avenue	53	13	22	37	75	50
3	Broadway at Wright Avenue to Duncan Avenue at Mallory Avenue	15	20	59	30	74	50
4	Duncan Avenue at Mallory Avenue to West Side Avenue at Communipaw Avenue	29	19	31	7	60	26
5	West Side Avenue at Communipaw Avenue to Culver Avenue at Mallory Avenue	28	34	6	22	34	56
6	Great Eastern and Two Guys Shopping Centers	96	197	81	229	177	426
NORTHBOUND BUSES							
1		0	274	0	70	0	344
2		123	56	28	45	151	101
3		129	58	32	19	161	77
4		45	26	26	43	71	69
5		41	11	24	8	65	19

NOTE: Section 6 is the loop in the Shopping Center.

Table A-16

BERGEN AVENUE IBOA

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00 - 9:00 A.M.) On	A.M. PEAK (6:00 - 9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00 - 6:00 P.M.) On	P.M. PEAK (3:00 - 6:00 P.M.) Off	TOTAL (6:00 A.M.-6:00 P.M.) On	TOTAL (6:00 A.M.-6:00 P.M.) Off
NORTHBOUND BUSES									
1	Terminal at Broadway to Bayonne-Jersey City Line	258	0	342	0	505	0	1,105	0
2	Bayonne-Jersey City Line to Garfield Avenue at Seaview Avenue	47	23	340	63	475	185	862	271
3	Garfield Avenue at Seaview Avenue to Old Bergen Road at JFK Boulevard	117	0	494	43	184	0	795	43
4	Old Bergen Road at JFK Boulevard to Bergen Avenue at Audubon Avenue	352	25	685	128	979	306	2,016	459
5	Bergen Avenue from Audubon Avenue to Boyd Avenue	376	21	492	43	490	301	1,358	365
6	Bergen Avenue from Boyd Avenue to Fairview Avenue	446	164	1,006	321	734	433	2,186	918
7	Bergen Avenue from Fairview Avenue to Newkirk Street	47	376	278	2,119	61	1,652	386	4,147
8	Bergen Avenue at Newkirk Street to Journal Square	0	1,034	0	920	0	551	0	2,505
SOUTHBOUND BUSES									
1		0	336	0	117	0	562	0	1,015
2		0	112	0	142	130	252	130	506
3		0	450	71	327	122	440	193	1,217
4		114	1,350	108	251	179	1,074	401	2,675
5		110	228	60	554	199	1,125	369	1,907
6		1,012	222	187	540	314	1,139	1,513	1,901
7		562	0	511	156	1,384	126	2,457	282
8		900	0	1,150	0	2,390	0	4,440	0

Table A-17

BROADWAY IBOA

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION		A.M. PEAK (6:00-9:00 A.M.)		MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.)		P.M. PEAK (3:00-6:00 P.M.)		EVENING OFF-PEAK (6:00-10:00 P.M.)		TOTAL (6:00 A.M.-10:00 P.M.)	
Number	Limits	On	Off	On	Off	On	Off	On	Off	On	Off
NORTHBOUND BUSES											
1	Broadway from 1st Street to 8th Street	112	0	704	0	202	0	62	31	1,080	31
2	Broadway from 8th Street to 16th Street	35	0	256	64	13	0	92	0	396	64
3	Broadway from 16th Street to 32nd Street	84	140	800	736	428	189	175	92	1,487	1,157
4	Broadway from 32nd Street to 48th Street	21	70	176	512	176	227	72	134	445	943
5	Broadway from 48th Street to 55th Street at Avenue C	0	28	16	288	0	277	0	144	16	737
6	55th Street at Avenue C to Terminal at JFK Boulevard	0	14	0	352	0	126	0	0	0	492
SOUTHBOUND BUSES											
1		14	68	0	315	0	354	0	80	14	817
2		14	41	12	230	0	233	0	27	26	581
3		68	408	327	472	425	230	53	108	873	1,218
4		190	27	436	48	319	35	108	104	1,053	214
5		163	0	121	37	90	20	131	0	505	57
6		95	0	206	0	88	0	27	0	416	0

Table A-18

CENTRAL AVENUE IBOA TO BAYONNE-JERSEY CITY LINE

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00 - 9:00 A.M.) On	A.M. PEAK (6:00 - 9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M. - 3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M. - 3:00 P.M.) Off	P.M. PEAK (3:00 - 6:00 P.M.) On	P.M. PEAK (3:00 - 6:00 P.M.) Off	TOTAL (6:00 A.M. - 6:00 P.M.) On	TOTAL (6:00 A.M. - 6:00 P.M.) Off
NORTHBOUND BUSES									
1	Bayonne-Jersey City Line to Garfield Avenue at Eastern Parkway	16	0	11	0	124	12	151	12
2	Garfield Avenue from Eastern Parkway to Myrtle Avenue	14	2	5	1	4	68	23	71
3	Garfield Avenue from Myrtle Avenue to Communipaw Avenue	5	0	5	2	20	12	30	14
4	Communipaw Avenue at Garfield Avenue to Summit Avenue at Montgomery Street	26	9	42	5	100	8	168	22
5	Summit Avenue at Montgomery Street to Bergen Avenue at High Street	8	12	37	32	56	56	101	100
6	Bergen Avenue at High Street to JFK Boulevard at Pavonia Avenue	7	23	30	14	96	52	133	89
7	JFK Boulevard at Pavonia Avenue to Baldwin Avenue at Laidlaw Avenue	5	17	29	23	52	56	86	96
8	Baldwin Avenue at Laidlaw Avenue to Central Avenue at Franklin Street	2	11	4	37	4	40	10	88
9	Central Avenue from Franklin Street to Bleeker Street	1	6	3	35	24	96	28	137
10	Central Avenue at Bleeker Street to Paterson Plank Road at 5th Street in Union City	0	4	0	17	0	80	0	101
SOUTHBOUND BUSES									
1		3	28	0	95	0	62	3	185
2		0	15	8	32	16	12	24	59
3		0	23	16	71	0	57	16	151
4		16	88	24	245	18	62	58	395
5		40	10	119	142	82	70	241	222
6		15	30	95	279	16	61	126	370
7		20	60	198	205	41	49	259	314
8		83	25	158	24	12	33	253	82
9		50	8	340	47	111	21	501	76
10		60	0	182	0	131	0	373	0

Table A-19

CENTRAL AVENUE IBOA TO CNJ FERRY TERMINAL

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00 - 9:00 A.M.) On	A.M. PEAK (6:00 - 9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00 - 6:00 P.M.) On	P.M. PEAK (3:00 - 6:00 P.M.) Off	TOTAL (6:00 A.M.-6:00 P.M.) On	TOTAL (6:00 A.M.-6:00 P.M.) Off
NORTHBOUND BUSES									
1	CNJ Terminal to Johnston Avenue at New Jersey Turnpike	11	0	0	0	0	0	11	0
2	Johnston Avenue at New Jersey Turnpike to Communipaw Avenue at Garfield Avenue	96	5	70	10	80	0	246	15
3	Communipaw Avenue at Garfield Avenue to Summit Avenue at Montgomery Street	305	50	198	108	103	23	606	181
4	Summit Avenue at Montgomery Street to Bergen Avenue at High Street	77	275	162	190	91	80	330	545
5	Bergen Avenue at High Street to JFK Boulevard at Pavonia Avenue	82	137	90	50	120	28	292	215
6	JFK Boulevard at Pavonia Avenue to Baldwin Avenue at Laidlaw Avenue	60	33	190	95	80	85	330	213
7	Baldwin Avenue at Laidlaw Avenue to Central Avenue at Franklin Street	22	66	95	134	51	103	168	303
8	Central Avenue from Franklin Street to Bleeker Street	16	22	84	140	28	98	128	260
9	Central Avenue at Bleeker Street to Paterson Plank Road at 5th St. in Union City	0	81	0	162	0	136	0	379
SOUTHBOUND BUSES									
1		0	69	0	0	0	40	0	109
2		17	95	0	75	0	106	17	276
3		17	77	15	60	0	125	32	262
4		42	34	75	120	232	106	349	260
5		52	86	42	42	66	26	160	154
6		43	163	57	75	92	92	192	330
7		52	0	51	24	13	26	116	50
8		60	0	84	6	125	27	269	33
9		241	0	78	0	20	0	339	0

Table A-20

DOWNTOWN BUS COMPANY #5

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	A.M. PEAK (6:00-9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00-6:00 P.M.) On	P.M. PEAK (3:00-6:00 P.M.) Off	TOTAL (6:00 A.M. 6:00 P.M.) On	TOTAL (6:00 A.M. 6:00 P.M.) Off
EASTBOUND BUSES									
1	From Journal Square to JFK Boulevard at Pavonia Avenue	353	0	336	0	258	0	947	0
2	From JFK Boulevard at Pavonia Avenue to Newark Avenue at Summit Avenue	23	0	29	14	4	0	56	14
3	Newark Avenue from Summit Avenue to Palisade Avenue	46	0	72	14	49	0	167	14
4	From Newark Avenue at Palisade Avenue to Hoboken Avenue at Coles Street	0	68	14	19	16	0	30	87
5	From Hoboken Avenue at Coles Street to City Line	68	34	48	115	37	82	153	231
6	On Bus Outside Study Area	—	388	—	337	—	282	—	1,007
WESTBOUND BUSES									
1		0	260	0	277	0	221	0	758
2		5	0	0	20	5	43	10	63
3		16	78	20	59	0	72	36	209
4		5	21	14	11	24	14	43	46
5		42	31	50	31	58	38	150	100
6		322	—	314	—	301	—	937	—

Table A-21

DOWNTOWN BUS COMPANY #6

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION		ROUND TRIP							
		A.M. PEAK (6:00-9:00 A.M.)		MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.)		P.M. PEAK (3:00-6:00 P.M.)		TOTAL (6:00 A.M.-6:00 P.M.)	
Number	Limits	On	Off	On	Off	On	Off	On	Off
1	From Journal Square to JFK Boulevard at Pavonia Avenue	475	0	168	0	34	0	677	0
2	From JFK Boulevard at Pavonia Avenue to Newark Avenue at Oakland Avenue	57	0	53	0	22	3	132	3
3	From Newark Avenue at Oakland Avenue to Jersey Avenue at 12th Street	57	0	5	0	19	0	81	0
4	From Jersey Avenue at 12th Street to Grove Street at 12th Street	19	371	10	72	22	34	51	477
4		133	219	226	154	155	34	514	407
3		38	19	0	34	6	19	44	72
2		0	38	5	49	0	47	5	134
1		0	132	0	158	0	121	0	411

NOTE: Section 4 is a loop along Jersey Avenue, 16th Street, Grove Street, and 8th Street in the Downtown area.

Table A-22

HUDSON BUS TRANSPORTATION COMPANY #2 TO SECAUCUS

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION		A.M. PEAK (6:00-9:00 A.M.)		MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.)		P.M. PEAK (3:00-6:00 P.M.)		TOTAL (6:00 A.M.-6:00 P.M.)	
Number	Limits	On	Off	On	Off	On	Off	On	Off
NORTHBOUND									
1	Journal Square to JFK Boulevard at Van Reipen Avenue	414	0	204	0	154	0	772	0
2	JFK Boulevard and Van Reipen Avenue to Tonnele Avenue and Cliff Street	28	0	8	8	17	0	53	8
3	Tonnele Avenue and Cliff Street to City Line	55	7	64	44	25	42	144	93
4	On Bus Outside Study Area	—	490	—	224	—	154	—	868
SOUTHBOUND									
1		0	181	0	99	0	227	0	507
2		0	7	0	12	0	37	0	56
3		56	0	37	19	76	32	169	51
4		132	—	93	—	220	—	445	—

Table A-23

LAFAYETTE AND GREENVILLE TO JOURNAL SQUARE

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	A.M. PEAK (6:00-9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00-6:00 P.M.) On	P.M. PEAK (3:00-6:00 P.M.) Off	TOTAL (6:00 A.M.-6:00 P.M.) On	TOTAL (6:00 A.M.-6:00 P.M.) Off
NORTHBOUND BUSES									
1	Terminal near Bayonne City Line to Ocean Avenue at Stevens Avenue	107	0	115	9	77	8	299	17
2	Ocean Avenue from Stevens Avenue to Myrtle Avenue	202	9	212	28	86	15	500	52
3	Ocean Avenue from Myrtle Avenue to Bramhall Avenue	73	34	124	37	84	23	281	94
4	Ocean Avenue at Bramhall Avenue to Summit Avenue at Montgomery Street	30	95	42	101	23	47	95	243
5	Summit Avenue from Montgomery Street to High Street	4	95	0	120	0	38	4	253
6	Summit Avenue at High Street to Journal Square	0	183	0	198	0	139	0	520
SOUTHBOUND BUSES									
1		0	79	0	80	0	84	0	243
2		40	10	4	113	0	57	44	180
3		24	12	17	88	0	114	41	214
4		11	3	76	59	99	64	186	126
5		8	3	97	8	64	0	169	11
6		24	0	154	0	156	0	334	0

Table A-24

LAFAYETTE AND GREENVILLE IBOA TO EXCHANGE PLACE

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION		A.M. PEAK (6:00-9:00 A.M.)		MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.)		P.M. PEAK (3:00-6:00 P.M.)		EVENING OFF-PEAK (6:00-10:00 P.M.)		TOTAL (6:00 A.M.-10:00 P.M.)	
Number	Limits	On	Off	On	Off	On	Off	On	Off	On	Off
NORTHBOUND BUSES											
1	Terminal Near Bayonne City Line to Ocean Avenue at Stevens Avenue	230	0	353	37	88	0	21	0	692	37
2	Ocean Avenue from Stevens Avenue to Myrtle Avenue	164	0	260	65	132	11	103	0	659	76
3	Ocean Avenue from Myrtle Avenue to Bramhall Avenue	180	0	177	102	77	88	21	62	455	252
4	Ocean Avenue at Bramhall Avenue to Pacific Avenue at New Jersey Turnpike	344	115	270	214	165	110	62	41	841	480
5	Pacific Avenue at New Jersey Turnpike to Jersey Avenue at Montgomery Street	0	66	0	93	0	11	21	0	21	170
6	Jersey Avenue at Montgomery Street to Henderson Avenue at Mercer Street	0	541	0	363	0	220	0	104	0	1,228
7	Henderson Avenue at Mercer Street to Exchange Place	0	196	0	186	0	22	0	21	0	425
SOUTHBOUND BUSES											
1		25	457	0	371	65	516	0	372	90	1,716
2		203	165	124	258	43	581	200	229	570	1,233
3		127	51	67	143	194	430	0	57	388	681
4		140	241	219	190	602	645	57	57	1,018	1,133
5		114	13	29	19	108	22	0	0	251	54
6		254	0	447	29	903	0	343	0	1,947	29
7		64	0	124	0	279	0	115	0	582	0

Table A-25

MONTGOMERY AND WEST SIDE IBOA

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	A.M. PEAK (6:00-9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00-6:00 P.M.) On	P.M. PEAK (3:00-6:00 P.M.) Off	EVENING OFF-PEAK (6:00-10:00 P.M.) On	EVENING OFF-PEAK (6:00-10:00 P.M.) Off	TOTAL (6:00 A.M.-10:00 P.M.) On	TOTAL (6:00 A.M.-10:00 P.M.) Off
NORTHBOUND BUSES											
1	Terminal at Danforth Avenue to West Side Avenue at Audubon Avenue	227	0	164	0	45	0	48	0	484	0
2	West Side Avenue from Audubon Avenue to Boyd Avenue	579	25	136	27	78	14	0	7	793	73
3	West Side Avenue from Boyd Avenue to Kensington Avenue	706	100	209	27	72	16	13	27	1,000	170
4	West Side Avenue at Kensington Avenue to Montgomery Street at Summit Avenue	554	76	327	136	196	75	45	6	1,122	293
5	Montgomery Street from Summit Avenue to New Jersey Turnpike	252	201	9	118	211	45	27	13	499	377
6	Montgomery Street from New Jersey Turnpike to Jersey Avenue	453	178	72	100	45	105	0	20	570	403
7	Montgomery Street from Jersey Avenue to Henderson Street	76	1,083	18	364	0	226	0	36	94	1,709
8	Montgomery Street from Henderson Street to Exchange Place	0	1,184	0	163	0	166	0	24	0	1,537
SOUTHBOUND BUSES											
1		0	156	0	160	0	259	0	14	0	589
2		0	99	19	244	32	456	0	21	51	820
3		0	14	113	160	32	228	0	56	145	458
4		0	85	198	395	114	456	0	70	312	1,006
5		99	127	179	85	97	97	42	49	417	358
6		127	28	150	19	211	32	35	35	523	114
7		170	0	282	19	456	0	105	0	1,013	19
8		113	0	141	0	586	0	63	0	903	0

Table A-26

NORTH HUDSON BOULEVARD #1 TO NUNGESSERS

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION Number	Limits	A.M. PEAK (6:00-9:00 A.M.) On	A.M. PEAK (6:00-9:00 A.M.) Off	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) On	MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.) Off	P.M. PEAK (3:00-6:00 P.M.) On	P.M. PEAK (3:00-6:00 P.M.) Off	TOTAL (6:00 A.M.-6:00 P.M.) On	TOTAL (6:00 A.M.-6:00 P.M.) Off
NORTHBOUND BUSES									
1	From Journal Square to JFK Boulevard and Newark Avenue	369	0	833	0	1,123	0	2,325	0
2	JFL Boulevard from Newark Avenue to Manhattan Avenue	85	14	42	178	16	109	143	301
3	JFK Boulevard from Manhattan Avenue to Bleeker Street	43	14	110	170	47	203	200	387
4	JFK Boulevard from Bleeker Street to City Line	57	28	34	119	62	250	153	397
5	On Bus Outside Study Area	—	498	—	552	—	686	—	1,736
SOUTHBOUND BUSES									
1		73	36	0	668	0	510	73	1,214
2		73	127	53	85	28	174	154	386
3		0	91	138	64	56	62	194	217
4		0	1,310	117	95	90	151	207	1,556
5		1,418	—	604	—	723	—	2,745	—

Table A-27

SOUTH HUDSON COUNTY BOULEVARD IBOA

Typical Weekday Ridership

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

SECTION		LOCAL SERVICE								EXPRESS SERVICE	
		A.M. PEAK (6:00-9:00 A.M.)		MID-DAY OFF-PEAK (9:00 A.M.-3:00 P.M.)		P.M. PEAK (3:00-6:00 P.M.)		TOTAL (6:00 A.M.-6:00 P.M.)		(6:00 - 9:00 A.M.)	
Number	Limits	On	Off	On	Off	On	Off	On	Off	On	Off
NORTHBOUND BUSES											
1	Terminal at 1st Street in Bayonne to JFK Boulevard at 7th Street	89	0	293	0	519	0	901	0	163	0
2	JFK Boulevard from 7th Street to 16th Street	257	10	439	73	1,463	0	2,159	83	143	0
3	JFK Boulevard from 16th Street to 32nd Street	228	30	456	220	614	519	1,298	769	388	0
4	JFK Boulevard from 32nd Street to 48th Street	208	10	403	108	236	708	847	826	82	0
5	JFK Boulevard from 48th Street to Bayonne-Jersey City Line	158	129	110	73	189	378	457	580	184	0
6	JFK Boulevard from Bayonne-Jersey City Line to Stevens Avenue	436	0	336	112	283	330	1,055	442	188	20
7	JFK Boulevard from Stevens Avenue to Culver Avenue	159	157	476	146	236	226	871	529	81	0
8	JFK Boulevard from Culver Avenue to Clendenny Avenue	58	26	256	36	142	241	456	303	102	0
9	JFK Boulevard from Clendenny Avenue to Fairview Avenue	139	331	220	148	47	335	406	814	160	20
10	JFK Boulevard from Fairview Avenue to Tonnele Avenue	109	118	73	474	0	190	182	782	60	20
11	JFK Boulevard from Tonnele Avenue to Journal Square	0	1,030	0	1,672	0	802	0	3,504	0	1,491
SOUTHBOUND BUSES										(3:00-6:00 P.M.)	
										On	Off
1		0	401	0	483	0	168	0	1,052	0	163
2		0	642	21	252	67	202	88	1,096	0	87
3		80	163	231	525	164	438	475	1,126	0	240
4		38	40	207	315	172	270	417	625	0	218
5		241	318	168	378	36	67	445	763	0	109
6		243	0	126	861	34	370	403	1,231	0	0
7		281	286	213	294	163	607	657	1,187	0	0
8		160	324	273	168	135	303	568	795	0	0
9		321	276	672	231	133	202	1,126	709	0	0
10		120	157	462	126	173	135	755	418	0	0
11		1,123	0	1,302	42	1,685	0	4,110	42	817	0

Appendix Table 28

BUS SERVICE SURVEY

NEW JERSEY PUBLIC TRANSPORTATION STUDY

Urban Core - Jersey City and Bayonne

Wilbur Smith and Associates is conducting a study for the New Jersey Department of Transportation on methods of improving bus service in your area. The questions listed below are for the purpose of having you record how you feel about the present bus system. Your responses will help us pinpoint the areas where changes and improvements might be made. Please fill this questionnaire and return it to your group representative.

Thank you for your cooperation.

1. Through what group or association did you receive this questionnaire?

   _____

2. What is your present home address?

   _____

3. When did you last ride a bus?

   _____

4. What route?_____

5. What time?_____

6. What was your destination?_____

   _____

7. How far did you have to walk to the bus stop?_____

8. How long did you wait?_____

9. Do you know the bus schedule?_____

10. Was shelter available at the bus stop?_____

11. What was the fare?_____

12. Could you have used different bus route?_____

13. Which of the following influenced your choice:

    a. Fare?_____

    b. Service frequency or waiting time?_____

    c. Seat availability? _____

    d. Bus condition?_____

    e. Comfort or smoothness of ride?_____

    f. Courteous driver?_____

    g. Bus is closest to home?_____

    h. Other?_____
    _____

14. When did you last use a cab?_____
    How long did you wait?_____

15. Did you phone for a cab?_____
    How long did you wait? _____

16. How many cars in household?_____

17. How many persons in household?_____

18. How many household persons are employed? _____

19. What is the longest distance or time acceptable to you to walk to the bus stop? Check one:

    a. Two blocks or less _____
    b. Over two blocks but less than five minutes _____
    c. Five to ten minutes _____
    d. Over 10 minutes _____

20. How long would you wait for a bus? Check one:

    a. Under five minutes _____
    b. Five to ten minutes _____
    c. Ten to 15 minutes _____
    d. Over 15 minutes _____

Appendix Table 28 (Cont.)

21. What is the longest travel time difference between bus and passenger vehicle acceptable to you? Check one:

a. Bus must be faster _____
b. Bus must be as fast as passenger vehicle _____
c. Bus can be up to five minutes slower _____
d. Bus can be ten minutes slower _____
e. Bus can be twenty minutes slower _____
f. Bus can be over twenty minutes slower _____

22. What is highest one-way fare you would accept? _____

23. Would you take a bus in bad weather if no shelter is available at bus stop? _____

24. How often and under what circumstances would you travel by bus if service is acceptable? Check one:

a. Everyday _____
b. Only when carpool driver is sick or late _____
c. Only when car is being repaired _____
d. Only if price of gas is increased by $1.00 per gallon _____
e. Only if gas is rationed _____
f. Only if parking costs increase by $1.00 per day _____
g. Only if buses are free and parking increases _____

25. Please check strong and weak points of present bus system:

	STRONG	WEAK
a. Route destination	_____	_____
b. Bus age and condition	_____	_____
c. Availability of seats	_____	_____
d. Courteous drivers	_____	_____
e. Near to home	_____	_____
f. Low fares	_____	_____
g. Frequent service		
Peak hours	_____	_____
Off-peak hours	_____	_____

26. In what areas does the existing system need improvements?

_____

_____

_____

Appendix Table 29

SENIOR CITIZEN QUESTIONNAIRE

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

This survey is for the purpose of improving bus transportation in your community. Your answers to these questions will help us determine your needs. Thank you.

1. What is your home address?_____

_____

2. Do you have a car available for your use?_____

3. Where do you like to go shopping? (Give address or location)

_____

On what days?_____

During what hours?_____

4. Where do you like to go for recreation? (Give address or location)

_____

On what days?_____

During what hours?_____

5. Where do you usually go to the doctor, dentist or clinic? (Give address or location)_____

_____

On what days?_____

During what hours?_____

6. What other transportation needs do you have? (Please give location, days, and hours)

_____

_____

_____

_____

Appendix Table 30

INTERNAL URBAN CORE PERSON TRIP INTERCHANGE
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

TRIPS BETWEEN	PERSON TRIPS BY MODE. Bus Transit	Auto Driver	Other	Total	PER CENT BUS TRANSIT
South Bayonne and					
North Bayonne	4,845	10,210	6,768	21,823	22.2
Greenville	436	1,013	211	1,660	26.3
West Side	--	438	1,239	1,677	----
Bergen	337	666	119	1,122	30.1
Lafayette	--	105	--	105	----
Journal Square - Marion	449	656	419	1,524	29.5
Downtown	347	686	338	1,371	25.3
Hudson	113	428	113	654	17.3
TOTAL	6,527	14,202	9,207	29,936	21.8
North Bayonne and					
Greenville	650	2,996	1,290	4,936	13.2
West Side	678	1,363	675	2,716	25.0
Bergen	329	2,253	114	2,696	12.2
Lafayette	--	449	448	897	----
Journal Square-Marion	1,506	2,318	323	4,147	36.3
Downtown	678	1,944	1,133	3,755	18.1
Hudson	228	916	--	1,144	19.9
TOTAL	4,069	12,239	3,983	20,291	20.1

(continued)

Appendix Table 30 (Cont.)

TRIPS BETWEEN	PERSON TRIPS BY MODE				PER CENT BUS TRANSIT
	Bus Transit	Auto Driver	Other	Total	
Greenville and					
West Side	789	3,342	776	4,907	16.1
Bergen	3,055	6,740	3,181	12,976	23.5
Lafayette	115	228	115	458	25.1
Journal Square	1,463	3,249	1,809	6,521	22.4
Downtown	804	2,576	916	4,296	18.7
Hudson	337	1,024	109	1,470	22.9
TOTAL	6,563	17,159	6,906	30,628	21.4
West Side and					
Bergen	1,555	3,960	2,342	7,857	19.8
Lafayette	448	573	228	1,249	35.9
Journal Square	4,322	3,142	1,370	8,834	48.9
Downtown	800	1,012	796	2,608	30.7
Hudson	218	2,040	785	3,043	7.2
TOTAL	7,343	10,727	5,521	23,591	31.1
Bergen and					
Lafayette	2,050	1,125	573	3,748	54.7
Journal Square	8,889	6,729	3,435	19,053	46.6
Downtown	3,540	5,677	1,259	10,476	33.8
Hudson	2,506	3,055	1,135	6,696	37.4
TOTAL	16,985	16,586	6,402	39,973	42.5

(continued)

Appendix Table 30 (Cont.)

TRIPS BETWEEN	PERSON TRIPS BY MODE				PER CENT BUS TRANSIT
	Bus Transit	Auto Driver	Other	Total	
Lafayette and					
Journal Square	906	2,484	230	3,620	25.0
Downtown	2,041	1,700	337	4,078	50.0
Hudson	460	999	--	1,459	31.5
TOTAL	3,407	5,183	567	9,157	37.2
Journal Square and					
Downtown	7,631	4,067	1,709	13,407	56.9
Hudson	5,800	8,232	4,305	18,337	31.6
TOTAL	10,949	12,299	8,496	31,744	34.5
Downtown and					
Hudson	914	2,478	1,822	5,214	-17.5
TOTAL	56,757	90,873	42,904	190,534	-29.8

(continued)

Appendix Table 30 (Cont.)

INTRA-ZONAL PERSON TRIPS

	PERSON TRIPS BY MODE				PER CENT BUS TRANSIT
	Bus Transit	Auto Driver	Other	Total	
South Bayonne	2,319	5,027	1,164	8,510	27.2
North Bayonne	2,526	14,194	4,869	21,589	11.7
Greenville	--	4,381	1,121	5,502	----
West Side	901	3,261	684	4,846	18.6
Bergen	4,218	9,900	3,280	17,398	24.2
Lafayette	--	1,339	230	1,569	--
Journal Square	4,362	5,190	2,486	12,038	36.2
Downtown	1,909	3,426	1,710	7,045	27.1
Hudson	1,938	7,707	7,029	16,674	11.6
TOTAL	18,173	54,425	22,573	95,171	19.1

SOURCE: 1963-64 Tri-State Regional Planning Commission Transportation Study.

Appendix Table 31

TRANSFER MOVEMENTS BETWEEN ZONES
New Jersey Public Transportation Study
Urban Core - Jersey City and Bayonne

MOVEMENT	ROUTES	F2	F1	F2/F1	P2/P1	ORIGINAL TRIP INTERCHANGE (1)	ESTIMATED ADDITIONAL TRANSIT TRIPS
Bayonne-West Side	So. Hudson Blvd.-TNJ 1	65	95	.68	1.10		
	So. Hudson Blvd.-A&C	65	90	.72	1.08		
	TNJ 14 - TNJ 1	65	65	1.00	1.00		
	TNJ 14 - A&C	65	90	.72	1.08		
	Broadway - So. Hudson - A&C	75	105	.71	1.09		
	Broadway - So. Hudson - TNJ 1	75	110	.68	1.10	678	70
Bayonne-Bergen	TNJ 14-Bergen Ave.	65	90	.72	1.08		
	TNJ 14-Central Ave.	65	90	.72	1.08		
	Broadway - So. Hudson	65	70	.93	1.02		
	Broadway - Bergen Ave.	65	70	.93	1.02	666	33
Bayonne-Lafayette	TNJ 14- L&G	65	90	.72	1.08		
	TNJ 14- A&C	65	90	.72	1.08		
	So. Hudson-A&C	65	90	.72	1.08		
	So. Hudson-TNJ 1	65	90	.72	1.08		
	Broadway-So. Hudson - A&C	75	105	.71	1.09		
	Broadway-Bergen Ave.-L&G	75	105	.71	1.09	0	0

(continued)

Appendix Table 31 (Cont.)

MOVEMENT	ROUTES	F2	F1	F2/F1	P2/P1	ORIGINAL TRIP INTERCHANGE (1)	ESTIMATED ADDITIONAL TRANSIT TRIPS
Bayonne-Journal Square	TNJ 14						
	-Bergen Ave.	65	90	.72	1.08		
	-Central Ave.	65	90	.72	1.08		
	-So. Hudson Blvd.	65	90	.72	1.08		
	Broadway						
	-Bergen Ave.	65	70	.93	1.02		
	-So. Hudson Blvd.	65	70	.93	1.02	1,955	98
Bayonne-Downtown	TNJ 14 - L&G So. Hudson Blvd.	65	75	.87	1.04		
	- TNJ 9	65	80	.81	1.06		
	- Downtown	65	90	.72	1.08		
	- M & W	65	90	.72	1.08		
	Broadway - TNJ 14X	65	90	.72	1.08		
	Broadway - So. Hudson-TNJ 9	75	130	.58	1.14	975	68
Bayonne-Hudson	TNJ 14						
	- Central Ave.	65	90	.72	1.08		
	- Bergen Ave.-No. Hudson Blvd.	75	110	.68	1.10		
	- So. Hudson Blvd.-No. Hudson Blvd.	75	110	.68	1.10		
	TNJ 14-7-44	75	75	1.00	1.00		
	- No. Hudson Blvd.	75	115	.65	1.11		
	Broadway						
	- Bergen Ave.-Central	75	105	.71	1.09		
	- No. Hudson	75	105	.71	1.09		
	- 44	75	105	.71	1.09		

(continued)

Appendix Table 31 (Cont.)

MOVEMENT	ROUTES	F2	F1	F2/F1	P2/P1	ORIGINAL TRIP INTERCHANGE (1)	ESTIMATED ADDITIONAL TRANSIT TRIPS
Bayonne-Hudson (Cont.)	So. Hudson						
	- TNJ 44	65	95	.68	1.10		
	- No. Hudson	65	95	.68	1.10		
	- Central Ave.	65	90	.72	1.08		
	- TNJ 7	65	95	.68	1.10	341	31
Greenville-West Side	TNJ 7 - A & C	50	75	.67	1.11		
	- TNJ 1	50	50	1.00	1.00		
	TNJ 9 - A & C	50	75	.67	1.11		
	- TNJ 1	50	50	1.0	1.00		
	So. Hudson Blvd.-						
	- A & C	50	75	.67	1.11		
	- TNJ 1	50	80	.63	1.12		
	Bergen Ave.						
	- A & C	50	70	.71	1.09		
	- TNJ 1	50	75	.67	1.11		
	L & G						
	- A & C	50	70	.71	1.09		
	- TNJ 1	50	75	.67	1.11		
	Central Ave.						
	- A & C	50	70	.71	1.09		
	- TNJ 1	50	75	.67	1.11	789	79
Greenville-Lafayette	TNJ 7 - TNJ 1	50	50	1.00	1.00		
	TNJ 9 - TNJ 1	50	50	1.00	1.00		
	Central Ave.-						
	L & G	50	70	.71	1.09		
	So. Hudson Blvd.-						
	TNJ 1	50	80	.63	1.12		
	So. Hudson Blvd. -						
	Central Ave.	50	75	.67	1.11	115	12

(continued)

Appendix Table 31 (Cont.)

MOVEMENT	ROUTES	F2	F1	F2/F1	P2/P1	ORIGINAL TRIP INTERCHANGE (1)	ESTIMATED ADDITIONAL TRANSIT TRIPS
Greenville-Downtown	Bergen Ave.						
	- M & W	50	70	.71	1.09		
	Central Ave.						
	- M & W	50	70	.71	1.09		
	- L & G	50	70	.71	1.09		
	- TNJ 9	50	75	.67	1.11		
	- Downtown	50	70	.71	1.09		
	TNJ 7	50	75	.67	1.11		
	So. Hudson Blvd.	50	75	.67	1.11	804	80
Greenville-Hudson	TNJ - Ind.	50	75	.67	1.11		
	TNJ - No. Hudson	50	80	.63	1.12		
	Ind. - Ind.	50	70	.71	1.09		
	TNJ - TNJ	50	50	1.00	1.00	337	34
West Side-Bergen	A & C						
	- So.Hudson Blvd.	50	75	.67	1.11		
	- Bergen Ave.	50	70	.71	1.09		
	- TNJ 7	50	75	.67	1.11		
	- L & G	50	70	.71	1.09		
	- Central Ave.	50	70	.71	1.09		
	- TNJ 9	50	75	.67	1.11		
	TNJ 1 - above routes	50	75	.67	1.11	1,555	156
West Side-Lafayette	TNJ 1 - Central	50	75	.67	1.11		
	- L & G	50	75	.67	1.11		
	A & C - Central	50	70	.71	1.09		
	- L & G	50	70	.71	1.09	448	45
West Side Downtown	A & C - TNJ 9	50	75	.67	1.11		
	- M & W	50	70	.67	1.11		
	- Downtown	50	70	.71	1.09	800	80

(continued)

Appendix Table 31 (Cont.)

MOVEMENT	ROUTES	F2	F1	F2/F1	P2/P1	INTERCHANGE (1)	ESTIMATED ADDITIONAL TRANSIT TRIPS
West Side - Hudson	A & C						
	- North Hudson Blvd.	50	75	.67	1.11		
	- TNJ 44	50	75	.67	1.11		
	- Central Ave.	50	70	.71	1.09		
	- TNJ 7	50	75	.67	1.11		
	TNJ 1 - above routes	50	80	.63	1.12		
		50	50	1.00	1.00		
		50	75	.67	1.11		
		50	50	1.00	1.00	218	22
Bergen-Lafayette	TNJ 9 - L & G	50	75	.67	1.11		
	M & W - Central	50	70	.71	1.09		
	So. Hudson Blvd.	50	75	.67	1.11		
		50	75	.67	1.11		
	Bergen Ave.	50	70	.71	1.09		
		50	70	.71	1.09		
	TNJ 7	50	75	.67	1.11		
		50	75	.67	1.11		
	L & G	50	70	.71	1.09	2,050	205
Bergen-Downtown	So. Hudson Blvd. - TNJ 9	50	80	.63	1.12		
	Bergen Ave. - Downtown	50	70	.71	1.09		
	TNJ 7 - M & W	50	75	.67	1.11		
	Central Ave. - L & G	50	70	.71	1.09	3,540	354

(continued)

Appendix Table 31 (Cont.)

MOVEMENT	ROUTES	F2	F1	F2/F1	P2/P1	ORIGINAL TRIP INTERCHANGE (1)	ESTIMATED ADDITIONAL TRANSIT TRIPS
Bergen-Hudson	TNJ 9 - No. Hudson	50	80	.63	1.12		
	M & W - TNJ 44	50	75	.67	1.11		
	So. Hudson - Central Ave.	50	70	.71	1.09		
	Bergen Ave. - TNJ 7	50	75	.67	1.11	2,506	251
Lafayette-Journal Square							
Lafayette-Hudson	Central Ave. - No. Hudson Blvd.	50	75	.67	1.11		
	L & G - TNJ 44	50	75	.67	1.11		
	- TNJ 7	50	75	.67	1.11		
	- Central Ave.	50	70	.71	1.09	460	46
Journal Square-Downtown	(See Bergen-Downtown)	50	80	.63	1.12		
		50	70	.71	1.09		
		50	75	.67	1.11	7,631	763
Journal Square-Hudson	(See Bergen-Hudson)	50	80	.63	1.12		
		50	75	.67	1.11		
		50	70	.71	1.09	5,800	580
Downtown-Hudson	TNJ 9 - No. Hudson Blvd.	50	80	.63	1.12		
	Downtown - TNJ 44	50	75	.67	1.11		
	TNJ 31 - Central Ave.	50	75	.67	1.11		
	TNJ 31 - TNJ 7	50	50	1.00	1.00	914	91
	TOTAL					32,582	3,098

(1) Original volume based on 1963-64 zone-to-zone data.

Appendix Table 32

1976 BUS FLEET INVENTORY

New Jersey Public Transportation Study

Urban Core - Jersey City and Bayonne

COMPANY/ROUTE		PRIOR TO 1955	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	TOTAL
Transport of New Jersey	#1	-	-	-	-	-	-	-	-	-	6	-	4	3	-	-	1	8	-	-	-	-	-	22
	#7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	1	-	-	-	-	-	7
	#9	-	-	-	-	-	-	-	-	1	-	-	-	-	-	12	-	3	-	-	-	-	-	16
	#14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	5	-	-	-	-	-	14
	#16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	#18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	#31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	#43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	#44	-	-	-	-	-	-	-	-	-	-	-	-	2	-	19	-	-	-	-	-	-	-	21
	#124	-	-	-	-	-	-	-	-	-	-	-	-	1	-	5	1	-	-	-	-	-	-	7
Subtotal		0	0	0	0	0	0	0	0	1	6	0	4	6	0	55	2	17	0	0	0	0	0	91
A & C IBOA		2	1	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
Bergen Ave. IBOA		4	1	6	-	7	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	2	22
Broadway IBOA		14	2	5	-	1	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
Central Ave. IBOA		2	-	3	-	2	-	1	-	2	3	2	-	5	-	-	1	-	-	1	-	2	-	24
Downtown Bus Co.		-	-	-	-	-	-	-	1	-	2	3	2	1	2	4	-	-	-	-	-	-	-	15
Hudson Bus Transportation Co.		2	1	-	2	2	-	3	1	2	-	3	-	-	-	-	-	-	-	4	-	-	-	20
Lafayette & Greenville IBOA		2	1	3	-	3	-	-	-	-	2	3	3	2	2	-	2	-	-	-	-	-	-	23
Montgomery & West Side IBOA		2	1	8	1	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	15
North Hudson Blvd. IBOA		3	-	1	4	1	1	-	-	1	1	-	10	1	3	1	-	-	-	1	-	-	-	28
South Hudson County Blvd. IBOA		14	5	5	-	-	-	2	5	1	1	-	3	-	-	-	-	-	-	-	-	-	-	36
Subtotal		45	12	33	8	17	4	7	7	7	10	11	21	9	7	5	3	0	0	6	0	2	2	216
TOTAL		45	12	33	8	17	4	7	7	8	16	11	25	15	7	60	5	17	0	6	0	2	2	307

SOURCE: 1973 Public Utilities Commission Reports.
Wilbur Smith and Associates 1976 Surveys.
Transport of New Jersey.