HUNTERDON COUNTY

Public Transportation Study

PHASE I

FINAL REPORT
MAY 1976

NEW JERSEY DEPARTMENT OF TRANSPORTATION

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HUNTERDON COUNTY

PUBLIC TRANSPORTATION STUDY

Phase I

FINAL REPORT

May 1976

New Jersey Department of Transportation
Division of Transportation Systems Planning
Bureau of Common Carrier Planning

IN REPLY PLEASE REFER TO

State of New Jersey

DEPARTMENT OF TRANSPORTATION
1035 PARKWAY AVENUE
TRENTON, NEW JERSEY 08625

ALAN SAGNER
COMMISSIONER

August 30, 1976

Mr. Benjamin B. Kirkland, Director
Hunterdon County Board of Chosen
Freeholders
County Administration Building
Main Street
Flemington, New Jersey 08822

Dear Mr. Kirkland:

We are pleased to submit the Final Report for the Hunterdon County Public Transportation Study, Phase I, pursuant to the Memorandum of Understanding between the Hunterdon County Board of Chosen Freeholders and the New Jersey Department of Transportation, dated September 5, 1975.

This report presents data pertaining to the existing public transit system, analysis of and potential improvements to the system, analysis of specific new services proposed by the Hunterdon County Committee on Public Transportation, discussion of transit marketing, alternatives available for the operation of transit service and funding sources available for financing transit projects.

We would like to express our appreciation to the Committee on Public Transportation, and especially to Joseph N. Solitario, Executive Director, for their willing and continuous support of our efforts in this project.

Very truly yours,

Keith Rosser

Keith Rosser
Director of Transportation
Planning and Research

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SUMMARY OF FINDINGS

Improvements to the Existing System

Evaluation of the existing transit system serving Hunterdon County indicates that overall transit availability, on a County-wide basis, is low. However, where public transit is available, level of service provided is generally consistent with demonstrated levels of current transit usage. Major changes to route structure or frequency of service are not indicated at this time. Likewise, under existing conditions, it does not appear that there is a current level of transit demand within the County that could support extensive new transit services in a reasonably cost effective manner.

With respect to transit facilities and passenger amenities, several potential improvements were identified. It should be noted that in a number of cases the improvements are desirable from an "idealized" point of view but would be difficult to justify on the basis of typical "performance standards" that take into account degree of facility utilization. In general, before investing a substantial sum in high cost-intensive improvements, assuming budgetary constraints, emphasis should be placed on marketing existing services with the goal of maximizing patronage potentials and ultimately permitting cost effective expansion of services as the market for transit service grows. The exception to this "progressive" approach would occur in instances where, for whatever reason, a substantial new transit market, not served by the existing system, came into being and was identified. It is also realized that "cataclysmic"

influences such as a prolonged petroleum shortage and/or very high auto user costs could create a substantial increase in public transit and certain para-transit (car or van pools, etc.) demand. However, the consideration of contingencies associated with such radical influences is beyond the scope of this report.

Proposed Flemington-Raritan Township Weekday Bus Loop

Analysis led to the development of a "composite" route structure consisting of a peak period routing, to primarily serve work oriented trips, and an off-peak route designed to serve non-work (shopping, personal business, social, etc.) related trips. Headways would be 40 minutes for work trip runs and 60 minutes during the remainder of the day. Service would be provided between 7 a.m. and 7 p.m. One bus would be required for operation.

Total projected average weekday patronage was estimated to be in the magnitude of 110 daily round trips, a total of 220 passenger trips. At a fare level of $0.30 per trip, the system would produce a projected annual deficit of between $21,000 and $46,000 based on a range of typical operating cost values.

Although patronage, and therefore revenue, could be increased somewhat through more frequent service, this would require an additional bus. The doubling of operating costs would more than double the annual deficit.

It should be noted that existing local bus systems, especially in non-dense urban areas, are normally deficit operations. This is primarily a result of high labor costs under the prevailing economic climate. The very high ridership that would be needed to totally offset operating costs usually does not exist. Therefore, basing the decision of whether to establish such a local system on whether it will be a break-even operation is, for practical purposes, academic. The real question normally is whether a given expected

deficit will be balanced by the anticipated social benefit. This question must be resolved by the community on both an absolute basis and relative to other community priorities.

Flemington Weekend Shuttle Bus

It was found that the proposal to shuttle weekend tourists between satellite parking areas and Flemington's tourist attractions and consumer areas would not provide a solution to easing congestion on Borough streets under existing conditions; i.e., free adequate parking in the immediate areas of interest. Unless strong parking disincentives were imposed, the approach to easing congestion would lie in public information and traffic engineering type solutions rather than public transit.

It is believed that there would be a market for a weekend tourist bus loop, tying the central tourist area in with peripheral enterprises. However, this service would require a free-fare or nominal-fare policy to be effective and would not have a significant impact on congestion.

New Intra-County Bus Service

The preliminary investigation, of the potential for initiating new bus routes between population centers within the County, indicates that low revenue to cost ratios, i.e., high relative deficits, should be expected with the present transit market. This is not to say that such service would necessarily be non-beneficial to the County. However, before any contemplated service was initiated, it would be wise to more closely identify potential patronage in order that an informed judgement could be made as to whether the social benefit would exceed expected deficits.

CHAPTER I

Hunterdon County Transit Setting

Hunterdon County is located in the northwest portion of New Jersey. It is bordered by the Delaware River and Warren, Morris, Somerset, and Mercer Counties. The County is approximately 65 miles west of New York City at the end of a transit corridor, loosely defined by the Central Railroad of New Jersey Main Line, leading to the New York-Northeastern New Jersey metropolitan area. Figure 1 is a general location map of the County.

I. Population Characteristics

A. General Population

Since 1940, the population of the County has steadily increased. In 1970 the population was 69,718; a 28.9 percent increase from 1960. For the 1960-1970 period, the County had an average annual population increase of 1,561 persons per year and an annualized growth rate of 2.6 percent. During the same period, the State had an annualized growth rate of 1.69 percent. A major portion of the County's growth was due to the spread of residential and industrial development from the adjacent metropolitan areas. The municipalities in closest proximity, and along major connecting roads, to these metropolitan areas experienced the greatest increase in population, resulting from net migration. Figure 2 shows percent change in population from 1950 to 1970, due to net migration, by municipality. Population data for the 1960-1970 period, on a municipal basis, is contained in table 1.

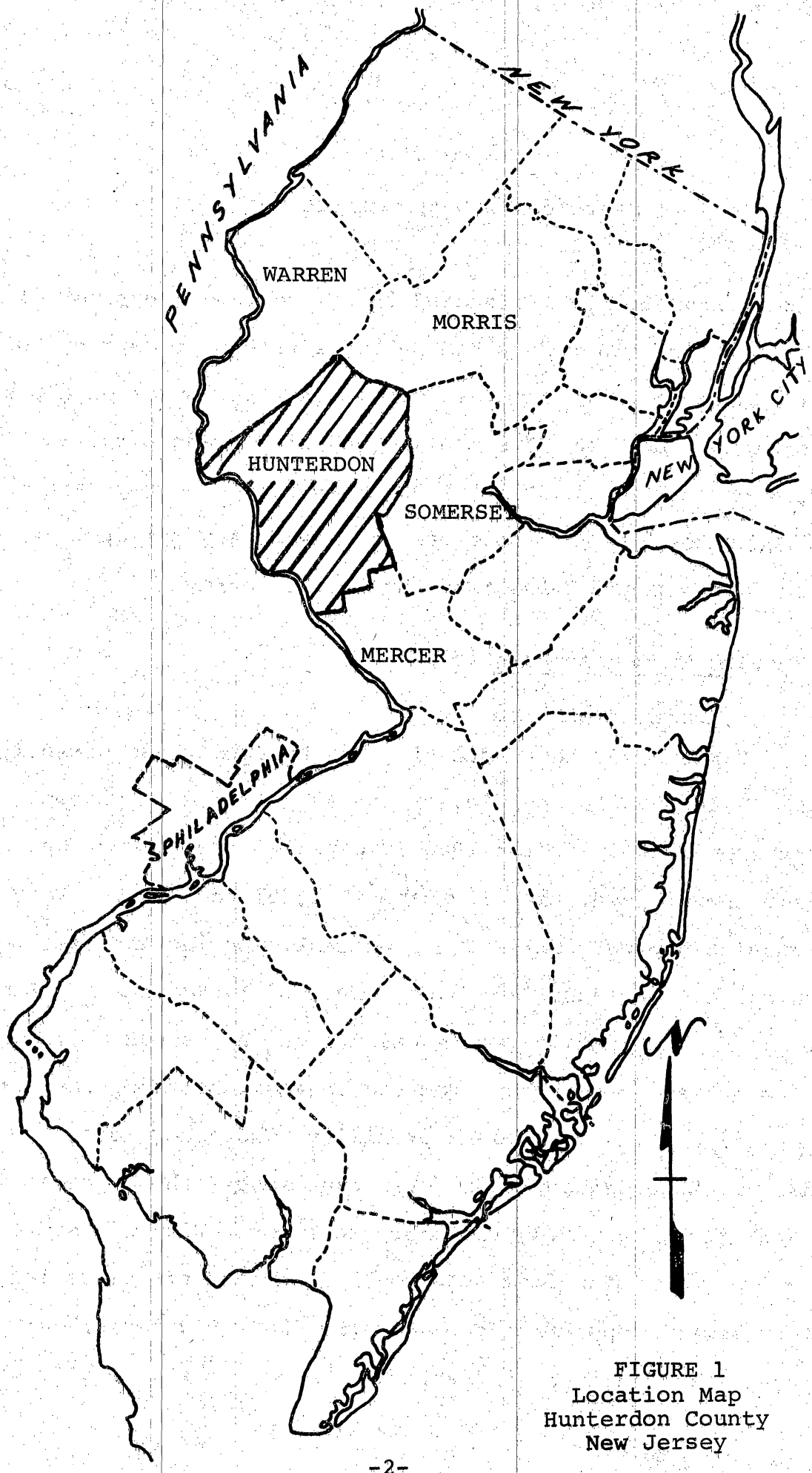


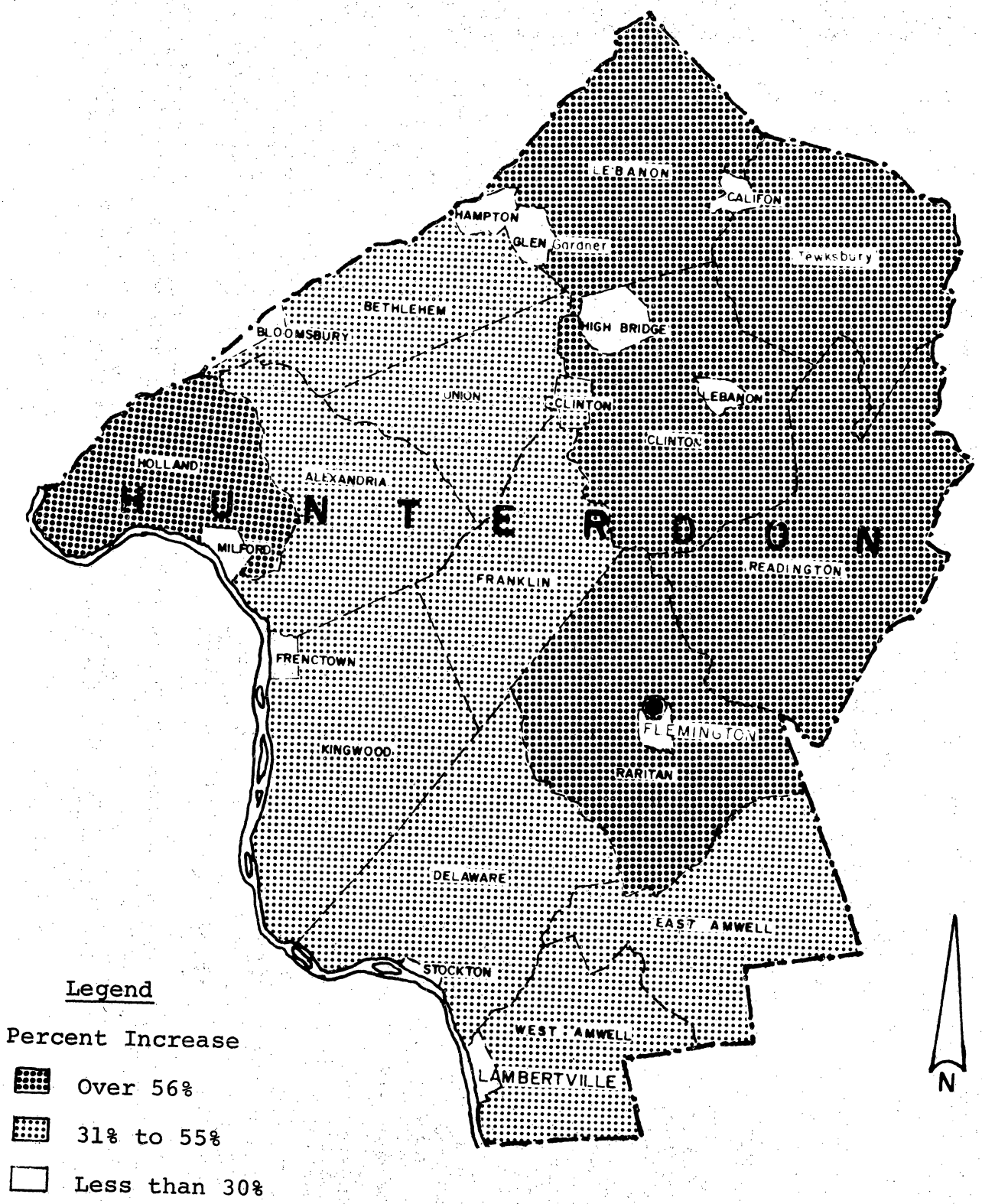
FIGURE 1
Location Map
Hunterdon County
New Jersey

FIGURE 2

HUNTERDON COUNTY PUBLIC TRANSPORTATION STUDY

MUNICIPAL POPULATION CHANGE RESULTING FROM NET MIGRATION

1950 - 1970



Source: Hunterdon Co. Transportation Committee

TABLE 1

Hunterdon County Population By Municipality

MUNICIPALITY	AREA SQ. MI.	POPULATION 1960	POPULATION 1970	EST. 1975	DENSITY 1970	DENSITY 1975	AVG. ANNUAL INCREASE 1960-70	AVG. ANNUAL INCREASE 1970-75	ANNUALIZED GROWTH RATE (%) 1960-70	ANNUALIZED GROWTH RATE (%) 1970-75
Alexandria	28.20	1,629	2,127	2,310	75.4	81.9	50	31	2.70	1.41
Bethlehem	20.60	1,090	1,385	1,605	67.2	77.9	29	43	2.42	2.92
Bloomsbury	0.80	838	879	890	1,098.8	1,112.5	4	2	0.48	0.22
Califon	0.90	777	970	1,040	1,077.8	1,155.6	19	14	2.49	1.41
Clinton Town	1.30	1,158	1,742	1,720	1,340.0	1,323.1	59	-5	4.17	-0.28
Clinton Twp.	30.06	3,770	5,119	5,820	170.3	193.6	135	132	3.11	2.46
Delaware	36.90	2,485	3,249	3,435	88.1	93.1	76	35	2.71	1.05
East Amwell	28.10	1,981	2,568	2,750	91.4	97.9	59	35	2.63	1.33
Flemington	1.10	3,232	3,917	4,035	3,560.9	3,668.2	68	23	2.06	0.58
Franklin	23.30	1,777	2,154	2,260	92.5	97.0	38	21	2.06	0.96
Frenchtown	1.10	1,340	1,459	1,525	1,326.4	1,386.4	12	13	0.85	0.96
Glen Gardner	1.46	787	874	810	598.6	554.8	9	-13	1.06	-0.87
Hampton	1.40	1,135	1,386	1,450	990.0	1,035.7	25	12	2.02	1.45
High Bridge	2.30	2,148	2,606	2,835	1,133.0	1,232.6	46	45	1.95	0.85
Holland	22.70	2,495	3,587	3,885	158.0	171.1	109	57	3.70	1.65
Kingwood	35.60	1,841	2,294	2,425	64.4	68.1	45	26	2.23	1.54
Lambertville	1.10	4,269	4,359	4,390	3,962.7	3,990.9	9	5	0.21	1.11
Lebanon Boro	1.23	880	885	905	719.5	735.8	1	3	0.06	0.33
Lebanon Twp.	31.85	2,841	4,235	4,640	133.0	145.7	139	78	4.08	1.77
Milford	1.30	1,114	1,230	1,305	946.2	1,003.8	12	15	0.99	1.19
Raritan	38.60	4,545	6,934	7,600	179.6	196.9	239	122	4.34	1.70
Readington	47.65	6,147	7,688	8,180	161.3	171.7	154	87	2.52	1.10
Stockton	0.55	520	619	620	1,125.5	1,127.3	10	0	1.76	0.00
Tewksbury	31.80	1,908	2,959	3,230	93.1	101.6	105	50	4.49	0.33
Union	18.10	1,717	2,351	2,530	129.9	139.8	63	35	3.19	1.49
West Amwell	21.60	1,683	2,142	2,280	99.2	105.6	46	24	2.44	1.09
COUNTY TOTAL	429.60	54,107	69,718	74,475	162.3	173.4	1,561	895	2.57	1.26

Note: 1975 Population Estimates are for July 1, 1975. Average Annual Increase and Annualized Growth Rates for the period 1970-1975 were calculated using corresponding July 1, 1970 estimates, rather than April 1970, for consistency.

Source: New Jersey Population Report, Department of Labor and Industry, July 1972
Population Estimates for New Jersey, July 1, 1975, Department of Labor and Industry, December 1975

During the period from 1970 to 1975, the County continued to grow but at a slower rate. The estimated population for July 1, 1975, according to the New Jersey Department of Labor and Industry, was 74,475. For the period from July 1, 1970 to July 1, 1975, the County had an average annual increase in population of 951 persons per year and an annualized growth rate of 1.3 percent. During the same period, the State as a whole had an annualized growth rate of 0.66 percent. County population data for the 1970-1975 period, on a municipal level, is also contained in Table 1.

Although the County's population has been increasing, it still remains almost entirely rural in character. Hunterdon's population ranks nineteenth out of New Jersey's twenty-one counties, in magnitude and its' population density is the second lowest in the State. Although population projections for the year 2000 differ depending upon source of the projection, all indicate continued growth with annualized growth rates ranging from approximately 2.7 percent to 3.9 percent per year. In light of the marked decrease in growth throughout the State during the period 1970-1975, future projections for the year 2000 may be revised downward. However, even assuming the highest rate, the County's overall rural nature will endure over the time period.

B. Elderly and Handicapped

According to the 1970 Census, 10.0 percent of the County population is aged 65 or over; the corresponding Statewide figure being 9.7 percent. Of Hunterdon's elderly population, 18.3 percent are below poverty level according to census definition. Variables entering in the calculation of discrete poverty thresholds by the Bureau of the Census include: family size, sex of family heads, number of children under 18 years old, age of family head for one and two member families and farm and non-farm residence. Thresholds were calculated on a national basis only; i.e., do not reflect variations in the cost of living from place to place. The elderly are scattered fairly uniformly throughout the County based on a comparison of the present elderly of each municipality's total population.

The 1970 Census indicates that 4.6 percent of the County population is disabled or handicapped; the Statewide value being 4.9 percent. These figures are based on the segment of the population defined as those persons having a "health or physical condition which limits the kind or amount of work he can do at a job," and who are, "aged 16 to 64, not inmates and not attending school." By excluding from the count those persons under age 16 or over 64, and those in school or in institutions for the physically or mentally handicapped, the figures understate the true total of disabled or handicapped to a degree. This was unavoidable due to available data. Also, by not counting handicapped persons over 64, the problem of double counting a person who is both elderly and handicapped is eliminated.

Within Hunterdon County, the disabled or handicapped are not distributed uniformly on the basis of the percent handicapped of each municipality's total population; nor is there a clearly defined pattern or geographical grouping of municipalities having high proportions of handicapped in their populations. However, on an absolute numerical basis, the region of the County containing the highest number of handicapped would be the eastern municipalities comprised of Clifton, Readington, Raritan, and East Amwell Townships and Flemington.

Table 2 presents Hunterdon County Elderly and Handicapped population data on a municipal basis.

Table: 2

Hunterdon County Elderly and Handicapped Data
1970

Municipality	Total Population	POPULATION AGED 65 OR OVER			AGED 65 OR OVER BELOW POVERTY			HANDICAPPED *		
		Number of Persons	% of Total Population	% of County Elderly	Number of Persons	% Municipal Elderly	% of County Elderly In Poverty	Number of Persons	% of Total Population	% of County Handicapped
Alexandria	2,127	230	10.8	3.3	72	31.3	5.6	202	9.5	6.3
Bethlehem	1,385	133	9.6	1.9	23	17.3	1.8	85	6.1	2.7
Bloomsbury	879	108	12.3	1.5	5	4.6	.4	21	2.4	.7
Califon	970	77	7.9	1.1	23	29.9	1.8	13	1.3	.4
Clinton Town	1,742	220	12.6	3.2	37	16.8	2.9	72	4.1	2.3
Clinton Twp.	5,119	411	8.0	5.9	44	10.7	3.4	269	5.3	8.4
Delaware	3,249	353	10.9	5.1	64	18.1	5.0	58	1.8	1.8
East Amwell	2,568	247	9.6	3.5	54	21.9	4.2	219	8.5	6.9
Flemington	3,917	580	14.8	8.3	144	24.8	11.2	231	5.9	7.2
Franklin	2,154	231	10.7	3.3	15	6.5	1.2	0	0	0
Frenchtown	1,459	179	12.3	2.6	43	24.0	3.4	49	3.4	1.5
Glen Gardner	874	77	8.8	1.1	12	15.6	.9	16	1.8	0.5
Hampton	1,386	120	8.7	1.7	20	16.7	1.6	54	3.9	1.7
High Bridge	2,606	281	10.8	4.0	50	17.8	3.9	70	2.7	2.2
Holland	3,587	341	9.5	4.9	59	17.3	4.6	135	3.8	4.2
Kingwood	2,294	223	9.7	3.2	49	22.0	3.8	161	7.0	5.0
Lambertville	4,359	556	12.8	8.0	119	21.4	9.3	218	5.0	6.8
Lebanon Boro	885	101	11.4	1.4	15	14.9	1.2	19	2.1	0.6
Lebanon Twp.	4,235	425	10.0	6.1	54	12.7	4.2	224	5.3	7.0
Milford	1,230	129	10.5	1.8	23	17.8	1.8	97	7.9	3.0
Raritan	6,934	609	8.8	8.7	102	16.8	8.0	322	4.6	10.1
Readington	7,688	633	8.2	9.1	117	18.5	9.1	429	5.6	13.4
Stockton	619	70	11.3	1.0	9	12.9	.7	21	3.4	0.7
Tewksbury	2,959	290	9.8	4.2	31	10.7	2.4	18	0.6	0.6
Union	2,351	187	8.0	2.7	45	24.1	3.5	108	4.6	3.4
West Amwell	2,142	176	8.2	2.5	53	30.1	4.1	85	4.0	2.7
Total	69,718	6,995	10.0	100.0	1,282	18.3	100.0	3,196	4.6	100.0

* Aged 16 - 64, not inmates and not attending school.

Source: 1970 U.S. Census

C. Minority Groups

The non-white population of Hunterdon County, not in institutions, was 721 or 1.03 percent of the total population in 1970. Of this group, 74.2 percent were Negroes. On a Statewide basis, non-white residents comprised 11.4 percent of the population with 94.1 percent of these being Negro.

According to the 1970 Census, one-half of the non-white population was located in either Flemington (74) or Lambertville (287), the two urban centers within the County. The remaining non-white population was distributed throughout the County with no apparent pattern of concentration.

II. Employment Characteristics

A. Employment Rates

In 1970, 40.6 percent of the County's total population was classified by the Census as comprising Hunterdon's civilian labor force (52.5 percent and 28.8 percent of the male and female populations respectively). By comparison, the Statewide total was 41.5 percent (53.2 percent and 30.5 percent of the male and female populations respectively). In 1970, the County unemployment rate was 2.1 percent (1.9 percent for males and 2.4 percent for females); considerably below the Statewide average of 3.8 percent (3.1 percent for males and 5.0 percent for females).

For 1975, a year of recessive economic climate, Department of Labor and Industry figures based on federal methodology indicate that 43.6 percent of Hunterdon's total population was in the civilian labor force and that the average unemployment rate was 7.1 percent. Corresponding Statewide figures show 43.6 percent of the total population in the labor force and an unemployment rate of 10.2 percent.

B. Occupations

Evidence of the County's growing suburbanization can be seen through a comparison of the occupational makeup of Hunterdon's labor force in 1960 and 1970. Farm related employment showed a substantial decline in both numerical value and percent of total labor force. All other occupational categories increased in numerical value, but only professional, technical, sales, clerical and related occupations showed percent of total labor force gains due to the disproportionate growth of these occupations relative to other categories. Comparative County occupational data for 1960 and 1970 is presented in Table 3.

TABLE 3

Hunterdon County
Employment By Occupation
1960 & 1970

Occupation	1960 Number	1960 % Total	1970 Number	1970 % Total	Differences In Percent
Professional, Technical Managers, Administrator	4,110	19.8	6,909	24.9	+5.1
Sales, Clerical, and Kindred Workers	3,751	18.1	6,027	21.7	+3.6
Craftsmen, Foremen, and Operatives	7,776	37.5	9,853	35.6	-1.9
Laborers Except Farmers	997	4.8	1,123	4.1	-0.7
Farmers, Farm Managers, Farm Laborers, and Farm Foremen	2,004	9.7	1,086	3.9	-5.8
Service Workers including Private Household Workers	2,103	10.1	2,724	9.8	-0.3
TOTAL EMPLOYED	20,741	100.0	27,722	100.0	-

Source: U.S. Census, 1960 and 1970

C. Place of Work

Of the County's employed, working during the report week of the 1970 Census, 58.3 percent were employed within Hunterdon County (disregarding the Census "not reported" category). Another 22.3 percent worked within the surrounding Counties of Mercer, Warren, and Somerset. Approximately 5.1 percent worked outside the State in Pennsylvania and New York with the remainder working in various other New Jersey localities. Table 4 presents a summary of Hunterdon County employed by place of work.

TABLE 4

Hunterdon County Employment
By Place of Work, 1970

Work Location	Number	% of Total
Hunterdon Co.	15,068	58.2
Somerset Co.	3,261	12.6
Trenton, City	724	2.8
Remainder Mercer Co.	1,001	3.9
Middlesex Co.	785	3.0
Union Co.	763	2.9
Warren Co.	774	3.0
Morris Co.	600	2.3
Essex Co.	462	1.8
Jersey City SMSA	74	0.3
Phila. SMSA(NJ Part)	28	0.1
New York City	721	2.8
Philadelphia, City	43	0.2
Other Penna.	779	3.0
Other, Not Specified[1]	788	3.1
SUB TOTAL	25,871	100.0
Location Not Reported	1,538	
Did Not Work During Census Report Week	313	
TOTAL EMPLOYED	27,722	

[1]Work location reported but not identifiable, through available data, except as not being included in prior categories. However, most of this number would logically fall under a "other N.J. counties" category.

Source: 1970 U.S. Census

III. Family Income

In 1970, the median family income and mean family income for Hunterdon County were $11,337 and $13,019. Corresponding Statewide figures were $11,407 and $13,025 respectively. The following is a breakdown of County families by income groups:

Income	Number Families
Less than $3,000	829
$3,000 - $4,999	1,120
$5,000 - $9,999	5,106
$10,000 - $14,999	5,645
$15,000 - $24,999	3,691
$25,000 - $49,999	1,236
$50,000 and Over	120
TOTAL	17,747

According to the 1970 Census, 751 families, or 4.2 percent of all families, fell below poverty level (a mean value of $3,292 for the County as a whole). The Statewide value for families below poverty level was 6.1 percent.

IV. Auto Ownership

In 1970, Hunterdon County auto availability, on an occupied dwelling unit basis, was significantly higher than for the State as a whole. Auto availability data for the County, on a municipal level, and for the State is presented in Table 5.

The most striking County-wide figures are the low percent of dwelling units with no auto available, 7.7 percent, and the relatively high percent of units with three or more autos available, 11.1 percent. Assuming an overall value of 3.1 for the "three or more" auto category, there was an approximate average of 0.7 autos per person over the age of 16 in Hunterdon County in 1970 (including inmates of institutions).

The County's high auto ownership rate is indicative of its rural and suburban character which mandates the private auto for mobility, while the County's relatively high overall income levels permit it.

On a municipal level, there is considerable scatter from the County-wide figures for auto availability. The municipalities having the lowest levels of auto availability are the older "town center" communities of Flemington, Frenchtown and Lambertville. This would be expected.

TABLE 5

Hunterdon County
Occupied Units By Number Of Automobiles Available
By Municipality

Municipality	None		1 Auto		2 Autos		3 Autos Or More		Total Occupied Units
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	
Alexandria	25	3.8	294	44.1	269	40.3	79	11.8	667
Bethlehem	22	4.9	200	44.8	186	41.6	39	8.7	447
Bloomsbury	18	6.6	166	60.6	67	24.4	23	8.4	274
Califon	5	1.7	101	35.2	125	43.6	56	19.5	287
Clinton Town	43	7.6	302	53.3	159	28.0	63	11.1	567
Clinton Twp.	55	3.9	517	37.3	651	46.9	165	11.9	1,388
Delaware	47	4.7	348	34.6	469	46.7	141	14.0	1,005
East Amwell	49	6.2	291	36.6	358	45.1	96	12.1	794
Flemington	218	14.8	702	47.6	501	34.0	53	3.6	1,474
Franklin	39	6.5	167	27.9	316	52.8	77	12.8	599
Frenchtown	72	14.8	209	43.0	181	37.2	24	5.0	486
Glen Gardner	17	8.3	86	41.9	74	36.1	28	13.7	205
Hampton	45	11.1	212	52.1	105	25.8	45	11.0	407
High Bridge	58	7.2	404	50.4	271	33.8	69	8.6	802
Holland	38	3.5	447	41.3	482	44.5	116	10.7	1,083
Kingwood	65	9.3	361	51.8	236	33.9	35	5.0	697
Lambertville	300	20.8	762	52.8	275	19.1	106	7.3	1,443
Lebanon Boro	35	11.9	121	41.0	86	29.1	53	18.0	295
Lebanon Twp.	66	5.5	592	49.2	450	37.3	96	8.0	1,204
Milford	40	11.1	186	51.7	121	33.6	13	3.6	360
Raritan	117	5.8	624	31.1	1,007	50.2	259	12.9	2,007
Readington	142	6.3	875	38.8	899	39.9	339	15.0	2,255
Stockton	6	3.0	87	43.5	93	46.5	14	7.0	200
Tewksbury	15	1.7	284	31.7	434	48.4	163	18.2	896
Union	55	9.5	275	47.7	180	31.3	66	11.5	576
West Amwell	21	3.3	223	34.6	286	44.3	115	17.8	645
COUNTY TOTAL	1,613	7.7	8,836	41.9	8,281	39.3	2,333	11.1	21,063
STATE TOTAL	397,249	17.7	1,021,472	45.4	697,259	31.0	132,181	5.9	2,248,161

Source: 1970 U.S. Census

CHAPTER II

Existing Public Transit Serving Hunterdon County

I. Overview

As one of the more predominantly rural counties within the State, Hunterdon County reflects a correspondingly high reliance on the private automobile as the predominant mode of transportation. Scattered residential, commercial, and employment developments combine to produce travel desire lines that are extremely diffuse when viewed on anything less than a macro basis. This type of travel pattern normally precludes the development of intensive public transportation systems, at least in the traditional sense of fixed-route operations. Transit services that are found in such areas are generally limited to longer line-haul operations connecting major population centers within the area to each other and to dominant external generators, possible isolated cases of local circulation systems within a major population center and specialized paratransit services for groups such as the elderly and handicapped. Current transit services in Hunterdon County fall into the preceding categories with the exception that no local circulation systems are present.

General public transit service in the County is composed of both commuter rail and line-haul bus. The Central Railroad of New Jersey (CNJ) provides service to the New York-Northeastern New Jersey Metropolitan area. Although not physically located

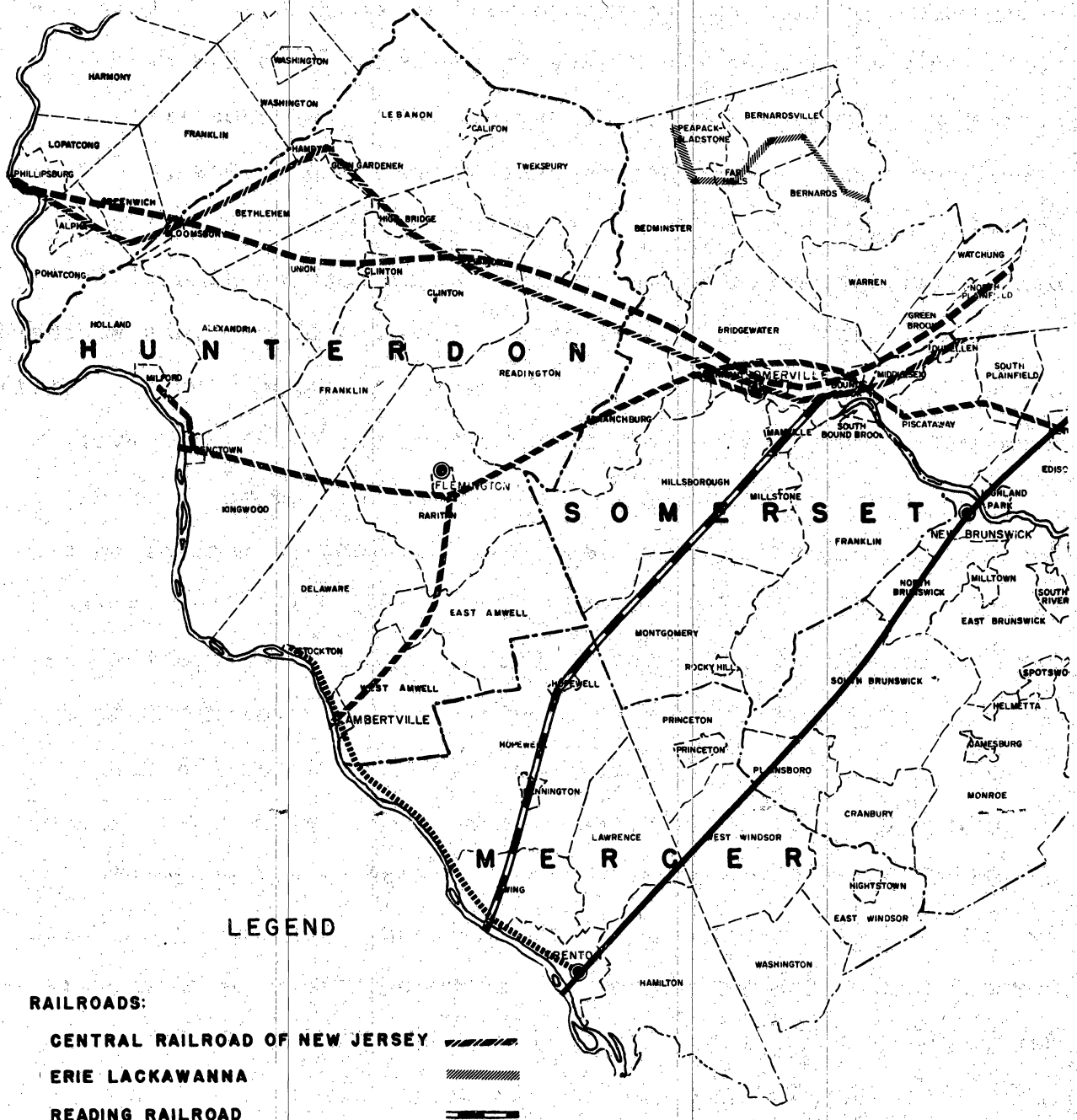
within the County, the Gladstone Branch of the Erie Lackawanna and, to a lesser degree, the Penn Central and Reading railroads are also utilized by Hunterdon County residents for trips to the aforementioned area and therefore will be considered in this report. Bus service in the County is presently provided by four carriers. Transport of New Jersey and West Hunterdon Transit provide service to both nearby Pennsylvania and to New York City, offering limited east-west cross-county service in the process. Dilley Bus Service provides transportation between Somerville, in Somerset County, and Flemington. Blue Bus Lines links southern Hunterdon County with the City of Trenton in Mercer County. Trailways and Greyhound also have stops within the County; however, since these operations are long-haul oriented, do not provide "normal" type transit services and do not lend themselves to the planning process in the ordinary sense, they will not be given further consideration in this report. Figure 3 depicts the existing public transit network providing service to the County.

Paratransit service, for special groups within the County, is primarily provided by Pioneer on Wheels (POW). POW is a non-profit corporation, providing portal to portal transportation for the elderly, handicapped, and indigent. The Hunterdon Multipurpose Senior Center offers limited transit service to the elderly in conjunction with activities conducted by the Center.

FIGURE 3

HUNTERDON COUNTY PUBLIC TRANSPORTATION STUDY

EXISTING TRANSIT ROUTES AND SERVICES



LEGEND

RAILROADS:

- CENTRAL RAILROAD OF NEW JERSEY
- ERIE LACKAWANNA
- READING RAILROAD
- PENN CENTRAL

BUSES:

- TRANSPORT OF NEW JERSEY
- WEST HUNTERDON TRANSIT CO.
- BLUE BUS LINES

II. Modal Split

Before discussing the discrete components of bus and rail transit service in Hunterdon County in detail, it would be appropriate to offer some insight as to the degree of overall public transit utilization by County residents as compared to use of the private auto.

Degree of transit utilization is generally expressed in terms of its "modal split". Modal split refers to the percent of total trips made for a given trip purpose by each "mode" or "means" of transportation used to make the trip. Types of transportation, as well as trip purposes may, of course, be aggregated to various levels as desired. For example, the "transit modal split" for all trips made within an area would be the percent of those trips made by all forms of public transportation.

Data concerning modal preference by trip purpose was not available for Hunterdon County with the exception of journey-to-work modal split data which was obtained through the U.S. Census (fourth-count). However, this information is useful in portraying the County's overall degree of transit utilization for the following reasons:

- Hunterdon County's present transit services are line-haul oriented and geared toward the commuter with respect to primary destinations and schedules; i.e., opportunities for non-work trip use are limited.
- As a general rule, transit modal split for work trips is much higher than for other trip purposes.

- Review of existing rail data pertaining to the County and bus data generated through field work, done as part of this study, confirm that transit patronage during off-peak hours is marginal.

Based on the foregoing, it can be concluded that transit modal split within Hunterdon County is significantly higher for work than non-work trips.

The 1970 U.S. Census reported that 25,888 Hunterdon County residents made work trips on the day of the survey. The following table enumerates the modes of travel utilized by those workers:

Primary Mode	Number	Percent
Auto Driver or Passenger	22,713	87.7
Bus	221	0.9
Rail	509	2.0
Subway	69	0.2
Walked Only	1,656	6.4
Other	729	2.8
Total	25,888	100.0

Hunterdon County exhibits one of the highest percentages of auto usage and correspondingly one of the lowest transit usages in New Jersey. A tabulation of journey-to-work by mode, for all New Jersey counties, is contained in the Appendix. The County's minor civil divisions show wide variations in the number of residents using bus or rail in the journey-to-work, as can be seen in Table 6. Degree of work trip transit usage in a given locality, as compared to a larger area in which it is situated, is basically a function of the number of residents who have places of work

TABLE 6

Hunterdon County Rail and Bus Commuters
in the Journey-to-Work

by Minor Civil Division

Municipality	Govt't	Railroad Commuters	Bus Commuters
Alexandria	Twp.	10	18
Bethlehem	Twp.	0	6
Bloomsbury	Boro	0	0
Califon	Boro	8	0
Clinton	Town	11	0
Clinton	Twp.	54	19
Delaware	Twp.	18	0
E. Amwell	Twp.	35	14
Flemington	Boro	20	36
Franklin	Twp.	12	7
Frenchtown	Boro	0	7
Glen Gardner	Boro	0	0
Hampton	Boro	10	0
High Bridge	Boro	21	0
Holland	Twp.	0	11
Kingwood	Twp.	6	16
Lambertville	City	9	5
Lebanon	Boro	0	0
Lebanon	Twp.	35	17
Milford	Boro	0	0
Raritan	Twp.	56	35
Readington	Twp.	63	14
Stockton	Boro	0	0
Tewksbury	Twp.	81	10
Union	Twp.	12	0
W. Amwell	Twp.	48	7
TOTAL		509	221

Source: U.S. Census 1970

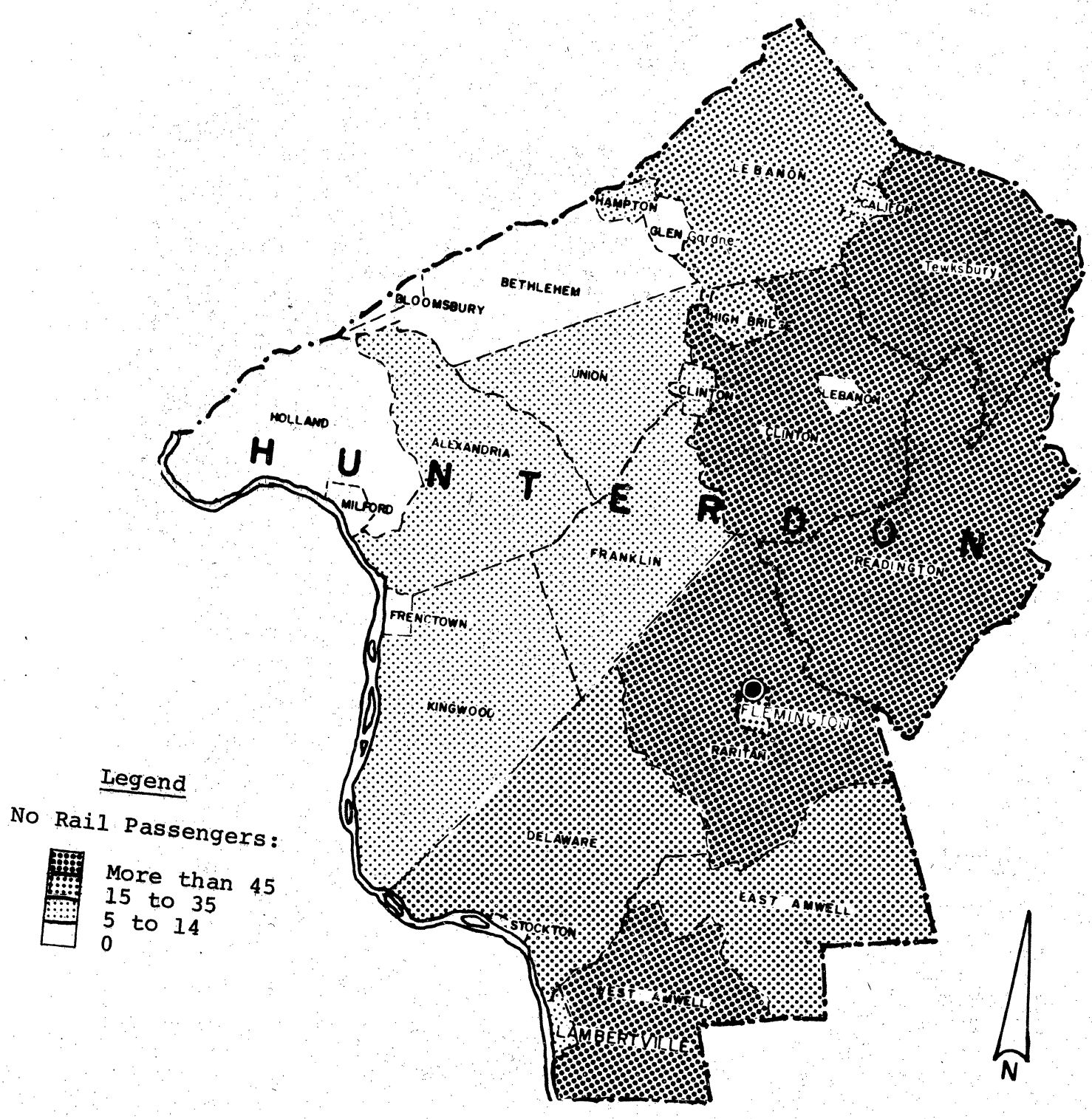
compatible with service offered, with respect to destinations and scheduling, and the relationship between transit facility access trip length versus total trip length. Although this explanation is simplistic in that other interacting factors also exist, it does normally represent the prime influence. Figures 4 and 5 graphically present journey-to-work utilization of rail and bus respectively, in Hunterdon County on a municipal basis. The bulk of the County's journey-to-work trips by transit are found in the northeast portion of the County, reflecting the growing suburbanization of the area. For instance, Tewksbury, Clinton Township, Readington and Raritan Township accounted for 50 percent and 35 percent of the County's total rail and bus work trips respectively, according to the 1970 U.S. Census. These same municipalities contained 50 percent of the County's workers employed in Newark, New York City and the Jersey City SMSA. Further, the number of rail and bus journey-to-work trips equaled 50 percent and 16 percent respectively of the number employed in the N.Y.-Northeast New Jersey metropolitan area. Practically all rail trips and the majority of bus trips had to be oriented toward the N.Y.-Northeast New Jersey area, due to the nature of the services provided. For a conservative estimate, if it is assumed that all rail and one-half of the bus trips were oriented to this area, the public transit modal split for work trips to the metropolitan area from Tewksbury, Clinton Township, Readington and Raritan Township would be at least 58 percent. For the County as a whole, the public transit modal split for work trips

FIGURE 4

HUNTERDON COUNTY PUBLIC TRANSPORTATION STUDY

1970 JOURNEY TO WORK BY RAIL

By Muncipality



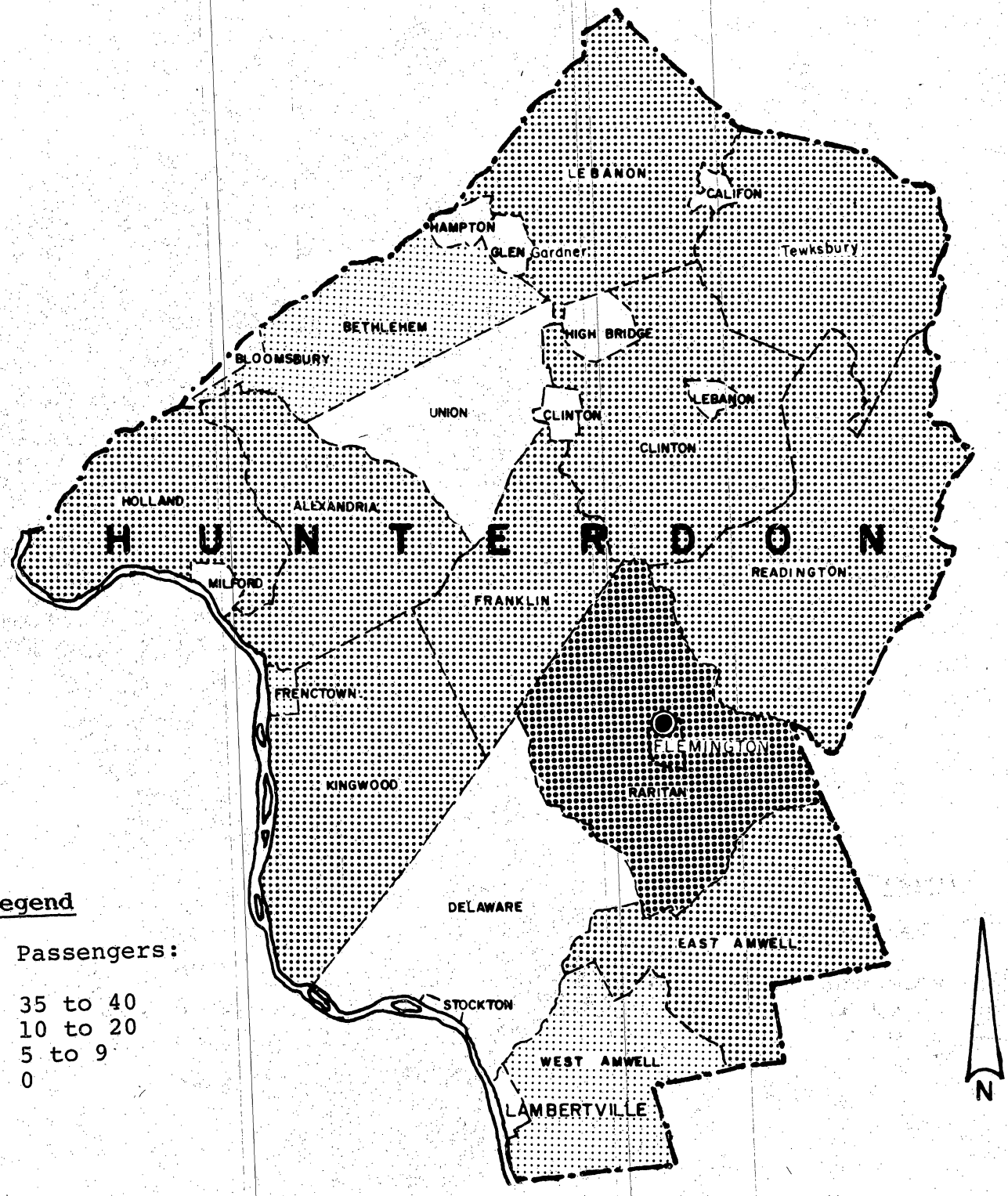
Source: 1970 Census

FIGURE 5

HUNTERDON COUNTY PUBLIC TRANSPORTATION STUDY

1970 JOURNEY TO WORK BY BUS

By Municipality



Legend

No. Bus Passengers:

- 35 to 40
- 10 to 20
- 5 to 9
- 0

Source: 1970 Census

to the N.Y.-Northeast New Jersey metropolitan area would be at least 61 percent. This is in marked contrast to the overall County journey-to-work bus plus rail modal split of 2.9 percent.

III. Inventory of Existing Services

A. Commuter Rail Service

In May 1974, the Port Authority of New York and New Jersey (PANYNJ) and the New Jersey Department of Transportation conducted a Rail Origin and Destination Survey between the hours of 6:00 a.m. and 6:00 p.m. on eastbound (toward New York) trains of the following railroads: Penn Central, New York and Long Branch, Central Railroad of New Jersey, Erie Lackawanna, Reading, and PATH. Survey data was expanded by the Port Authority to simulate total daily ridership, utilizing conductor's passenger counts made on the same day as the survey. Information obtained included the following:

- Trip Origin and Destinations
- Trip Purpose and Frequency
- Time of Day of Trips
- Boarding Station and Mode of Arrival
- Mode of Departure from Railroad
- Place of Residence of Riders
- Sex, Income, and Age of Riders

All references to the "1974 PANYNJ Rail Survey", found in the following sections on rail transportation, refer to this origin-destination survey.

1. Central Railroad of New Jersey (CNJ)

a. Route and Service Description

The CNJ Mainline passenger service runs from its western terminus at Phillipsburg, in Warren County, to Penn Station, Newark. At Newark, passengers bound for New York City can transfer to either connecting Penn Central trains to Penn Station, New York, in mid-town Manhattan or to connecting Port Authority Trans Hudson (PATH) trains to the World Trade Center in lower Manhattan.

Within Hunterdon County, the CNJ has stations stops at Hampton (Hampton Boro), Glen Gardner (Glen Gardner Boro), High Bridge (High Bridge Boro), Annandale (Clinton Township), Lebanon (Lebanon Boro), and Whitehouse (Readington Township).

b. Frequency of Service

Within Hunterdon County, the CNJ provides three weekday trains eastbound and four westbound. Two of the eastbound trains arrive in Newark during commuting hours at 7:55 a.m. and 8:36 a.m. Correspondingly, two westbound trains depart Newark during the evening commuter period at 5:30 p.m. and 6:00 p.m. Connecting a.m., eastbound, and p.m., westbound, transfers to and from PATH and the Penn Central are provided. One eastbound and one westbound CNJ train provides service within the County during mid-day and one westbound train

operates in the late evening. Table 7 presents an excerpted weekday schedule of trains making stops within the County.

For stations located outside of Hunterdon County, weekday service frequency of trains operating between Raritan Station, in Somerset County, and Newark is 23 trains per direction of travel. Of these, 9 eastbound trains arrive at Newark during the a.m. commuter period and 9 westbound trains depart Newark during the p.m. commuter period. As in the case of stations within Hunterdon County, connecting transfers to and from PATH and the Penn Central are provided. In addition to the trains accessing Newark, two trains per direction provide direct service between Raritan Station and Bayonne. Table 8 presents an abbreviated weekday schedule of trains operating between Raritan and Newark.

There is no weekend service provided west of Raritan Station. Weekend service between Raritan and Newark consists of 18 trains per direction of travel on Saturdays and 14 trains per direction on Sundays.

c. Fare Structure

Fares on the CNJ are a function of distance travelled and type of ticket utilized. Types of tickets offered for commutation to Newark-New York

TABLE 7

CNJ Weekday Schedule
To and From Phillipsburg

From Phillipsburg	A.M.	A.M.	P.M.
Lv. Phillipsburg	6:00	6:40	2:00
" Hampton	6:25	7:02	2:22
" Glen Gardner	6:30	7:07	--
" High Bridge	6:35	7:12	2:31
" Annandale	6:41	7:18	--
" Lebanon	6:47	7:24	2:37
" Whitehouse	6:53	7:30	2:42
Ar. Newark	7:55	8:36	3:52
Lv. Newark (PATH)	8:00	8:42	3:56
Ar. NYC (World Trade)	8:19	9:01	4:15
Lv. Newark (PC)	7:59	8:37	3:53
Ar. NYC (Penna. Sta.)	8:14	8:52	4:08

To Phillipsburg	A.M.	P.M.	P.M.	P.M.
Lv. NYC (Penna. Sta.)	11:15	5:03	5:36	8:05
Ar. Newark (PC)	11:29	5:19	5:51	8:20
Lv. NYC (World Trade)	11:12	5:01	5:31	8:02
Ar. Newark (PATH)	11:30	5:20	5:50	8:20
Lv. Newark	12:00	5:30	6:00	8:26
" Whitehouse	12:48	6:30	7:00	9:31
" Lebanon	12:54	6:36	7:06	9:37
" Annandale	--	6:42	7:12	9:42
" High Bridge	1:04	6:48	7:18	9:53
" Glen Gardner	--	6:55	7:24	--
" Hampton	1:16	7:01	7:30	--
Ar. Phillipsburg	1:40	7:25	7:55	--

Note: Station Stops outside of Hunterdon Co., other than terminal points, are omitted.

Source: CNJ Timetable, Effective March 15, 1975

TABLE 8

CNJ Weekday Schedule
Between Raritan and Newark

To Newark			From Newark		
Lv. Raritan	Lv. Somerville	Ar. Newark	Lv. Newark	Ar. Somerville	Ar. Raritan
5:23 a.m.	5:27 a.m.	6:19 a.m.	12:58 a.m.	1:44 a.m.	1:53 a.m.
5:56 "	6:00 "	7:03 "	6:37 "	7:35 "	7:45 "
6:20 "	6:23 "	7:23 "	7:24 "	8:14 "	8:23 "
6:53 "	6:56 "	7:51 "	8:13 "	9:05 "	9:14 "
7:07 "	7:10 "	7:55 "	8:58 "	9:47 "	9:56 "
7:00 "	-- "	8:05 "	9:35 "	10:22 "	10:33 "
7:10 "	7:14 "	8:15 "	10:45 "	11:32 "	11:41 "
7:46 "	7:49 "	8:36 "	11:45 "	12:32 p.m.	12:36 p.m.
7:50 "	7:54 "	8:52 "	12:45 p.m.	1:32 "	1:41 "
8:30 "	8:33 "	9:30 "	2:02 "	2:49 "	2:58 "
9:33 "	9:36 "	10:30 "	3:25 "	4:13 "	4:22 "
10:25 "	10:28 "	11:17 "	4:35 "	5:29 "	5:38 "
11:28 "	11:31 "	12:20 p.m.	4:59 "	5:54 "	6:03 "
12:42 p.m.	12:45 p.m.	1:34 "	5:30 "	6:14 "	6:17 "
1:50 "	1:54 "	2:44 "	5:34 "	6:39 "	6:48 "
2:57 "	3:01 "	3:52 "	5:56 "	6:55 "	7:04 "
4:31 "	4:35 "	5:45 "	6:00 "	6:43 "	6:47 "
5:00 "	5:03 "	6:06 "	6:25 "	7:19 "	7:28 "
5:48 "	5:52 "	7:15 "	6:53 "	7:51 "	8:00 "
7:15 "	7:18 "	8:35 "	7:25 "	8:16 "	8:25 "
8:30 "	8:33 "	9:45 "	8:26 "	9:14 "	9:18 "
10:05 "	10:08 "	11:30 "	9:45 "	10:35 "	10:44 "
11:20 "	11:24 "	12:49 a.m.	11:25 "	12:13 a.m.	12:22 a.m.

Notes: 1. Intermediate stations between Somerville and Newark are not indicated.
2. Connecting transfers at Newark to and from New York City via Penn Central or PATH are possible for CNJ trains to and from Newark.

Source: CNJ Timetable, Effective March 15, 1975

are as follows: One-way; one-day round-trip (restricted to off-peak use); 12 trip weekly commutation; monthly commutation. For regular commutation purposes, assuming 20 round-trips per month, the preceding list gives ticket types in descending order of cost per trip. For stations utilized by Hunterdon County residents, savings realized through use of monthly commutation tickets, as opposed to one-way fares, range from 40 to 65 percent depending on specific station of origin and destination. Fares by ticket type are shown in Table 9.

Although westbound CNJ rail trips originating in Hunterdon County and intra-county trips are practically non-existent, one-way fares to Phillipsburg and intra-county one-way fares are presented in Table 10 for information purposes.

Children under five years of age, accompanied by parent or guardian, will be carried by the CNJ free of charge, with a limit of 3 children per adult except on through tickets to Pennsylvania Station New York in which case the limit is one child per adult. Children between five years of age and under 12 are carried at approximately one-half adult fare. For children over 12, there is no fare reduction.

TABLE 9

CNJ Fares to Newark and New York

By Ticket Type

	Between Newark and				Between New York* (Penna. Sta.) and			
	1 - Day Rd. Trip	One Way	Monthly Comm.	12 - Trip Wkly. Comm.	1 - Day Rd. Trip	One Way	Monthly Comm.	12 - Trip Wkly. Comm.
Somerville	$2.30	$2.30	$47.00	$14.00	$5.00	$3.30	$74.00	$22.00
Raritan	2.40	2.40	48.00	14.50	5.15	3.40	75.00	22.50
Whitehouse	3.00	3.00	53.00	16.00	6.00	4.00	80.00	24.00
Lebanon	3.30	3.30	54.00	16.00	6.45	4.30	81.00	24.00
Annandale	3.50	3.50	55.00	16.50	6.75	4.50	82.00	24.50
High Bridge	3.60	3.60	56.00	17.00	6.90	4.60	83.00	25.00
Glen Gardner	3.80	3.80	58.00	17.50	7.20	4.80	85.00	25.50
Hampton	3.90	3.90	59.00	17.50	7.35	4.90	86.00	25.50

*Includes transfer to Penn Central at Newark

Source: CNJ Tariffs, Effective December 1, 1975

TABLE 10

CNJ One-Way Coach Fares

Between Hunterdon County Stations

And to Phillipsburg

Between	Whitehouse	Lebanon	Annandale	High Bridge	Glen Gardner	Hampton	Phillipsburg
Whitehouse	--						
Lebanon	$0.50	--					
Annandale	0.70	$0.50	--				
High Bridge	0.80	0.50	$0.50	--			
Glen Gardner	1.00	0.80	0.50	$0.50	--		
Hampton	1.10	0.90	0.70	0.50	$0.50	--	
Phillipsburg	2.30	2.00	1.80	1.70	1.50	$1.40	--

Source: CNJ Tariffs, effective December 1, 1975

d. Patronage Characteristics

Weekday conductor on-off counts, taken by the railroad once a year in November, show that all trips originating at stations within Hunterdon County, for recent years, are eastbound. This indicates that while there may, in fact, be instances of westbound and intra-county travel, such trips would be marginal in number.

Based on the 1974 PANYNJ Rail Survey, 210 Hunterdon County residents rode the CNJ on the day of the survey. Of these, 100 boarded at stations within the County and the remaining 110 at stations outside of the County. Total eastbound boardings at CNJ stations within Hunterdon, residents, plus non-residents, was 121.

Table 11 shows the number of eastbound boardings, by place of residence of users, for each of the six stations located within Hunterdon. As can be seen from the table, Annandale and Whitehouse stations had the highest patronages with total boardings of 30 and 37 respectively. It can also be seen that the majority of non-County residents utilizing Hunterdon stations reside in Warren County and Eastern Pennsylvania. All trips originating at Hunterdon County stations were made during commuter hours (train arrivals at Newark between 7:00 a.m. and 10:00 a.m.) and were reported as work trips.

TABLE 11

Number of CNJ Weekday Eastbound Boardings at

Stations Within Hunterdon Co.

By Place of Residence of Riders

Station	Place of Residence				Total Boardings
	Hunterdon Co.	Warren Co.	Other N.J.	Penna.	
Hampton	4	7	3	5	19
Glen Gardner	8	0	0	1	9
High Bridge	13	0	0	0	13
Annandale	25	2	3	0	30
Lebanon	13	0	0	0	13
Whitehouse	37	0	0	0	37
Total	100	9	6	6	121

Source: PANYNJ 1974 Rail Origin-Destination Survey

Trip destinations were as follows:

Destination	Number	Percent
Manhattan	85	70
Newark	25	21
Other	11	9
TOTAL	121	100

Reported access modes to Hunterdon County stations were as follows:

	Station Access Mode			
Station	Auto	Walked	Not Reported	Total
Hampton	15	0	4	19
Glen Gardner	3	6	0	9
High Bridge	8	2	3	13
Annandale	27	0	3	30
Lebanon	8	2	3	13
Whitehouse	28	3	6	37
TOTAL	89	13	19	121

As previously noted, 110 of the 210 Hunterdon County residents who utilized the CNJ on the day of the survey boarded the rail line at points outside of the County. Boardings by station are as follows:

Station	Number Boarding
Raritan	61
Somerville	49
TOTAL	110

Although trip purpose and destination for these out-of-County boardings by Hunterdon County residents could not practically be broken out from total boardings, 644, at the two stations, inferences can be drawn from available aggregated station data. Work trips comprised 97% of all trips originated at Raritan and Somerville Stations. Destinations of all trips were as follows:

Destination	Number Boarding	Percent
Manhattan	440	68
Newark	127	20
Other	77	12
TOTAL	644	100

Trip distribution for the two stations was practically identical to that for trips originated at stations within Hunterdon.

The relatively heavy utilization of Raritan and Somerville stations by Hunterdon County residents can be primarily attributed to a combination of the superior frequency of service provided at these stations as compared to those within the County (25 weekday eastbound trains versus 3) and the specific place of residence, on a municipal basis, of users as related to access to a given station. These factors can be illustrated by examining the Flemington-Raritan Township and Readington areas, for which discrete data was obtained.

The following tabulation gives boardings by station for all CNJ users from these two areas:

Station	Number Eastbound Boardings Flemington-Raritan Twp.	Readington	Total
Whitehouse	2	29	31
Raritan	34	4	38
Somerville	5	34	39
TOTAL	41	67	108

Of the 110 Hunterdon County residents, previously noted, boarding the CNJ at Raritan or Somerville Stations, 77 (70 percent) resided in Flemington, Raritan Township or Readington. From the Flemington-Raritan area, access to Raritan Station via US Route 202 is comparable in distance and superior in all other respects to access to Whitehouse Station, the only logical in-County alternative. From Readington, access to Somerville Station via US Route 22, as opposed to access to Whitehouse Station, may or may not be advantageous depending upon specific residential location within the area. These access considerations are reflected in the preceding tabulation. With respect to the impact of frequency of service on station selection, a firm conclusion cannot be drawn concerning the Flemington-Raritan Township area since approximately 97 percent of the trips made from Raritan Station by residents of the area were made during the peak period; i.e., data

on time preferences or needs within the 3 hour peak period was not available. However, access does appear to be the controlling factor in the case of Flemington and Raritan Township. In the case of Readington, approximately 50% of the trips made from Somerville Station were during the off-peak when service from in-County stations is limited to one eastbound train. This would indicate that frequency of service exerts a strong influence in station selection with respect to Readington.

e. Station Facilities

Passenger facilities at station stops within Hunterdon County range from trackside shelters to attended stations with waiting room facilities. The physical condition of station buildings that are in use would be classified as adequate except for cosmetic appearance. Physical condition of shelters is good. There is no public telephone available at any station location, however, there are public pay phones located across Main Street from the station in Whitehouse, and on East Main Street within a short walk from the station in High Bridge. Train boarding at all stations is at-grade. The following table presents passenger facility descriptions and hours of operation as applicable:

Station	Facilities Description	Hours of Operation
Whitehouse	Station building (eastbound) with overhang shelter. Lighted.	6:00 a.m. to 2:50 p.m. Attended.
Lebanon	Station building (eastbound) with overhang shelter. Lighted.	Waiting room open during morning only. Not attended.
Annandale	Three-sided shelter (eastbound). Lighted.	None
High Bridge	Station building (eastbound) with platform shed. Lighted.	6:00 a.m. to 2:15 p.m. Attended.
Glen Gardner	Three-sided shelter (westbound). Lighted.	None
Hampton	Three-sided shelter (westbound). Lighted.	None

Parking capacity at stations within the County is adequate based on current rail patronage levels at the stations and observed station area parking utilization. Parking lot surfaces at the stations range from paved to dirt. Table 12 shows characteristics and utilization of parking facilities at the stations. Although station parking capacity at Annandale is more than adequate, it was found that several commuters choose to park in a no-parking zone, along the station access road, that is in closer proximity to the station. There was also evidence of a few commuters at High Bridge and Whitehouse stations following the same general practice. There is no parking fee at any station in the County.

TABLE 12

Parking Facility Characteristics
At Hunterdon County CNJ Stations

Station	Lot Surface	Estimated Parking Spaces	Number Vehicles Parked	% Utilization
Whitehouse	Partially Paved	40	28	70
Lebanon	Dirt	25	19	76
Annandale	Dirt	35	22	63
High Bridge	Gravel	20	15	75
Glen Gardner	Dirt	2	0	0
Hampton	Dirt	40	9	23

Source: Field Survey, November 1975

Auto access to stations within the County, with respect to physical road conditions and ease of locating stations by the uninitiated, ranges from good to poor. Only Whitehouse and High Bridge stations have access roads that would generally be considered to be good while Glen Gardner and Hampton's would be considered poor. Although determination of degree of difficulty in locating stations is somewhat subjective in nature, it is safe to say that a first-time user, unless very familiar with the area, would be presented with considerable difficulty in locating Glen Gardner, Hampton or Annandale station. Trail blazer type signing to stations is not presently provided.

f. Rolling Stock

Trains operating on the CNJ Mainline between Phillipsburg and Newark consist of diesel locomotive hauled coaches. All coaches operated by the CNJ are owned by the State of New Jersey. The coaches have an average seating capacity of 92 persons. Consists of the three weekday trains departing Phillipsburg are 6, 8, and 2 coaches respectively, beginning with the first departure. Age of these cars cannot be determined as such since train makeups from the overall CNJ fleet of 144 coaches varies from day to day. However, the average age of all coaches operated by the CNJ was approximately 35 years as of 1975.

g. Financial Status

Rail passenger service on the CNJ is operated at a deficit. Data for the CNJ Mainline service was not available on a discrete basis; however, subsidy data for CNJ's total system (Mainline, Bayonne Shuttle, and New York and Long Branch [NY&LB]) was obtained. State contract assistance payments to the CNJ for fiscal years 1961 (first year of subsidy program) through 1975 were as follows:

Fiscal Year	Contract Payment
1961	$ 1,104,006
1962	1,546,488
1963	1,404,324
1964	1,380,086
1965	2,842,055
1966	5,925,000
1967	5,071,710
1968	4,880,005
1969	4,445,020
1970	4,601,014
1971	4,314,274
1972	4,776,792
1973	6,515,101
1974	10,616,409
1975	14,219,000*
TOTAL	$73,641,284

*Subject to audit.

2. Erie Lackawanna (EL)

a. Route and Service Description

The Gladstone Branch of the Erie Lackawanna terminates east of Hunterdon County in Peapack and Gladstone Boro, Somerset County. From this terminus, the branch runs in an easterly direction to Summit, N.J. where it joins the Morristown Line of the Erie Lackawanna. From Summit, the service proceeds east via the Morristown Line to its terminus at Hoboken. Dominant destinations for eastbound trips are Newark and New York City via Hoboken. Access to Manhattan from Hoboken is accomplished through transfer to the PATH system at the Erie Lackawanna Hoboken terminal. Weekday service on the Gladstone Branch consists of 14 trains per direction with six per direction providing service during peak commuter periods. Service on the Gladstone Branch - Morristown Line is electrified with rolling stock consisting of multiple unit equipment.

b. Hunterdon County Patronage Characteristics

According to the "1974 PANYNJ Rail Survey", 91 Hunterdon County residents utilized the Gladstone Branch service on the day of the survey. This represents approximately 25 percent of all Hunterdon County railroad commuters. The following table shows the number of boardings by place of residence and station utilized:

Place of Residence

Station	Tewksbury, Califon	Clinton Boro/Twp., Lebanon Boro, High Bridge	Other	Total
Gladstone	23	-	8	31
Peapack	3	-	-	3
Far Hills	23	15	7	45
Basking Ridge	2	-	-	2
Millington	2	3	5	10
Total	53	18	15	91

As can be seen from the preceding, the majority of Hunterdon County residents using the rail line reside in the Tewksbury/Califon area and board at Gladstone and Far Hills stations. This is not unexpected due to relatively close physical proximity with reasonably direct access, via County Routes 512 or 523, as compared to other stations and Hunterdon County municipalities. All trips by Hunterdon residents were made during commuter hours. Although data was not available for trip destinations of Hunterdon County users, aggregated data for all patrons of stations boarded by County users indicate that the approximate ultimate distribution of destinations was as follows: Manhattan - 55%; Newark - 27%; Other - 18%.

c. Service Data Relevant to Hunterdon County Users

As was previously mentioned, weekday service on the Gladstone Branch consists of 14 trains per direction of travel with six of these falling within peak commuter

hours (the a.m. peak being defined as trains arriving in Hoboken between 7 and 10 a.m.). The following table presents the current fare structure for trips between stations patronized by Hunterdon County residents and Hoboken:

Between	One-Way	1 - Day Round Trip	Monthly Commutation	Weekly Commutation	12-trip
Hoboken and:					
Gladstone	$3.40	$5.10	$54.00	$16.00	$40.80
Peapack	3.30	5.00	54.00	16.00	39.60
Far Hills	3.10	4.70	52.00	15.50	37.20
Basking Ridge	2.70	4.10	50.00	15.00	32.40
Millington	2.40	3.60	48.00	14.50	28.80

3. Reading Company (RDG)

a. Route and Service Description

The Reading Company provides service between Reading Terminal, in Philadelphia, and Penn Station, Newark. At Newark, connecting transfers to PATH or the Penn Central for access to New York City are provided. The Southeastern Pennsylvania Transportation Authority (SEPTA) also provides service over the portion of the route from Reading Terminal to West Trenton Station in Mercer County. The West Trenton-Philadelphia service is electrified. Philadelphia-Newark service is non-electrified with equipment consisting of rail diesel cars (RDCs).

Service frequency for Philadelphia-Newark service consists of two trains arriving at Newark during morning commuter hours and two return trips to Philadelphia in the evening. Weekend service is not provided.

SEPTA service between Philadelphia and West Trenton is composed of 20 weekday trips to, and 19 from, Philadelphia. Work trip service is geared toward Philadelphia as the place of work although reverse commuting is possible. Service on Saturdays and Sundays consists of 10 trips per day to, and 7 from, Philadelphia.

b. Hunterdon County Patronage Characteristics

The only available data identifying Hunterdon County residents who use the Reading line is for the Newark service, in the form of the "1974 PANYNJ Rail Survey."

However, this data, in all probability, reflects all or nearly all of the trips made by County residents on the line. Philadelphia bound trips on the SEPTA service, originating at West Trenton Station, do not appear likely. The long access trip length to the station, relative to total trip length, would be prohibitive.

According to the "1974 Survey" all County residents using the Reading's Newark service board at Hopewell Station in Mercer County. The following table gives the number of County users by place of residence:

Municipality	Number
East Amwell Twp.	26
West Amwell Twp.	7
Flemington/Raritan Twp.	4
Other Hunterdon Co.	2
Total	39

The majority of County patrons coming from East and West Amwell Townships is not surprising since these municipalities are located the closest to Hopewell Station with access provided via County Route 518.

c. Service Data Relevant to Hunterdon County Users

The weekday train schedule between Hopewell Station and Penn Station, Newark, is as follows:

Leave Hopewell 7:25 a.m. - Arrive Newark 8:19 a.m.
Leave Hopewell 8:30 a.m. - Arrive Newark 9:21 a.m.

Leave Newark 4:54 p.m. - Arrive Hopewell 5:45 p.m.
Leave Newark 5:45 p.m. - Arrive Hopewell 6:36 p.m.

As of January 1976, fares between Hopewell Station and Penn Station, Newark, were $2.70, one-way, and $45.85, monthly commutation.

4. Penn Central (PC)

a. Route and Service Description

With respect to serving the New Jersey daily commuter, Penn Central Main Line service extends from Penn Station, Philadelphia to Penn Station, New York City. This railroad currently provides the only direct rail access to New York City from New Jersey. All service is electrified with rolling stock consisting of electric locomotive hauled coaches and multiple unit equipment.

Although a high level of service is provided to both Philadelphia and New York City, AM peak service is more highly oriented toward Newark-New York since this is the dominant travel pattern of the New Jersey commuter in this corridor. At Penn Station, Newark "across the platform" transfers to the PATH system are provided.

b. Hunterdon County Patronage Characteristics

As in the case of the Reading Railroad, the only available data identifying Hunterdon County residents who utilize the Penn Central was for eastbound trip origins. However, due to lengthy access trips to Penn Central stations from the County, relative to total trip length, it is not likely that more than a few, if any, Philadelphia bound commuters would use the line.

According to the "1974 PANYNJ Rail Survey", twenty-eight Hunterdon County residents used the Penn

Central for Newark-New York City oriented trips. All boardings were during the AM peak period; i.e. work oriented. Number of boardings by station utilized and place of residence were as follows:

	Place of Residence			
Station	E. Amwell Twp.	W. Amwell Twp.	Other	Total
Trenton	2	5	0	7
Princeton	0	3	0	3
Princeton Jct.	0	0	2	2
New Brunswick	12	0	4	16
Total	14	8	6	28

The preceding table indicates an expected correspondence between place of residence and station selection based on proximity to stations.

c. Service Data Relevant to Hunterdon County Users

The number of weekday departures to Newark-New York City from Penn Central stations utilized by Hunterdon County residents is as follows:

	Number Newark-NYC Departures		
Station	Peak Period (Arr. Newark 7-10 a.m.)	Remainder of Day	Total
Trenton	9	28	37
Princeton*	9	16	25
Princeton Jct.	9	16	25
New Brunswick	9	33	42

*Shuttle train connects Princeton with Princeton Junction. Transfer to Mainline trains at Princeton Junction.

The current Penn Central fare structure between stations patronized by County residents and Newark and New York City is as follows:

Between	One-Way	1 - Day Round Trip (Off-Peak Only)	12 Trip Weekly Commutation	Calendar Month Commutation
New York and:				
Trenton	$4.40	$6.50	$23.75	$81.00
Princeton	4.15	6.25	22.00	77.00
Prineton Jct.	3.95	6.00	20.75	72.00
New Brunswick	2.85	4.25	20.00	68.00
Newark and:				
Trenton	$3.80	$5.75	$17.50	$58.00
Princeton	3.30	5.00	17.00	57.00
Princeton Jct.	3.10	4.75	16.00	53.00
New Brunswick	1.90	2.75	13.00	43.00

B. Bus Service

In order to supplement existing bus data, on-board surveys were conducted on all routes serving the County and load-counts made at major stops within the County. In the following sections, all references to on-board surveys and load-counts refer to this work unless otherwise noted.

1. Transport of New Jersey (TNJ)

a. Route and Service Description

TNJ Route 150 currently provides service between the Allentown, Pa. bus terminal and the Port Authority Bus Terminal (PABT) in mid-town Manhattan. At the PABT, connections can be made with other bus services and the New York City subway system. In addition, Penn Station, New York, is in close proximity to the PABT. Within Hunterdon County the bus route follows Interstate Route 78 and US Route 22, located in the northern portion of the County, with scheduled stops at Bloomsbury, West Portal, Clinton, Lebanon, and Whitehouse. Persons boarding at these points can utilize the service for trips to any intermediate points along the route, including intra-county destinations, since no intra-state restrictions apply to the Hunterdon County segment of the route.

b. Frequency of Service

Weekday daily service within the County consists of a total of 13 eastbound and 11 westbound trips. Service from the County during the a.m. commuting period. is oriented eastbound, toward New York, with a corresponding return service orientation from New York in the evening. Four eastbound a.m. trips and three return trips fall within normal commuting hours. All buses stop at Clinton, and all but two off-peak eastbound buses stop at Lebanon and Whitehouse. Service at Bloomsbury

and West Portal is limited to one peak and one off-peak eastbound bus and two off-peak westbound trips. Weekend service frequency is comparable with that offered on weekdays. An abbreviated timetable is presented in Table 13. The average travel time between Clinton and New York City is 1 hour and 40 minutes.

c. Fare Structure

For interstate trips originating in Hunterdon County, TNJ offers fare packages ranging from one-way to discounted commutation tickets, particular available options varying according to specific origins and destinations. Reduced fares for children under 35 inches in height are available for most one-way and round trips. Table 14 presents the interstate fare schedule for regular stops within the County, to New York, N.Y. and Allentown, Pa. Fares for intrastate trips originating in Hunterdon County are based on an initial zone fare of $0.40 with increments generally ranging from $0.05 to $0.20 for successive additional zones travelled. Table 15 gives one-way fares from the County's regular stops to selected points within New Jersey.

By way of comparison of rail and bus fares to and from similar locations, one-way costs from Clinton to Newark are $3.50 and $2.15 for the CNJ and TNJ respectively. From Clinton to New York City, one-way fares are $4.50 and $3.85 for rail and bus respectively.

TABLE 13

TNJ Route 150
Excerpted Weekday Schedule

TO NEW YORK CITY - PORT AUTHORITY BUS TERMINAL

Leave Allentown, Pa.	Leave Phillipsburg	Leave Bloomsbury	Leave West Portal	Leave Clinton	Leave Lebanon	Leave Whitehouse	Arrive NYC
5:05 a.m.	5:54 a.m.	6:05 a.m.	6:10 a.m.	6:20 a.m.	6:25 a.m.	6:30 a.m.	7:57 a.m.
-	-	-	-	6:30 "	6:35 "	6:40 "	8:15 "
6:15 "	7:09 "	-	-	7:35 "	7:40 "	7:45 "	9:07 "
6:55 "	7:49 "	-	-	8:15 "	8:20 "	8:25 "	9:52 "
7:55 "	8:49 "	-	-	9:15 "	9:20 "	9:25 "	11:02 "
9:00 "	-	-	-	10:20 "	-	-	11:40 "
10:30 "	11:24 "	-	-	11:50 "	11:55 "	12:00 p.m.	1:37 p.m.
12:25 p.m.	1:19 p.m.	-	-	1:45 p.m.	-	-	-
2:25 "	3:19 "	-	-	3:45 "	3:50 p.m.	3:55 p.m.	5:28 "
3:55 "	4:54 "	5:05 p.m.	5:10 p.m.	5:20 "	5:25 "	5:30 "	7:07 "
5:15 "	6:09 "	-	-	6:35 "	6:40 "	6:45 "	8:12 "
7:00 "	7:39 "	-	-	8:05 "	8:10 "	8:15 "	9:37 "
9:25 "	10:19 "	-	-	10:45 "	10:50 "	10:55 "	12:17 a.m.

Source: 1975 TNJ Timetable

TABLE 13 (continued)

TNJ Route 150
Excerpted Weekday Schedule

FROM NEW YORK CITY - PORT AUTHORITY BUS TERMINAL

Leave NYC	Leave Whitehouse	Leave Lebanon	Leave Clinton	Leave West Portal	Leave Bloomsbury	Leave Phillipsburg	Arrive Allentown, Pa.
7:00 a.m.	8:40 a.m.	8:45 a.m.	8:50 a.m.	9:00 a.m.	9:05 a.m.	9:16 a.m.	10:05 a.m.
9:45 "	11:20 "	11:25 "	11:30 "	-	-	11:56 "	12:45 p.m.
12:00 N	1:25 p.m.	1:30 p.m.	1:35 p.m.	-	-	-	2:50 "
2:00 p.m.	3:25 "	3:30 "	3:35 "	-	-	4:01 p.m.	4:50 "
3:30 "	5:10 "	5:15 "	5:20 "	-	-	5:46 "	6:20 "
4:45 "	6:15 "	6:20 "	6:25 "	-	-	6:51 "	7:40 "
5:25 "	6:55 "	7:00 "	7:05 "	-	-	-	-
5:45 "	7:07 "	7:12 "	7:17 "	-	-	7:43 "	8:32 "
7:30 "	8:55 "	9:00 "	9:05 "	-	-	9:26 "	10:15 "
10:00 "	11:20 "	11:25 "	11:30 "	-	-	11:51 "	12:40 a.m.
12:15 a.m.	1:34 a.m.	1:38 a.m.	1:42 a.m.	1:52 a.m.	1:57 a.m.	2:09 a.m.	3:04 "

TABLE 14

TNJ Route 150

Interstate Rate Schedule For Regularly Scheduled Stops

Within Hunterdon County

Between And	New York City						Allentown, Pa.				
	One Way	One Way Child	Round Trip	Round Trip Child	10 Trip 20 Day	30 Trip 30 Day	One Way	One Way Child	Round Trip	Round Trip Child	10 Trip 20 Day
Whitehouse	$3.45	$2.60	$6.60	$4.95	$26.80	$75.00	$2.95	$2.25	$5.65	$4.25	$22.75
Lebanon	3.70	2.80	7.05	5.30	29.05	-	2.75	2.10	5.25	3.95	21.90
Clinton	3.85	2.90	7.35	5.55	30.35	-	2.65	2.00	5.05	3.80	21.00
West Portal	4.30	3.25	8.20	6.15	33.45	-	1.95	-	-	-	15.15
Bloomsbury	4.60	3.45	8.75	6.60	35.70	-	1.75	-	-	-	13.30

Source: TNJ Interstate Rate Schedule

Effective Date: March 7, 1976

TABLE 15

TNJ Route 150

Intrastate One-Way Rate Schedule

Between Regularly Scheduled Stops

Within Hunterdon County And

Selected New Jersey Destinations

Between / And	Whitehouse	Lebanon	Clinton	West Portal	Bloomsbury
Newark	$1.85	$2.05	$2.15	$2.40	$2.45
Scotch Plains	1.25	1.50	1.65	1.95	2.05
Somerville	.80	.95	1.10	1.45	1.55
Whitehouse	.40	.40	.65	.90	1.05
Lebanon	-	.40	.40	.80	.90
Clinton	-	-	.40	.65	.75
West Portal	-	-	-	.40	.40
Bloomsbury	-	-	-	-	.40
Phillipsburg	1.25	1.15	.95	.70	.65

Source: TNJ Intrastate Rate Schedule

Effective Date: December 15, 1975

d. Patronage Characteristics

In 1974, TNJ Route 150 carried 195,667 annual passengers. This represents approximately 650 passengers (325 round trips) on an average weekday. Based on on-board and load count surveys, it is estimated that approximately 80 - 90 trips (40 - 45 round trip patrons) are made by Hunterdon County residents on an average weekday. Most boardings within the County are made at the Clinton stop located at the intersection of New Street and Old Highway 22. On the day of the survey, 26 eastbound riders boarded at the stop on the six buses departing Clinton between the hours of 6:20 a.m. - 10:20 p.m. One westbound passenger was observed boarding an Allentown, Pa. bound bus during this time period. According to observation and TNJ drivers on the route, almost all Hunterdon riders are daily passengers commuting to New York City. Likewise, practically all patrons utilize the TNJ 10 trip commuter ticket.

e. Bus Stop Characteristics

In Hunterdon County, there are no parking facilities provided specifically for TNJ patrons. However, there appears to be adequate available parking adjacent to stops to satisfy the current low demand. The exception would be the Clinton stop located at New Street and Old Highway 22 where legal parking in the vicinity is all but non-existent.

2. Blue Bus Lines

a. Route and Service Description

Blue Bus Lines service within Hunterdon County consists of one route linking the southern portion of the County with the City of Trenton. Scheduled stops within Hunterdon County are at Stockton and Lambertville. The northern terminus of the route is considered to be Stockton although this end of the route is a loop connecting Lambertville, Stockton, and New Hope, Pa., providing New Hope with Trenton service. The southern terminus of the route is the Penn Central railroad station in Trenton. Intermediate stops are as follows: Yardley Bridge (N.J. Route 29), Washington Crossing, and Titusville. Between Trenton and Stockton the route follows N.J. Route 29.

The service can be used for travel between any intermediate points on the route. Intracity trips can also be made between bus stops within Lambertville and Trenton.

b. Frequency of Service

Blue Bus Lines' weekday service consists of four trips per direction of travel. Weekend and holiday service is not provided. The weekday schedule for trips between Hunterdon County and Trenton is as follows:

To Trenton:

	A.M.	A.M.	P.M.	P.M.
Leave Stockton	7:55	9:50	4:15	6:20
Leave Lambertville	8:05	10:00	4:25	6:30
Arrive Trenton	8:50	10:40	5:25	7:10

To Stockton:

Leave Trenton	7:15	9:05	3:30	5:35
Arrive Lambertville	7:50	9:35	3:55	6:05
Arrive Stockton	7:55	9:45	4:05	6:15

The service provides a degree of coordination with New York and Philadelphia train arrivals and departures at Trenton station. Due to the schedule times involved, transfer from or to the Penn Central would have application for shopping, recreational, etc., trip purposes rather than being work trip oriented.

c. Fare Structure

Blue Bus Lines charges flat one-way fares between points on its route; i.e., no discount for round trips or multi-trip (commuter) riding. Fares are paid on-board and an exact change policy is in effect. Fares are based on an initial zone fare of $0.30 with an incremental charge of $0.20 for each additional zone travelled. The exception is for intra-city trips made in Trenton or Lambertville, in which case a fare of $0.25 is charged. The following is the one-way cost between Stockton and New Jersey destinations on the route:

Between Stockton and	One-Way Fare
Lambertville	$0.30
Titusville	$0.50
Washington Crossing	$0.70
Yardley Bridge	$0.90
Trenton(Penn Station)	$1.10

d. Patronage Characteristics

For 1974, it was reported that 11,000 passengers were carried on the Trenton-Lambertville route. This converts to approximately 44 passengers per weekday or 22 round trips. In the on-board survey conducted in conjunction with this study, all a.m. buses (both directions of travel) were ridden. A total of 30 boardings were observed during this time period. Due to scheduling, it is likely that this figure represents all or nearly all round trip riders. Of the total boardings observed, 21 were made by persons boarding in Hunterdon County, accounting for approximately 70 percent of the route's patronage. The destination of all Hunterdon County residents was Trenton. Of the remaining nine boardings, all were made in Trenton; five trips had Lambertville as the destination and one, Stockton. The following is a summary of trips made by Hunterdon County patrons to Trenton by time of day and place of boarding:

Time of Departure From Stockton	Place of Boarding		
	Stockton	Lambertville	Total
7:55 a.m.	5	7	12
9:50 a.m.	4	5	9
TOTAL	9	12	21

Based on conversation with the bus driver, and substantiated by arrival times in Trenton, most riders on the early run are daily commuters while the second trip provides shopper service, the patronage of which fluctuates on a day to day basis.

e. Bus Stop Characteristics

Within Hunterdon County, no stops have shelters or benches. Regular stop locations are signed, with prohibited parking in the pick-up zones. Parking in the vicinity of stops is available in the form of on-street public parking. The Stockton stop is located on NJ Route 29 (Main Street) at Bridge Street. Observed stops in Lambertville were as follows: Union Street at Buttonwood Street, Union Street at York Street, Union Street at Church Street, Union Street at Bridge Street, and Bridge Street at NJ Route 29 (Main Street).

f. Rolling Stock

Blue Bus Lines operates the route using one suburban type bus owned by Starr Transit Company. The vehicle observed on the day of the survey was a 53 seat General Motors coach manufactured in 1956.

g. Operating and Financial Statistics

The following table presents Blue Bus Lines statistics, for 1974, for the Trenton-Lambertville route:

Annual Passengers	11,000
Annual Bus Miles	29,930
Annual Revenue	$7,720
Annual Operating Cost	$21,548

Source for the preceding figures was the company's annual report to the Public Utilities Commission, with the exception of operating cost. Reported operating cost data was aggregated for regular route (all routes operated) and charter service. The above value was estimated by multiplying total company reported expenses by the ratio of the Trenton-Lambertville route's bus miles to total bus miles.

Blue Bus Lines does not currently receive subsidy assistance from the State.

3. West Hunterdon Transit Company

a. Route and Service Description

The West Hunterdon Transit Company currently operates two routes that serve the County. The primary route provides service between Frenchtown, with limited extended service to Upper Black Eddy, Pa. and Milford, N.J., and the Port Authority Bus Terminal (PABT) in New York City. Within Hunterdon County, the route follows NJ Route 13 from Milford to Frenchtown, NJ Route 12 from Frenchtown to Flemington and US Route 202 eastward from Flemington. Scheduled stops within the County are located at Milford, Frenchtown, Baptistown, Croton, and Flemington (stops at the Court House and Hunterdon Shopping Center). Flagstops, for New York trips only, may be made between Frenchtown and Flemington. Between Flemington and New York City, the service is express, with the exception that flagstops may be made between Flemington and Branchburg(Somerset County). The service may be used for intra-County travel between scheduled stops.

The second route provides service between Doylestown, Pa. and the PABT in New York City. Service consists of limited direct (non-transfer) service to New York with the remainder being comprised of shuttle service to Flemington where a connecting transfer can be made to the Frenchtown route. Within Hunterdon County, the route follows NJ Route 179 from Lambertville to the intersection

of NJ 179 and US 202 and then proceeds along US 202. Scheduled stops within Hunterdon County are located at Lambertville, Ringoes, and the Hunterdon Shopping Center. Flagstops, for New York trips, are also made within the County. This route may also be used for intra-County travel between scheduled stops.

b. Frequency of Service

Basic weekday service on the Frenchtown-New York City route consists of six runs per direction of travel with half of these falling within normal work-oriented commutation hours. Service is extended to Upper Black Eddy, Pa. and Milford on one run per direction. Weekend service is composed of two trips per direction on Saturdays and three on Sundays. Weekend service is not provided to Upper Black Eddy or Milford.

Weekday service on the Doylestown, Pa.-Flemington/New York City route consists of one direct (no transfer) New York City run per direction of travel during commuter hours, two off-peak shuttles from Doylestown to Flemington and one off-peak shuttle from Flemington to Doylestown. Weekend service consists of one direct trip per direction of travel on Saturdays and one shuttle to Flemington (no return trip) on Sundays.

The weekday schedule for Hunterdon Transit is presented in Table 16.

TABLE 16

West Hunterdon Transit
Excerpted Weekday Schedule

To New York	A.M.	A.M.	A.M.	A.M.	A.M.	P.M.	P.M.
Lv. Doylestown, Pa.			6:20		10:15*	1:00*	
" Lambertville			6:50		10:45*	1:30*	
" Ringoes			7:00		10:55*	1:40*	
" Upper Black Eddy, Pa.				7:42			
" Milford				7:45			
" Frenchtown	6:10	6:40		8:00	11:00	1:40	3:30
" Baptistown	6:15	6:45		8:05	11:05	1:45	3:35
" Croton	6:20	6:50		8:10	11:10	1:50	3:40
" Court House (Flemington)				8:20	11:15		
" Shopping Center (Flem.)	6:35	7:00	7:15	8:30	11:30	2:00	3:50
Ar. NEW YORK	7:50	8:20	8:30	9:45	12:45	3:20	5:15

From New York	A.M.	A.M.	P.M.	1. P.M.	P.M.	P.M.	P.M.	2. P.M.	2. P.M.
Lv. New York	8:40	10:15	1:15	4:15	5:00	5:30	6:00	4:00	4:30
Ar. Shopping Center (Flem.)	9:55	11:30	2:30	5:35	6:20	6:50	7:20	5:20	5:50
" Court House (Flemington)	10:00	11:35	2:35	5:40		6:55	7:25	5:25	5:55
" Croton	10:05	11:40	2:40	5:45		7:00	7:30	5:30	6:00
" Baptistown	10:10	11:45	2:45	5:50		7:05	7:35	5:35	6:05
" Frenchtown	10:15	11:50	2:50	6:00		7:10	7:40	5:45	6:15
" Milford						7:20			
" Upper Black Eddy, Pa.						7:40			
" Ringoes		11:40*			6:30				
" Lambertville		11:50*			6:40				
" Doylestown, Pa.		12:20*			7:10				

* Shuttle Bus - Transfer at Flemington (Shopping Center)
1. Does not run Fridays
2. Runs Fridays Only

Source: West Hunterdon Transit Timetable, Effective Date October 1, 1975

c. Fare Structure

For trips to New York City, West Hunterdon Transit offers one-way, round trip, and 10 trip commutation fares. The 10 trip commutation package must be utilized within 20 days of purchase. All tickets may be purchased on-board and at Flemington (Shopping Center) or Frenchtown within Hunterdon County. The following tabulation presents current fares between New York and points within the County:

Between NYC and:	One-Way	Round Trip	Ten Trip
Flemington-Croton	$3.25	$5.80	$19.20
Frenchtown-Baptistown	$3.35	$6.00	$19.85
Milford	$3.55	$6.40	$20.50
Lambertville	$3.85	$7.00	$21.65
Ringoes	$3.35	$6.00	$19.85

d. Patronage Characteristics

Based on on-board survey and load counts taken at the Hunterdon Shopping Center, it is estimated that approximately 440 passengers (220 round trip patrons) are carried by West Hunterdon Transit on an average weekday. Of these 220 patrons, a minimum of 190 are Hunterdon County residents (Boardings at Flemington plus passengers on-board eastbound buses arriving at Flemington and originating at Frenchtown. Trip origins of passengers on-board eastbound buses arriving at Flemington and originating at Upper Black Eddy or Doylestown could not be distinguished as New Jersey or Pennsylvania origins.)

Practically all trips, 96 percent, are oriented to New York City with 83 percent of these made during commuter hours (New York City arrivals between 7:50 a.m. and 9:45 a.m.). Trips not oriented to New York City consist of both interstate trips between New Jersey and Pennsylvania and intra-County trips within Hunterdon.

The Hunterdon Shopping Center is the major trip origin load point for West Hunterdon Transit service with 70 percent (approximately 154) of all weekday round trips originating at this stop. The Doylestown to Flemington portion of the overall service, not including the Hunterdon Shopping Center, generates only approximately 18 round trips or 8 percent of total patronage.

e. Bus Stop Characteristics

Free customer parking is provided through arrangements between West Hunterdon Transit and local merchants at the Hunterdon Shopping Center, Frenchtown, Lambertville, and Ringoes. Available parking is adequate with the exception of at the Hunterdon Shopping Center. At this location, excess demand spills over from the area designated for use by bus customers into time restricted, shopping center parking facilities. Customer parking is not specifically provided at remaining Hunterdon County stops. However, patronage at these locations is extremely low and parking not presently a factor.

With respect to passenger amenities, West Hunterdon Transit has arrangements with coffee shop owners in the Hunterdon Shopping Center and Frenchtown whereby they act as ticket agents and permit passengers to utilize the shops as waiting rooms. Schedules are posted and available at these locations. Rest rooms and telephones are present. Passenger amenities are not provided at the remaining Hunterdon County stops.

f. Rolling Stock

West Hunterdon Transit's annual report to the Public Utilities Commission for 1974 indicated that eight buses, owned by the company, were in revenue service (regular route plus charter service). Manufacturer, seating, and age was not available from the report. However, discussion with the company indicates that the overall available fleet consists of approximately 17 suburban transit type buses manufactured by Flxible. Year of manufacture ranges from 1950 to 1965. Seating capacity varies from 49 to 53 seats per bus.

g. Operating and Financial Statistics

The following table presents West Hunterdon Transit statistics for 1974 for regular route service:

Annual Passengers	97,266
Annual Bus Miles	305,472
Annual Revenue	$210,744
Annual Operating Costs	$209,939

Source for the preceding figures was the company's annual report to the Public Utilities Commission, with the exception of operating cost. Reported operating cost data was aggregated for regular route and charter service. The above value was estimated by multiplying total company reported expenses by the ratio of regular route bus miles to total bus miles. It should also be noted that the routes and schedules maintained in 1974 differed somewhat from the present. The Frenchtown-New York City route had one less trip per direction of travel on weekdays. The Doylestown-New York City route terminated at New Hope, Pa. and consisted of two round trips to New York on weekdays. Weekend service on both routes was correspondingly less frequent.

West Hunterdon Transit does not currently receive subsidy assistance from the State.

4. Dilley Bus Service

a. Route and Service Description

The Dilley Bus Service operates one route within the County connecting Flemington with Somerville in Somerset County. There are no intermediate stops along the route. The route follows US Route 202 between the two termini. Bus stops are located at the Hunterdon Shopping Center in Flemington and in front of the Somerville Hotel in Somerville.

b. Frequency of Service

Weekday service consists of one trip to Flemington, leaving Somerville at 8:50 a.m., and one return trip to Somerville, leaving Flemington at 3:15 p.m. One-way travel time is approximately 20 minutes. There is no weekend service. The service is not coordinated with either the CNJ or TNJ at Somerville or West Hunterdon Transit at Flemington.

c. Fare Structure

A flat rate of $0.35 per one-way trip is charged for the service, i.e., no round trip or multiple-ride discounts.

d. Patronage Characteristics

Based on field survey, approximately 22 passenger trips (11 round trip riders) per day are currently made on the Dilley Bus Service. Most patrons, precise number not identified, are persons attending the Hunterdon Occupational Training Center located in Raritan Township, just north of

Flemington, off NJ Route 31. Pioneer on Wheels, a non-profit corporation providing transportation service to the elderly, handicapped, and indigent, meets the morning bus arriving at Flemington to transport clients to the Center and returns them to the Hunterdon Shopping Center for the return trip to Somerville in the afternoon.

Due to specific scheduling with respect to times of arrival and departure at Flemington, the bus service is not well suited for work trip potential. Due to minimal frequency in general and the time span, roughly 6 hours, between existing runs in particular, the service is also not attractive for shopping trips or other purposes.

e. Bus Stop Characteristics

The Somerville stop (Somerville Hotel) is signed and parking prohibited in the pick-up zone. Free on-street parking is available in the immediate area. Observation indicates that parking demand associated with the current service is nominal. A bench is located at the stop and interviews indicate that the Hotel lobby is utilized for shelter in adverse weather.

For the Hunterdon Shopping Center stop in Flemington, the description presented in the section of this report treating the West Hunterdon Transit Company applies.

f. Rolling Stock

Data presented in the company's 1974 annual report to the Public Utilities Commission indicates that two suburban type buses, manufactured by Flxible in 1964 and 1965, were placed in service during the latter part of the year. Seating capacity of the vehicles is 53 seats.

g. Operating and Financial Statistics

The following table presents Dilley Bus Service statistics for 1974 for regular route service:

Annual Passengers	2,862
Annual Bus Miles	9,464
Annual Revenue	$1,002
Annual Operating Cost	$3,481

Source for the preceding figures was the company's annual report to the Public Utilities Commission, with the exception of operating cost. Reported operating cost data was aggregated for regular route, charter and contract service. The above value was estimated by multiplying reported total expenses by the ratio of regular route bus miles to total bus miles.

The Dilley Bus Service does not currently receive subsidy assistance from the State.

C. Paratransit Service

1. Pioneer On Wheels

Pioneer On Wheels (POW) is a non-profit corporation providing non-emergency, portal to portal, transportation for the elderly, handicapped and indigent. POW operates in Hunterdon, Sussex, Warren, and Somerset Counties. The POW program is divided into two separate services:

a. POW I transports residents of Hunterdon and Warren Counties, aged 60 and over, to social and health services and food stores. Trips must be scheduled 24 hours in advance. The service is offered free of charge to its clients.

The service is primarily funded through Title III of the Older Americans Act (U.S. Administration on Aging) funds passed through by both Counties. The Counties provide office space and have contributed to capital and operating costs in the past. About $2,500 per year is collected from voluntary donation boxes located on the vehicles.

b. POW II provides service for handicapped persons and clients of social welfare agencies under the age of 60 in Sussex, Warren, Somerset, and Hunterdon Counties. Transportation is provided to health, nutritional and employment facilities and must be scheduled 24 hours in advance. The agencies reimburse POW $0.18 per mile for each client transported. Table 17 is a list of agencies currently subscribing to this service.

TABLE 17

Organizations Subscribing to

Pioneer on Wheels II

Hunterdon County Organizations:

- Hunterdon County Visiting Homemakers
- New Jersey Day Care Center, Flemington, New Jersey
- Foster Grandparent Program, Hunterdon State School
- Hunterdon County Welfare Board
- Hunterdon County Unit for the Mentally Retarded
- Hunterdon Occupational Training Center
- Hunterdon Medical Center
- High Bridge Board of Education
- North Hunterdon Regional Board of Education
- Hunterdon Central Board of Education
- Lambertville Board of Education
- Bloomsbury Board of Education
- Hunterdon County Unit for Retarded Citizens
- Hunterdon County Man Power Office
- Family Nursing Service of Hunterdon County
- Phillip-Barber Family Health Center
- Delaware Valley Family Health Center
- American Cancer Society

Warren County Organizations:

- Warren County Visiting Homemakers
- Warren County Family Guidance Center
- Warren Hospital
- Warren Hills Regional Board of Education
- Lopatcong Board of Education

Sussex County Organizations:

- Highland Sheltered Workshop

Areawide Organizations:

- The New Jersey Rehabilitation Service
- New Jersey Division of Youth and Family Services
- Comprehensive Employment and Training Act (CETA)
- Katzenbach School For the Deaf, State of New Jersey (Mercer Co.)

Other Organizations:

- Bernardsville Board of Education (Somerset Co.)

POW owns and operates 4 vans, 12 station wagons, and 19 sedans in service, for a total of 35 vehicles in the three county area. It employs 70 part-time or full-time drivers at salaries ranging from $2.30 to $2.70 per hour.

The following operating statistics are monthly averages for the POW operations in Hunterdon County for fiscal year 1975.

	POW I	POW II	Total
Passengers	408	3,864	4,272
Vehicle Miles	3,371	32,015	35,386
Vehicle Trips	303	1,106	1,409
Vehicle Miles/Passenger	8.27	8.29	8.28

2. Hunterdon Multipurpose Senior Center

The Hunterdon Multipurpose Senior Center presently has one van which is primarily used for transporting senior citizens to activities at the Center. One part-time driver is employed under a federally sponsored employment program. Operating statistics were not available for this service.

CHAPTER III

Potential Improvements to the Existing Transit System Within Hunterdon County

Based on the inventory of existing services, an evaluation was made to determine possible service improvements to the current system that could be instituted. Associated costs were estimated as applicable and available.

For the Central Railroad of New Jersey and each of the four bus lines serving Hunterdon County, adequacy of current capacity was examined along with scheduling and frequency of service. For each route, coordination between railroad and bus scheduling, as well as coordination between bus lines, was explored. Possible improvements to hours of operation were also considered.

Improvements to existing physical facilities were then considered. These included new facilities, as well as the upgrading of existing ones. The proposal to establish transportation depots in major population centers, as found in the Hunterdon County Committee on Public Transportation report "Transportation: A Problem in Hunterdon County" was also specifically examined.

I. Commuter Rail Service

A. Operational Considerations

Approximately 121 weekday passengers board the two CNJ eastbound morning trains within Hunterdon County. No recorded passengers, boarding within Hunterdon, utilize the afternoon eastbound train. Capacity on existing trains is adequate.

Additional service frequency during the morning and evening periods would produce marginal additional ridership under present conditions. The existing schedule provides for departure times that should reasonably accommodate most trip purposes, predominantly work trips, for which there is a demand during these hours. Although off-peak service within the County is minimal, which may contribute to the lack of utilization of the service, it is not believed that additional frequency would attract more than a marginal number of riders at this time.

Weekend service is not currently provided within the County. Initiation of such service is not recommended at this time due to extremely low anticipated ridership. It should be noted that frequent CNJ weekend service is provided between Raritan Station and Newark. Also, TNJ provides frequent weekend service to New York through the same general area of the County served by the CNJ.

B. Passenger Facilities and Amenities

Desirable improvements associated with the CNJ railroad stations within Hunterdon County are presented in the following sections. They are geared toward improving quality of service and potentially increasing patronage. It should be noted that these recommendations are made on the basis of what would be desirable on an absolute basis, looking only at Hunterdon County. In instances where improvements would fall under the jurisdiction of the Railroad and/or the State, it should be remembered that the actual priority of a given improvement would have to be determined within the overall framework of the jurisdiction due to capital funding constraints.

1. Parking Facilities

Although expansion of existing parking areas does not appear warranted at this time, based on utilization, upgrading of unpaved lots would be desirable. Options for upgrading lot surfaces range from grading and laying a stabilized gravel base to paving with bituminous concrete (black top). Lots should be lighted in either case. Estimated costs for providing paved parking at unpaved Hunterdon County stations are presented in Table 18. The estimates include costs for grading, paving, striping, and lighting. Costs were based on providing the same number of spaces as currently estimated at the stations.

Cost estimates for resurfacing with a stabilized gravel base and providing lighting were not available. Although this is initially a less expensive procedure than

TABLE 18

Estimated Costs for Paving Parking Areas at Hunterdon County CNJ Stations

Station	No. of Parking Spaces	Parking[1] Area (Sq. Ft.)	Cost For[2] Paving Lot	Access Road[3] Paving	Total Cost
Whitehouse	40	12,000	$28,000	$ 2,800	$ 30,800
Lebanon	25	7,500	17,500	1,750	19,250
Annandale	35	10,500	24,500	2,450	26,950
Glen Gardner	2	600	1,400	140	1,540
Hampton	40	12,000	28,000	7,000	35,000
TOTALS	142	31,800	$99,400	$14,140	$113,540

[1]Assumes 300 sq. ft. per parking space, including 1/2 isle width

[2]Assumes Unit cost of $700 per parking space. Includes grading, paving, striping, and lighting. Based on State averages.

[3]Assumed to be 10 percent of lot cost, based on State averages for similar conditions. Exception being Hampton Station which has an unpaved access road approximately 0.4 miles long. In this case an estimate of 25 percent of lot cost was used.

paving, the surface deteriorates with bad weather and use. Therefore, maintenance would be a factor.

Based on current level of utilization and existing physical conditions, the following surface improvements would be warranted at Hunterdon County stations:

Whitehouse - paving
Lebanon - partial paving or gravel base
Annandale - paving
Glen Gardner - gravel base
Hampton - partial paving or gravel base

2. Station Platforms

Installation of low level platforms at Hunterdon County stations would enhance the quality of service and could have a positive effect on patronage. Low level platforms are usually composed of a stone base and a bituminous pavement, with a concrete curb. The platform should be approximately 100 feet long and about 8 feet wide. The cost of these platforms would be about $1,320 each. With respect to ranking stations within the County in order of priority, those having the highest utilization should receive first consideration. On that basis, platforms would be installed in the following order:

1. Whitehouse
2. Annandale
3. Hampton
4. High Bridge
5. Lebanon
6. Glen Gardner

3. Trailblazers

Trailblazer signs should be posted directing traffic from main arteries to the rail stations. Signs should be uniform, easy to read, and convey sufficient information. Based on past experience, the cost per installed sign would range from approximately $100 to $125.

4. Public Information

Current information concerning rail operations, schedules, fares, etc., should be posted at all rail stations. Information should be displayed in plain sight. This practice would keep regular riders informed of any operational changes and provide the occasional or new rider with a current timetable.

5. Public Telephones

Installation of public telephones at station locations would provide patrons with a worthwhile amenity. There is no charge for pay phones that are available to the public 24 hours per day; however, the desired location must be concurred in by the telephone company. In other cases, the telephone company requires a guaranteed utilization of $10.50 per month.

II. Bus Service

A. Operational Considerations

1. TNJ Route 150

Based on the route inventory, no changes are recommended as to scheduling and frequency of service. Level of service considerably outstrips demand with respect to the County.

Although the Central Railroad of New Jersey and TNJ Route 150 are in reasonably close proximity in the vicinity of Annandale, Lebanon, and Whitehouse Stations, coordination of service is not practical. First, at the three stations mentioned, the bus route is presently at least three-quarters of a mile away. Bus deviation to one or more of these locations over local roads would cause a substantial increase to the overall bus route travel time. Second, in light of the present services offered, with respect to orientation and trip purpose of passengers, there does not appear to be a basis to expect a demand for coordination. Third, coordination would require rescheduling of the TNJ service which would be detrimental to its operation.

2. Blue Bus Lines

Based on the route inventory, no changes are recommended as to frequency of service or scheduling at this time. The current service is geared to accommodate daily commuter patrons while providing limited off-peak shopper type orientation. Both types of service are highly underutilized. Additional service could attract a small amount of new ridership but would not be justified on the basis of economics.

As mentioned in the inventory, there is presently a degree of coordination between Blue Bus Lines' schedule and arrivals and departures at Penn Station in Trenton, primarily with respect to trains to and from Philadelphia. Due to the prime travel pattern of trips made on Blue Bus, i.e., Stockton - Lambertville origins with the City of Trenton as the destination, and the limited frequency of service, an attempt at increased coordination would not attract a measurable amount of new riders and could possibly be detrimental to existing patronage due to unfavorable schedule shifts.

Although Blue Bus Lines and West Hunterdon Transit both have stops in Lambertville, the former serves a north to south, relatively localized, commuter pattern while the later is west to east long-haul oriented. Therefore, coordination of service is basically incompatible due to scheduling requirements and would be rather meaningless even if possible.

3. West Hunterdon Transit

Based on the inventory of West Hunterdon Transit's current operations, no frequency or schedule changes are recommended at this time. Service during commuter periods is consistent with patronage levels while off-peak service frequency increases could not be justified in view of light existing off-peak utilization.

Coordination of service between West Hunterdon Transit and Blue Bus Lines was discussed in the preceding section on Blue Bus Lines.

4. Dilley Bus Service

As discussed in the inventory, Dilley Bus Service service consists of one weekday trip per direction of travel between Somerville and Flemington. It predominantly serves persons attending the Hunterdon Occupational Training Center. For that reason, it is recommended that the present schedule for this round trip run be maintained unless an alternate means of transit for these students becomes available.

With respect to whether any market exists for either work trips or shopping trips between Somerville and Flemington is difficult to ascertain in light of available data. The existing service does not provide insight since the schedule is not conducive to either type of trip and is only oriented toward Flemington. However, in the case of Flemington - Somerville, it is believed that there may be more potential for a shopper link than for work trip service. A possibility that could be explored would be the institution of a shopper special on a trial basis. The service would have to be publicized in advance and most likely a funding source identified to offset potential deficits incurred by Dilley Bus Service. Possibly local merchants would be willing to participate. It should be emphasized that deficits should be expected and may approach a substantial portion of the operating costs if the trial is not successful in terms of attracting riders.

B. Passenger Facilities and Amenities

1. Bus Shelters and Transportation Depots

In the course of public transportation studies it is a relatively common practice to establish transit "service standards" against which to judge the adequacy of existing service and subsequently to serve as a basis for recommendations for service improvements. With respect to bus shelters, a typical standard, often considered an "ideal" rather than a "minimum" is that load points (bus stops) having total daily boardings of at least 100 passengers should be provided with a bus shelter. (A corollary sometimes found with this standard is that bus stops serving a "significant" number of elderly and/or handicapped should be provided with shelters regardless of the total number of daily boardings.)

Within Hunterdon County, only the Hunterdon Shopping Center bus stop in Flemington would qualify as a bus shelter location based on the preceding criteria. This location generates approximately 165 weekday boardings, slightly more than one-half of all daily boardings within the County. Average daily boardings at Clinton, Frenchtown, and Lambertville are estimated to be of the following approximate magnitudes: Clinton (New St. & Old Highway 22) - 30; Frenchtown (Trenton & Bridge Sts.) - 35; Lambertville (Union & Bridge Sts. area) - 20. Boardings at other locations throughout the County would all fall well below the preceding values.

This is not to say that passenger amenities should not be provided at locations other than the Hunterdon Shopping Center. Based on the value that is placed on social benefit, there is no reason why a community cannot justify passenger amenities utilizing a much lower patronage standard than previously discussed. However, it does indicate two points for consideration. First, from the standpoint of any future Statewide bus shelter programs, it would be difficult to justify allocation of any significant number of shelters under present conditions when compared to other areas having high patronage levels. Prefabricated, low maintenance, shelters with benches presently cost approximately $3,000 each, installed.

Second, although it is true that the presence of passenger amenities tend to increase ridership to some degree, ridership increase is basically a function of the applicability of services offered to potential customers and the degree to which potential customers are aware that the service exists. The foregoing assumes that capacity constraints do not govern. Therefore, before investing any substantial sum in cost intensive amenity improvements, assuming budgetary constraints, it would be beneficial to insure that resources were also allocated for marketing existing services with the goal of maximizing current patronage potentials and ultimately permitting cost effective expansion of services if a market is found to exist.

It should be noted that an alternative to total local government capital investment in physical facilities does exist and in fact has been used to a degree in Hunterdon County. That is, soliciting the aid of local merchants in the provision of amenities. Historically, merchants will at times participate in such an amenities program through more or less altruistic civic motivation although demonstration that the program could be good for business produces more positive results.

With respect to specific locations within the County, the following recommendations are made:

- Hunterdon Shopping Center, Flemington - This location presently meets the basic concept of a "transportation depot" as discussed in the Hunterdon County Committee on Public Transportation's report "Transportation: A Problem in Hunterdon County", May 1975. Through arrangements made by West Hunterdon Transit with shopping center merchants, this stop location provides shelter, rest rooms, public telephone, and parking, as discussed in the inventory. As was also discussed, the only current problem was that parking demand exceeds designated parking area capacity. Alternatives would be to encourage kiss-and-ride and car-pooling

to the stop and/or to seek additional parking at the Center or elsewhere in the vicinity, if practical on an economic basis. If the stop location is physically shifted at a future date, thought should be given to providing for growth of the service beyond that time.

- Clinton (New St. and Old Highway 22) - Although this is the major bus stop in northern Hunterdon County, utilization is only approximately 30 boardings per day. A bus shelter with a bench is located at this intersection, provided by a local bank. If a low cost intensive solution for providing parking in the immediate area could be found, patronage might be increased, but not significantly. Upgrading the Town of Clinton's bus facilities to a "transportation depot" level is not recommended, unless this can be done through low cost local involvement, for the near future unless new transit service to the area were initiated.

- Frenchtown (Trenton and Bridge Sts.) - As discussed in the inventory, there are arrangements with a local coffee shop to provide

ticket sales and waiting facilities. Under these conditions, no additional facilities are recommended at this time.

- Lambertville - Lambertville is presently served by both West Hunterdon Transit and Blue Bus Lines. There are no passenger amenities provided. Although total boardings are not great, approximately 20 per weekday, a bus shelter at the intersection of Union and Bridge Streets is recommended if obtainable through local support.

- General - Shelters or benches at other locations should be sought on the basis of participation by local merchants unless funding not required for other purposes is available.

2. Bus Stop Signing

All regular bus stops should be properly signed and curbs properly marked as pickup zones. In the course of this study, observed bus stops were generally consistent with this criteria. However, a few stops may have been inadvertently missed due to a lack of signing or marking. It is recommended that all stops be confirmed with the respective companies operating in the County and efforts made to correct deficiencies. The cost of a bus stop identification sign is approximately $50, installed.

III. Paratransit Services

Although paratransit services for the elderly and handicapped within Hunterdon County are limited in quantity, the County does have an advantage in that service is basically consolidated rather than being fragmented, and therefore inefficient, as found in numerous other areas within the State.

It is highly recommended that this concept of centralized operations be maintained as needs are identified within the County and the range of transit services provided to specialized groups expands. It might be mentioned that one of the prime criteria, promulgated by the Urban Mass Transportation Administration, to judge Elderly and Handicapped projects for funding is demonstration that services within a service area are coordinated.

CHAPTER IV

Analysis of a Flemington-Raritan Township Bus Loop

The Hunterdon County Committee on Public Transportation, in their report, "Transportation: A Problem in Hunterdon County," May, 1975, recommended the following as one of the highest priority intermediate range potential general public transit improvement in the County:

The establishment of a bus loop service in Flemington-Raritan Township that will:

1) During the normal work week - provide transportation to shopping, medical and dental facilities, welfare and social service agencies, recreation, and all federal, state, county and local governmental offices in the Flemington and surrounding area.

2) On weekends - shuttle visitors to tourist centers from peripheral parking facilities, thereby cutting down the congestion on Borough streets.

Analysis of this proposal is worthwhile on its own merit and also since, with respect to weekday service, it represents a "prototypical" situation in the County. That is, Flemington and its surrounding environs is similar in many respects to other older residential concentrations in the County that have evolved from being totally rural centers and sharing a "town center" as the focal point of their expansion. Therefore, results of a study of the Flemington area, with the exception of its tourist trade,

should be at least generally reflective of what could be expected in similar areas within the County.

Due to the two distinct types of demand that exist in the Flemington area, namely weekday local and weekend tourist, the analysis was conducted independently for the weekday and the weekend bus service. For weekday service, the bus loop analysis was designed to incorporate the normal characteristics of an intra-city bus service, providing transportation between residential areas and traffic generators and between generators. In contrast, the weekend service was oriented toward accommodating the area's tourist trade. An analysis was conducted to determine the feasibility of relieving congestion on local streets through the provision of a shuttle service between Flemington's tourist centers and peripheral parking facilities.

I. Weekday Service

A. Selection of Alternative Routes

For weekday service, the potential users of a Flemington-Raritan Township bus loop were identified. This was done by locating residential concentrations, employment centers, and major localized traffic generators. Data was compiled predominantly through existing sources. In addition, questionnaires were sent to several major generators to assist in the determination of the magnitude and travel patterns of their patrons.

Early in the analysis of the Flemington-Raritan Township study area, it became apparent that Raritan Township had a very diffuse residential population. According to the 1970 Census, the Township had a gross population density of 180 persons per square mile and a net residential density of 768 persons per square mile (1.2 people per developed residential acre). Also there was no discernable concentration of residences within the area's 5,779 acres of residential land (spread over the total of 24,640 acres that comprise the Township) in general. In contrast, Flemington Borough had a net residential density of 12.0 persons per acre, within the overall Borough land area of 832 acres, with relatively high concentrations of residences.

It was ultimately determined that a fixed route bus loop designed to attempt to provide adequate residential coverage of Raritan Township, along with Flemington, was not feasible. Therefore, alternative routes were subsequently developed on the basis of providing coverage of generators in both Flemington and Raritan Township but geared to primarily serving Flemington residences.

Based on the preceding, four potential routes, which would best serve the area were developed. These routes are shown in Figures 6 through 9. Routes 1, 2, and 3 were designed to principally serve shopping, recreational, and other off-peak trips. Route 4 was designed principally to serve work trips.

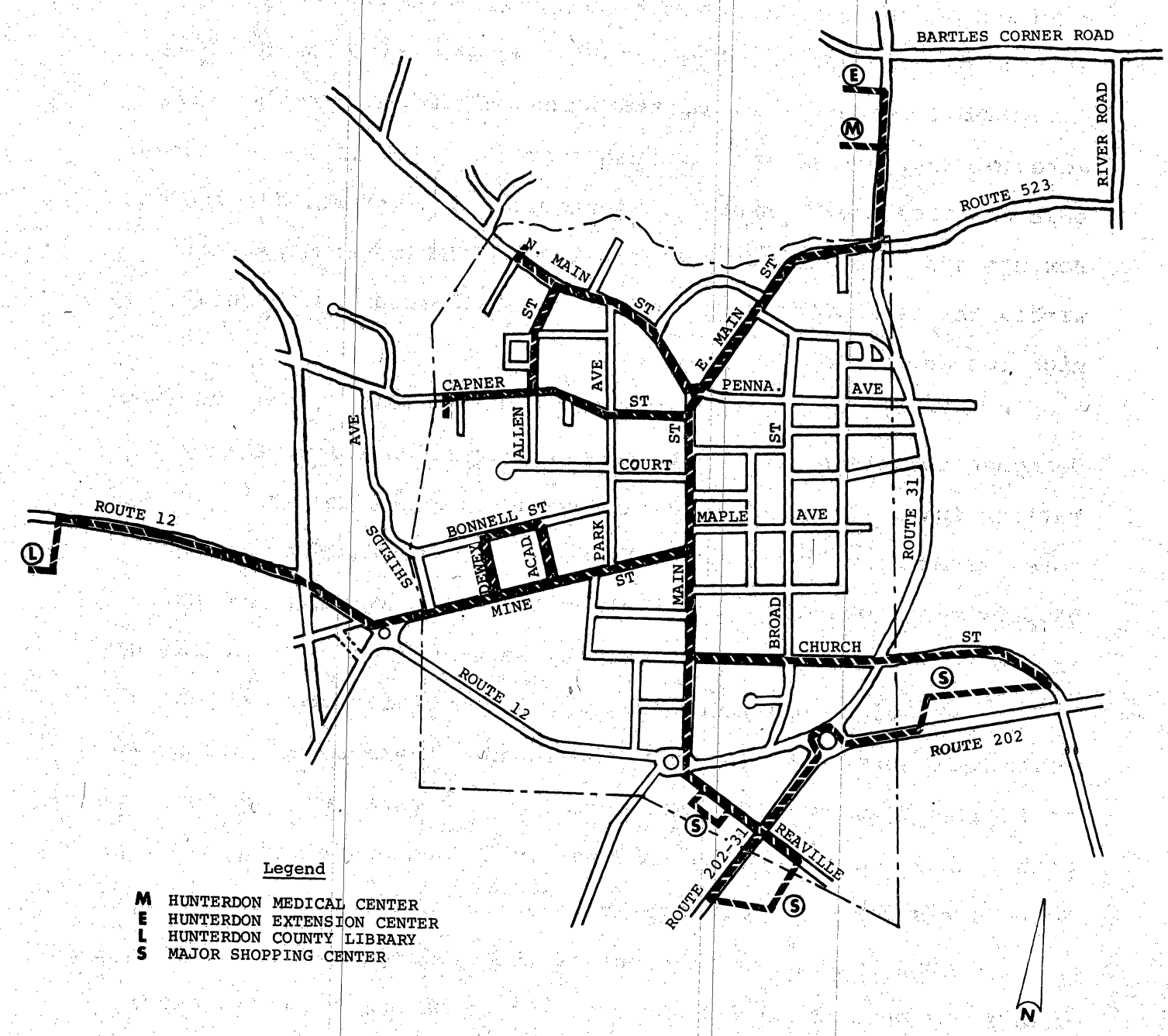
Route 1 begins in front of the Flemington Mall. The route then exits onto Route 202 and proceeds to Majors' shopping center.

FIGURE 6

HUNTERDON COUNTY PUBLIC TRANSPORTATION STUDY

FLEMINGTON-RARITAN TOWNSHIP BUS LOOP

ROUTE NO. 1



Legend

M HUNTERDON MEDICAL CENTER
E HUNTERDON EXTENSION CENTER
L HUNTERDON COUNTY LIBRARY
S MAJOR SHOPPING CENTER

FIGURE 7

HUNTERDON COUNTY PUBLIC TRANSPORTATION STUDY

FLEMINGTON-RARITAN TOWNSHIP BUS LOOP

ROUTE NO. 2

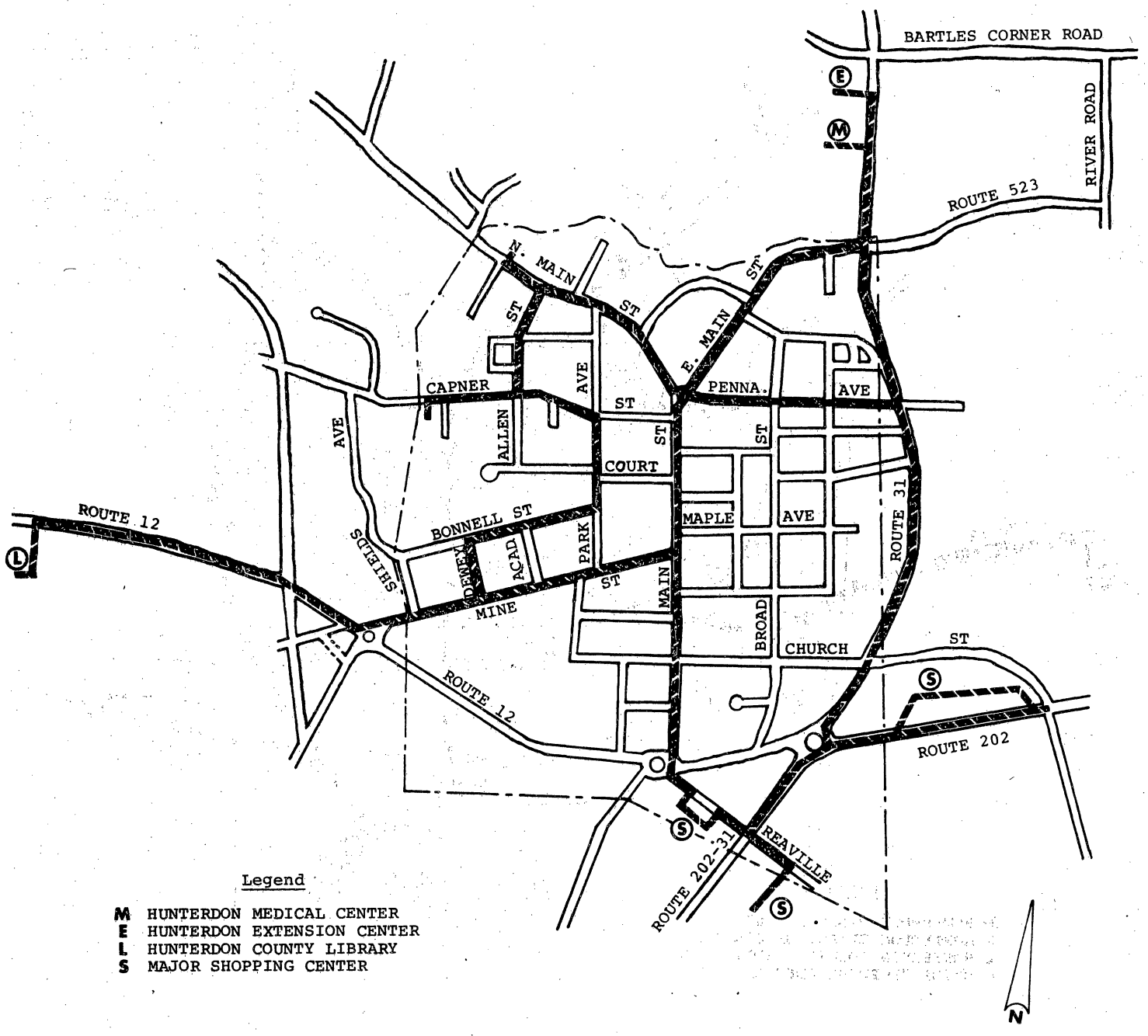
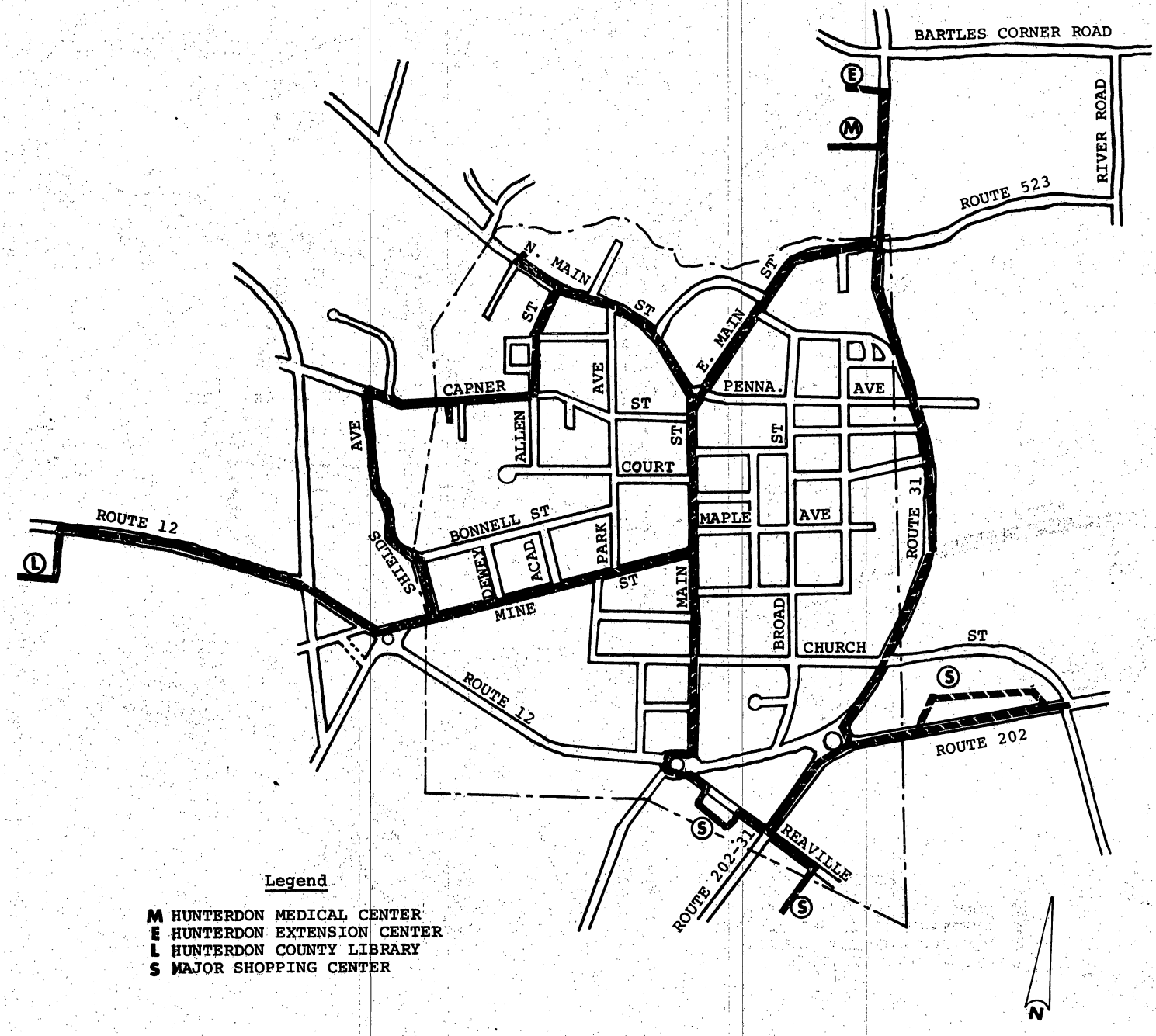


FIGURE 8

HUNTERDON COUNTY PUBLIC TRANSPORTATION STUDY

FLEMINGTON-RARITAN TOWNSHIP BUS LOOP

ROUTE NO. 3



Legend

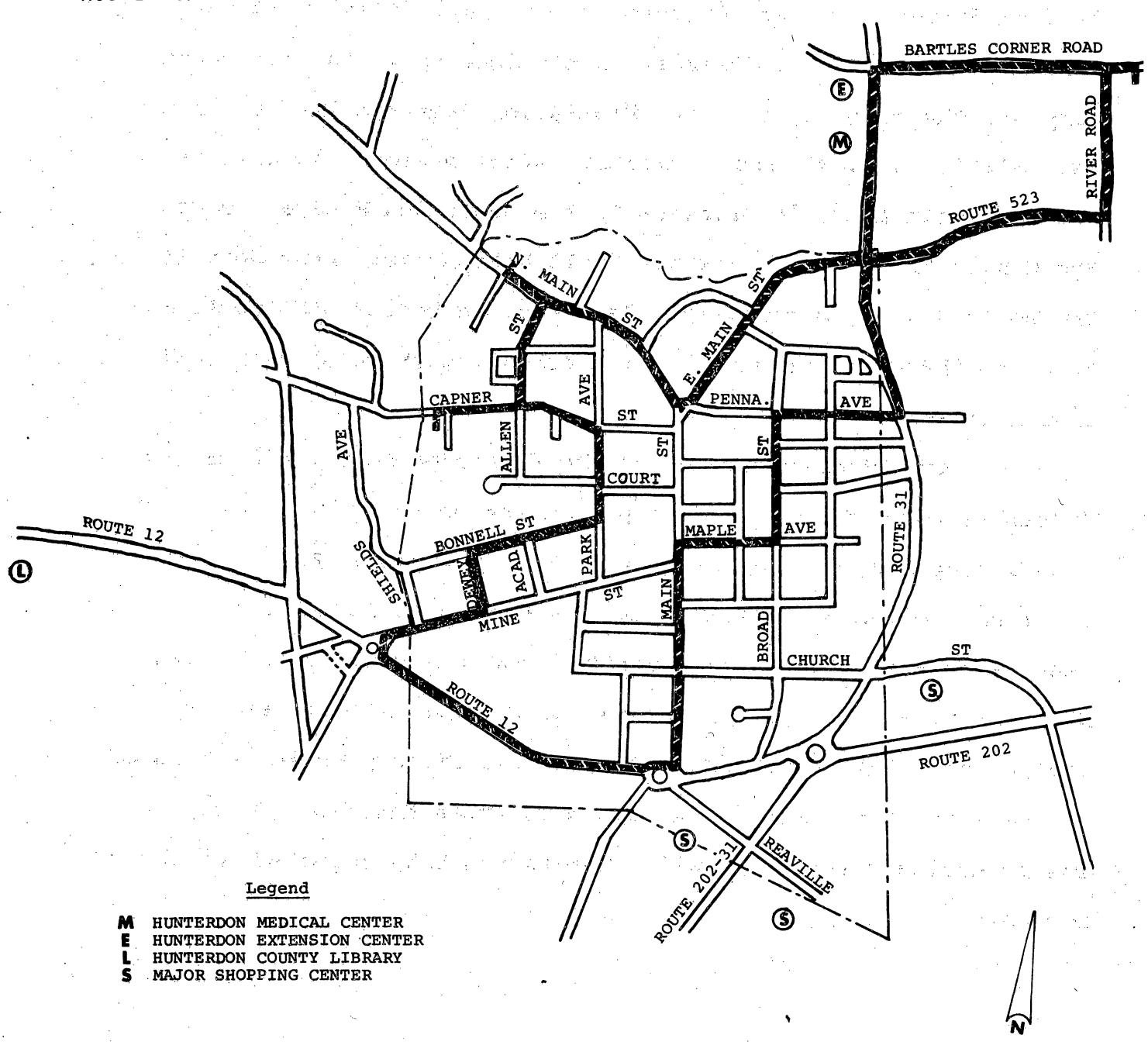
M HUNTERDON MEDICAL CENTER
E HUNTERDON EXTENSION CENTER
L HUNTERDON COUNTY LIBRARY
S MAJOR SHOPPING CENTER

FIGURE 9

HUNTERDON COUNTY PUBLIC TRANSPORTATION STUDY

FLEMINGTON-RARITAN TOWNSHIP BUS LOOP

ROUTE NO. 4



Legend

M HUNTERDON MEDICAL CENTER
E HUNTERDON EXTENSION CENTER
L HUNTERDON COUNTY LIBRARY
S MAJOR SHOPPING CENTER

It then serves Hunterdon Shopping Center by way of Reaville Avenue. Next, the route proceeds north toward the center of Flemington via Main Street to the intersection with Mine Street. From Mine Street, it loops around Dewey, Bonnell, and Academy Streets, and returns to Mine Street. It then proceeds to Prospect Hills Apartments via Mine, Main, and Caplan Streets. After looping in the apartment complex, the route runs to the Flemington Arms Apartments via Capner, Allen, and North Main Streets. After making a loop in front of Flemington Arms, it proceeds to the Hunterdon Medical Center and County Extension Center via North Main Street, East Main Street, and Route 31. Upon departing the Extension Center, the route returns to the Flemington Mall via Route 31, East Main, Main, and Church Streets.

For extended service to the Hunterdon County Library, the described loop route would deviate at the point it turns onto Mine Street from Main Street. For library service, the bus would continue along Mine Street to the juncture with Route 12 and proceed along Route 12 to the facility. The bus would then return to Mine Street along Route 12 and resume the normal loop pattern at that point. This extended service to the library would be handled in the same manner for Routes 2 and 3, whose descriptions follow. The preceding description will therefore not be repeated for those routes.

Route 2 is composed of two separate loops with a common segment along Main Street and Pennsylvania Avenue. The route begins, heading south on Main Street, at the intersection with Court Street. It proceeds south on Main Street to the traffic circle at which point it turns onto Reaville Avenue. On Reaville Avenue the route serves the Hunterdon Shopping Center and Majors' shopping center. From Majors, it proceeds to the Flemington Mall via Route 202. From this point it returns to Main Street via Route 202, Route 31, and Pennsylvania Avenue. The route again proceeds south on Main Street. At the intersection with Mine Street, the route turns west and proceeds to the Prospect Hills Apartments via Mine Street, Dewey Street, Bonnell Street, Park Avenue, and Capner Street. After looping in the complex, the route runs to the Flemington Arms Apartments via Capner, Allen, and North Main Streets. After making a loop in front of the Flemington Arms, it proceeds to the Hunterdon Medical Center and County Extension Center via North Main Street, East Main Street, and Route 31. Upon departing the Extension Center, the route returns to the point of origin via Route 31, Pennsylvania Avenue, East Main Street, and Main Street.

For extended service to the Hunterdon County Library, see the route description for Route 1.

Route 3 is composed of two separate loops with a common segment along Main Street. The route originates heading south on Main Street at the intersection with Court Street. It proceeds south on Main Street to the traffic circle at which point it turns onto Reaville Avenue. On Reaville Avenue, the route serves the Hunterdon Shopping Center and Majors' Shopping Center. From Majors, it proceeds to the Flemington Mall via Route 202. The route then proceeds to the Hunterdon Medical Center and the County Extension Center via Route 202 and Route 31. From this point it returns to Main Street via Route 31, and East Main Street. The route again proceeds south on Main Street. At the intersection with Mine Street, it turns west and proceeds to the Prospect Hills Apartments via Mine Street, Shields Avenue, and Capner Street. After looping in the complex, the route runs to the Flemington Arms Apartments via Capner, Allen, and North Main Streets. After making a loop in front of Flemington Arms, it returns to the point of origin by way of North Main and Main Streets.

For extended service to the Hunterdon County Library, *see* the route description for Route 1.

Route 4 begins on Main Street, heading south, at the intersection with Maple Avenue. The route proceeds south on Main Street to the juncture with Route 12. It then proceeds west on Route 12 to the traffic circle at which point it turns east onto Mine Street. From Mine Street, the route proceeds to the Prospect Hills Apartments via Dewey Avenue, Bonnell Street, Park Avenue, and Capner Street. After looping the apartment complex, the route runs to the Flemington Arms Apartments via Capner Street, Allen Street, and North Main Street. After making a loop in front of Flemington Arms, it proceeds to the Lipton Company via North Main Street, East Main Street, Route 523, River Road, and Bartles Corner Road. Upon departing the Lipton parking lot, the route serves the Hunterdon Medical Center by way of Route 31. From this point the bus continues south on Route 31 to the intersection with Pennsylvania Avenue. The loop is completed by returning to the point of origin via Pennsylvania Avenue, Broad Street, and Maple Avenue.

B. Analysis of Alternative Routes

1. General Route Characteristics and Service Area Coverage

Based on typical bus operating speeds of 15-20 miles per hour, including time allowances for passenger boardings and alightments and delay due to traffic, the total trip time for the completion of one loop circuit would be approximately 50 minutes for Routes 1, 2, and 3; approximately 40 minutes for Route 4. These times do not include route extension to the Hunterdon County Library which would extend total loop time by approximately 10 minutes in all cases.

For the purpose of all further analysis, it was assumed that service on all routes would be provided by a single bus.

To determine service area coverage of the potential routes, necessary for patronage estimation, the assumption that the average maximum distance a person will be willing to walk to a bus stop is one-eighth of a mile was used. Based on this assumption, percent residential and employment coverage was calculated for each route. Results were as follows:

Route	Flemington Residential Coverage	Employment Coverage Flemington	Employment Coverage Raritan
1	61.4%	59.5%	37.5%
2	68.5%	64.4%	37.5%
3	64.0%	62.9%	37.5%
4	85.4%	84.7%	65.2%

2. Patronage Estimates

In the determination of estimated average daily ridership on the four alternative routes, three basic classes of potential users were identified: Persons who could use the service to commute to and from work; specialized groups such as the elderly and handicapped and; persons who could use the service for shopping, social, and other non-work trips.

a. Basic Modal Split and Delay Factor Considerations

One of the prime requisites in determining an estimated patronage for a transit system is to arrive at a value for the expected transit modal split for the area to be served. That is, the percent of person trips made within the area that could be expected to be made by public transit if available. To determine such a value for the Flemington area, a methodology presented in a report entitled, "Transit Travel Estimation for Smaller Urbanized Areas," UMTA, 1975, was used. The method relates income strata of the population to propensity to use public transportation. For the Flemington area an expected transit modal split of 10.4 percent was derived. The value is reasonable based on "rules of thumb" and ranges of actual modal splits where transit service is provided.

The preceding is based on the assumption of "frequent" transit service and must be adjusted to reflect levels of service expected on the system in question. Based on current research being conducted by the Regional Plan Association, not published as of this date, a reasonable adjustment factor for the Flemington area is 0.70. That is, approximately 30 percent of the riders who would use a very high level of service system, would be discouraged from using the proposed Flemington-Raritan Township loop due to the headways approaching one hour.

b. Work Trips

To determine the number of people who would use the bus loop in their journey to work, people who live and work in Flemington, and people who live in Flemington and work in Raritan Township were ultimately considered. People who live in Raritan were not included in final analysis since, as previously mentioned, residential dwellings are too scattered to be served by fixed route transit and alternative routes selected therefore were not residentially oriented in Raritan Township.

Based on data contained in, "The Conversion of Rural Areas to Urban Uses" a Master's Thesis by Aaron Naveh and Adrian Atkinson, Princeton University, May 1974, the number of people who live and work in Flemington is approximately 1,035 and the number who live in

Flemington and work in Raritan Township approximately 215. To estimate potential journey to work ridership, the above employment figures were first multiplied by percent residential and employment route coverage to obtain an approximation of total potential market in the service area. Results were then factored down utilizing the transit modal split of 10.4 percent and waiting time factors discussed previously. Patronage estimates resulting from these calculations are as follows:

	Weekday Round Trips		
Route No.	Work in Flemington	Work in Raritan	Total
1	29	4	33
2	33	4	37
3	30	4	34
4	55	9	64

c. Specialized Groups - Elderly and Handicapped

Pioneer on Wheels (POW), which provides transportation for the elderly and handicapped, carries a daily average of 11 persons from Flemington to either Flemington or Raritan Township destinations. POW data for Flemington service is presented in Table 19. In addition there is a reported 10 percent unmet demand for all POW service, which would bring the total demand to approximately 12 daily elderly and handicapped round trips. Therefore, a maximum of 24 daily passenger trips

TABLE 19

Pioneer On Wheels Service to Flemington Residents
By Trip Purpose
1975*

Trip Purpose	POW I	POW II	Total
Hunterdon Medical Center	56	303	359
Hunterdon Occupational Training Center	1	987	988
Welfare Board	0	0	0
Food Stamps Office	4	1	5
Shopping	2	0	2
Day Care Center	0	683	683
Community Service Building			
Office on Aging	4	0	4
Classes	72	0	72
Doctor	48	6	54
Bank	2	38	40
Senior Citizens State School	0	262	262
Church (Baptist)	34	0	34
Post Office	1	0	1
Social Security	6	0	6
Unemployment	0	0	0
Hunterdon County Library	0	0	0
Town Hall (Raritan)	0	0	0
Red Cross	0	0	0
Bus Stop (West Hunterdon Transit)	0	0	0
TOTAL	230	2,280	2,510

*December figures not included

Source: Pioneer On Wheels

would be expected if POW local trip service were to cease and all trips diverted to the proposed bus loop. Should both systems operate simultaneously, it is believed that at least 80 percent of the elderly and handicapped would continue to use POW.

Adjusting for residential coverage of the four route alternatives, the following estimated daily ridership are obtained:

	Average Weekday Round Trips			
	Route 1	Route 2	Route 3	Route 4
With discontinued local POW service.	7	8	7	10
With continuation of local POW service.	1	2	1	2

Since discontinuance of local POW service is unlikely at the current time, the lower patronage projections apply.

It is realized that the approach used is simplistic in that only rather specialized trip purposes are accounted for. It is quite likely that the elderly and handicapped presently relying on POW would desire to make more frequent trips for other purposes if an alternate form of transit were available. Also the approach does not consider the elderly and handicapped population not utilizing POW. Unfortunately, data on these groups was not available on a sub-municipal level, thereby not allowing identification of possible residence concentrations within the study area. Trips made by these groups

would be implicitly included in the overall estimates presented in the following section on non-work trips but cannot be discretely isolated.

d. Non-Work Oriented Trips

Estimation of a potential market for non-work (shopping, recreational, social, personal business, etc.) oriented transit trips was difficult due to a lack of existing data on trip generation and travel patterns within the study area. Extensive new data collection was beyond the scope of this study. However, in order to provide a basis for initiating a rational estimation of trip potential, questionnaires were sent to several major trip generators in the area. Table 20 presents results of the questionnaire pertaining to non-work oriented trips. Using these results as a starting point, follow-up interviews were conducted to verify and/or refine input.

Based on the preceding, an estimate was made of total destination trip market potential for each alternative route, considering traffic generators served (including adjustment for generators not surveyed) and allowance for social trips based on experience in other areas. Finally, potential market was adjusted to expected patronage based on modal split, residential route coverage, and trip reduction due to frequency of service. The following results were obtained on a route by route basis:

Route No.	Number of Daily Non-Work Round Trips
1	40
2	44
3	40
4	32

e. Total Daily Patronage Estimates

Aggregating patronage estimates presented in the preceding sections yields the following on a route by route basis:

	Estimated Weekday Round Trips			
Trip Purpose	Route 1	Route 2	Route 3	Route 4
Work	33	37	34	64
Non-Work	40	44	40	32
Specialized Groups	1	2	1	2
TOTAL	74	83	75	98

TABLE 20

Flemington-Raritan Township Traffic Generator
Survey Questionnaire Responses for
Non-Work Trips
1975

Generator	Estimated Number of Daily Clients, Visitors, Etc. Total	Flemington Residence	Raritan Twp. Residence
Medical Center	600	46	83
Flemington Library	125	90	35
Hunterdon County Library	430	25	110
Hunterdon Occupational Training Center	176	13	14
Hunterdon County Offices	225	34	40
Flemington Boro Offices	20-100	19-95	1-5
Raritan Twp. Offices	50	10	40
Social Security	30	10	20
County Extension Building[1]	45	5	4
Unemployment	175	7	17
Flemington Cut Glass	1,000-3,500	NA	NA
Stangl Pottery	100-1,000	NA	NA
Flemington Fur	75-100	NA	NA
Turntable Junction	NR	NR	NR
Liberty Village	NR	NR	NR
Majors	1,200	300	300
Barkers	4,000	1,000	1,000
Grants	NR	NR	NR
Acme	1,800	NA	NA
Grand Union	700	NA	NA
A & P	NR	NR	NR
Hunterdon Theatre	250	NA	NA

[1]County Extension Building includes Welfare and Food Stamps

Note: NA = Not Available
NR = Not Returned

Source: NJDOT December, 1975 Questionnaire

C. Selection of Preferred Route Alternative

From the preceding patronage estimates it can be seen that Route 4 yields the highest overall passenger potential due to high work trip coverage. However, Route 2 is considerably more favorable with respect to other than work oriented trips. Therefore, the most desirable route alternative is a combination of these two; Route 4 during the morning and evening commuter periods and Route 2 during the off-peak. This combination would yield an estimated average weekday patronage of 110 round trips (64 work and 46 other) or 220 passenger trips.

D. Operating Characteristics

The proposed service would run from 7 a.m. to 7 p.m. Due to the estimated minimum headway of 40 minutes for the work oriented service (Route 4), three runs would be made during both the morning and evening "rush hours", 7 a.m. - 9 a.m. and 4 p.m. - 6 p.m. During the remainder of the service day, the shopping route (Route 2), would be operated on an hourly headway with trips to the Hunterdon County Library scheduled at 9 a.m., 12 noon, 3 p.m., and 6 p.m. This represents a total of 14 loop trips per weekday. A sample schedule is presented in Table 21.

Based on the operating characteristics discussed above and estimated patronage, one 20 seat bus would be required to provide service. A second vehicle should be considered for use as a back-up in case of breakdown.

TABLE 21

Proposed Flemington-Raritan Township
Bus Loop Schedule

Departure Time*	Primary Type Service Provided	Route No.
7:00 a.m.	Work Trip	4
7:40 a.m.	Work Trip	4
8:20 a.m.	Work Trip	4
9:00 a.m.	Shopping Trip/Library	2
10:00 a.m.	Shopping Trip	2
11:00 a.m.	Shopping Trip	2
12:00	Shopping Trip/Library	2
1:00 p.m.	Shopping Trip	2
2:00 p.m.	Shopping Trip	2
3:00 p.m.	Shopping Trip/Library	2
4:00 p.m.	Work Trip	4
4:40 p.m.	Work Trip	4
5:20 p.m.	Work Trip	4
6:00 p.m.	Shopping Trip/Library	2

*Initial point of departure (starting point of loop) is Main and Maple Streets for Route 4 and Main and Court Streets for Route 2.

E. Capital Costs

Capital costs associated with the initiation of the bus loop could include the purchase of rolling stock, provision of a maintenance facility and maintenance equipment, office space and furniture for the service management, and the provision of signs and amenities at bus stops. Estimation of a discrete cost for the system is difficult since it will vary dependent on the agency through which the service is provided. For instance, if service is provided by an existing company with available equipment, expenditures for rolling stock would be unnecessary. Likewise, maintenance facilities and office space would be available. Also, the cost of signs, benches and shelters can sometimes be at least partially absorbed by major generators, (such as shopping centers), groups of local merchants and at times by community action types of civic groups.

The following information on relative capital equipment should provide guidance as to possible courses of action:

- Rolling Stock - 20 foot, 18-20 seat, transit buses presently cost approximately $35,000 each. Purchase of an on-line and backup bus would represent an investment of $70,000.
- Maintenance Facilities and Equipment - Information was not available for very small systems of the type under consideration. The prime reason being that in known cases of small systems being operated by a

municipality, maintenance arrangements are made with appropriate County or Municipal government agencies having such facilities. Another possible alternative would be to contract for maintenance service with an existing bus operator.

- Office Space and Furniture - Information was not available for the same reason as discussed above. Again, the logical alternative for a municipally run small system is to utilize existing local government facilities.
- Bus Stop Signing - Typical bus stop signs currently cost approximately $50 each, installed. For the proposed loop, approximately 20 signs would be required, resulting in a total cost of $1,000.
- Passenger Amenities - Modern low maintenance bus shelters with integral benches presently cost approximately $3,000 each, installed. Estimated cost for benches is not practical due to the extreme range of materials and designs available. Based on estimated patronage, it is not likely that installation of "new look" shelters as described above could be justified economically. With respect to benches, it should be possible to provide at least several through support by merchants and/or civic groups. It might be mentioned that selling advertising space on benches or shelter facilities purchased "outright" would be an alternative to recoup capital outlay.

F. Operating Costs

Based on hourly operating cost estimates per bus of Transport of New Jersey and Dilley Bus Service, two bus operators in the Hunterdon County area, cost estimates for providing service from 7 a.m. to 7 p.m. on the proposed bus loop are as follows:

Bus Operator	Hourly Cost Estimate	Daily Cost of Flemington-Raritan Twp. Service
TNJ	$21.50	$256
Dilley	$12 - $15	$144 - $180

Approximately 50 percent of these estimates represent over-the-road expenses with the remainder attributable to garage and equipment expenses, overhead, depreciation and taxes.

The estimates differ due to varying labor agreements, a factor which will also affect the cost of operating Hunterdon County's bus service. It is important to point out here that if Hunterdon County is desirous of accessing federal funds (available under the Urban Mass Transportation Act of 1964) to fund the initiation of a bus service, there are certain requirements with regard to labor protection listed in Section 13 of the Act, with which any applicant must comply.

G. Fares and Revenues

Since the total length of the proposed Flemington-Raritan Township loop is about eleven miles, no zone fare structure is required. A flat fare should be set for any trip within a single loop.

Based on the range of estimated operating costs, $150 to $250, the following table illustrates the average number of daily and "per trip", i.e., per loop circuit; passenger trips at various fare levels, needed to maintain a "break-even" system:

Fare Levels	Number of Passenger Trips Necessary for "Break-Even" System	
	Daily	"Per Trip"
$0.20	750 - 1,250	54 - 90
$0.25	600 - 1,000	43 - 72
$0.30	500 - 830	36 - 60
$0.40	375 - 625	27 - 45
$0.50	300 - 500	21 - 36

Projected patronage is far below the necessary patronage to have the bus loop break-even at a reasonable fare level. Based on the estimated average daily patronage for the service, 110 round trips or 220 passenger trips, and the preceding operating cost ranges, the following table shows estimated revenues and deficits at the various fare levels. Yearly deficit is based on 250 days of service:

Fare Level	Daily Revenue	Projected Operating Deficit	
		Daily	Yearly
$0.20	$ 44.00	$106.00 - $206.00	$26,500 - $51,500
0.25	55.00	95.00 - 195.00	23,750 - 48,750
0.30	66.00	84.00 - 184.00	21,000 - 46,000
0.40	88.00	62.00 - 162.00	15,500 - 40,500
0.50	110.00	40.00 - 140.00	10,000 - 35,000

II. Weekend Service

Analysis of weekend service was directed toward the feasibility of providing shuttle bus service for tourists from satellite parking areas to Flemington's tourist centers for the purpose of easing traffic congestion on Borough Streets.

From interviews with local businessmen, it is estimated that between 20,000 and 30,000 tourists enter Flemington during the course of a seasonal weekend (Saturday plus Sunday) with the number normally running closer to 20,000. The peak weekend during the tourist season was reported to be the one immediately following Thanksgiving.

Most of the major business establishments that attract tourists are located in the south-southwest portion of the Borough and include Turntable Junction, Liberty Village, Flemington Cut Glass, and Stangl Pottery. Free parking is provided at several lots immediately adjacent to these and other businesses. There are also two lots that would be considered "overflow" facilities in that they are more on the periphery of the major generators, as a whole, although well within walking distance of them.

Discussion with local businessmen and persons familiar with the area revealed that the centralized parking facilities were generally full on weekends during the tourist season while the two "overflow" lots were underutilized except in extremely rare instances. In order to substantiate this concensus with actual figures, a survey was taken on September 28, 1975 (Sunday) through the auspices of the Executive Director of the Hunterdon County Committee on Public Transportation. Results of the survey are indicated in Table 22.

TABLE 22

Flemington Tourist Area
Parking Lot Utilization

Name	Location	Normal Capacity	Number Parked	Percent Capacity
Turntable Junction	Church St., North Side	60	60	100.0%
Turntable Junction	Along BR&W RR Tracks	30	35	116.7%
Turntable Junction	Along Fulper Road	15	17	113.3%
Flemington Cut Glass	Off Fulper Rd., South Side	60	60	100.0%
Flemington Cut Glass	Off Fulper Rd., North Side	40	40	100.0%
Flemington Cut Glass	Main Parking Lot Off Broad and Main Streets	175	165	94.3%
Flemington Cut Glass*	Off Broad St., East Side	100 um	12	12.0%
Liberty Village*	Main Parking Lot Off Route 12	360	125	34.7%

*"Overflow" Lots

Note: Survey taken on September 28, 1975 (Sunday) between 11 a.m. and 12 noon.

Source: Executive Director, Hunterdon Co. Committee on Public Transportation

Results of the above survey confirm that parking is not a problem per se and therefore implies that on-street congestion should not be a direct function of parking availability, i.e., traffic circulation resulting from visitors waiting for a parking space to "open up". However, a portion of the congestion problem appears to be due to a "perceived" lack of parking availability. Although a segment of the population might prefer to circulate in their autos for the sake of obtaining a parking space in one of the "prime location" parking lots that are filled to capacity, it is not likely that this would be a predominant attitude. Since the "overflow" lots tend to remain underutilized for long periods even when street congestion is highest (through observation and interviews) it must be assumed that part of the problem is that many visitors are not aware of the presence of the "overflow" facilities and that they begin to fill only when "stumbled onto" in many instances. Observation of the area tends to support this hypothesis. Adequate directional and informational signing is lacking. A second portion of the problem is that visitors, even if they know of the auxillary parking facilities, do not have a way of knowing whether a "prime location" is already filled to capacity until they enter it.

Although "perceived" parking inadequacy is a contributing factor to the local congestion problem, the obvious prime reason is the high in-bound and out-bound traffic volumes being ultimated, concentrated, on short segments of two intersecting local streets, Main and Church, at which point most turning movements into and

out of parking areas also take place. It is believed that it would be possible to improve traffic flow through a traffic engineering type program aimed at reorienting and diffusing traffic patterns. However, exploration along these lines is beyond the scope of this study. In any case, it is felt that while weekend congestion problems could be reduced by such means, they would not be eliminated due to the overall nature of the cause and the area.

With respect to whether a shuttle service between Flemington's tourist generators and one or more parking areas on the periphery of Flemington would significantly reduce congestion, it is not believed that such a service would meet with much success under status quo conditions. Based on a weekend consumer survey conducted by principal local merchants in 1973, having a non-random sample size of approximately 3,000 responses, only 15-20 percent of Flemington's visitors came to Flemington less than once a year. Approximately 25 percent visited five or more times a year. Over 80 percent of all visitors felt that parking was adequate. It is not likely that many persons would be willing to park at a remote lot and take a shuttle bus to the tourist area knowing that free parking adjacent to their area of interest is available and which they consider adequate. Even, if the parking-shuttle service were free, it is believed that patronage would not be high due to real or perceived inconvenience. It should be remembered that people do not psychologically regard traffic congestion, within bounds, connected with an "outing" in the same way as when encountered under other

circumstances. In the case of the former, it is considered "normal" and usually causes little aggrevation.

Circumstances under which the shuttle could be effective would involve applying disincentives. That is, if parking within the tourist area of Flemington Borough were restricted either literally or through parking fees. It is not believed that a scheme of this type would meet with favorable response from area merchants and businessmen since it carries the distinct possibility of reducing overall customer patronage.

Although the peripheral parking-shuttle bus concept does not appear to have promise, there is a type of weekend, tourist oriented, bus service that could have potential with respect to patronage. In 1974, on the Friday, Saturday, and Sunday following Thanksgiving, local merchants provided a free fare loop route shuttle bus to tourists. The loop tied the Turntable Junction, Liberty Village, Stangl Pottery area enterprises in with the Flemington Fur, Flemington Cut Glass, and Dansk areas. An estimated 400-500 people were carried over the three days the route was in operation. There was no prior publicity.

The above discussed type of service could be beneficial from a congestion reduction standpoint in that some "side trips," by auto, to establishments not within easy walking distance of the main tourist area. However, impact on traffic congestion would not be expected to be substantial. The service would be more of a "courtesy" service to visitors that could also be utilized to a degree by local residents. To be effective, fares would have to be free or negligible; i.e., a "nickel" bus.

In summary, it is not believed that congestion problems in Flemington can be effectively solved through public transit in the form of a peripheral parking-bus shuttle approach. The problem should be addressed from a traffic engineering and public information improvement standpoint.

With respect to the tourist loop bus service, it could be successful from a patronage standpoint. However, fares would have to be minimal and therefore operating subsidies maximal. The service would not be recommended unless supported by local merchants.

CHAPTER V

Preliminary Investigation of Potential Intra-County Bus Routes

As previously noted, bus service in Hunterdon County is presently limited to four privately owned bus lines providing service along major east-west arteries across the County: Transport of New Jersey, West Hunterdon Transit, Dilley Bus Service and Blue Bus. Although these bus lines provide several trips daily through the County, they provide no service along major north-south arteries.

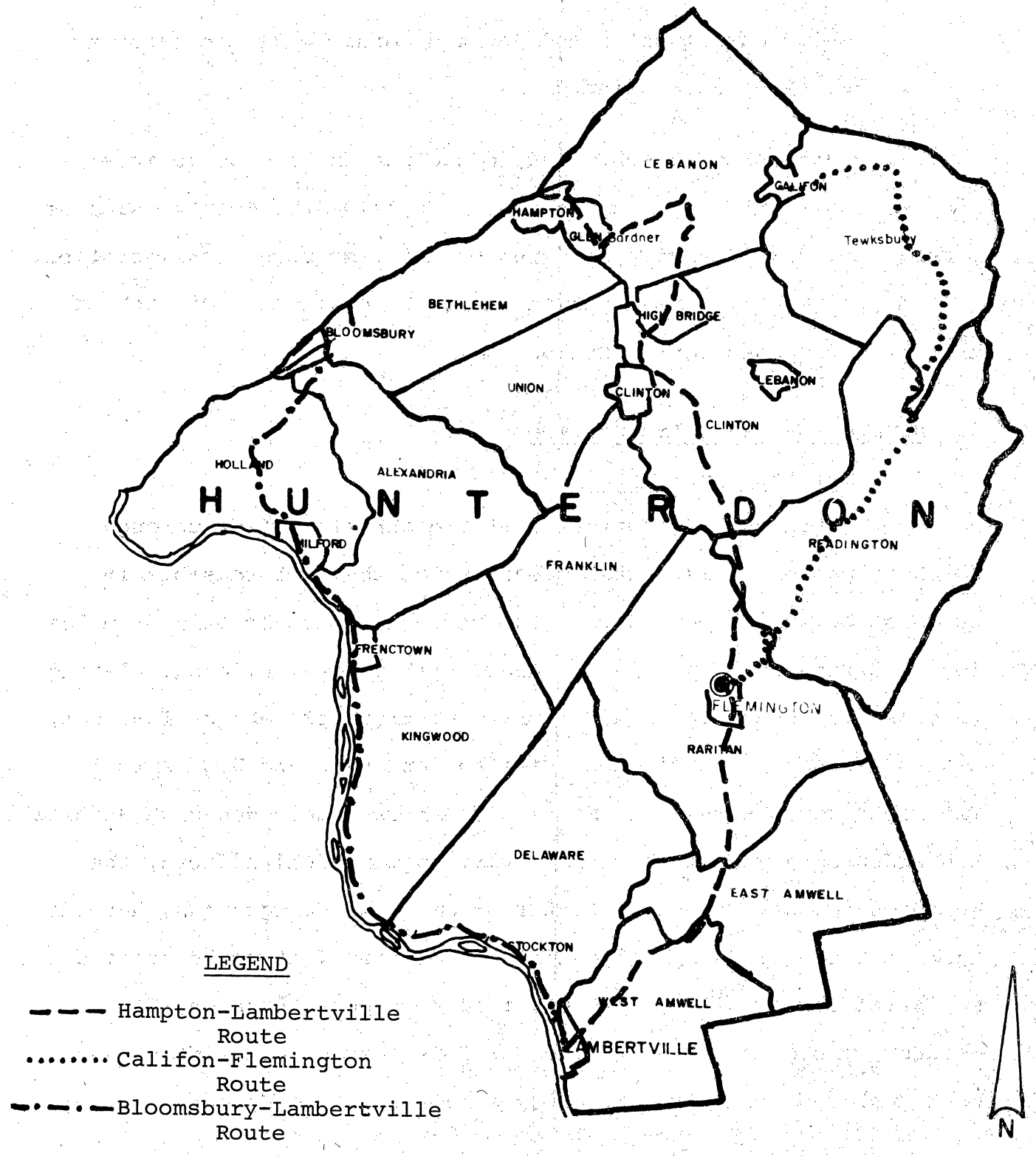
For the above reason, the Hunterdon County Committee on Public Transportation, in their report, Transportation: A Problem in Hunterdon County, May, 1975, proposed several intra-county bus routes to serve the communities along the County's major north-south arteries and provide a public transportation link to Flemington, the County's center for shopping, medical and governmental services. The Committee's proposals, illustrated in Figure 10, follow:

1. An intra-county bus link from the northern edge of the County at Hampton, to Clinton, Flemington and Lambertville, along Routes N.J. 31 and N.J. 179.
2. A bus route connecting the towns along the western edge of the County - Bloomsbury, Milford, Frenchtown, Stockton, Lambertville - with existing services at Frenchtown and Lambertville.

FIGURE 10

HUNTERDON COUNTY PUBLIC TRANSPORTATION STUDY

PROPOSED INTRA-COUNTY BUS ROUTES



3. A bus route utilizing various county roads, connecting the towns of Califon, Fairmount, Oldwick, Whitehouse, Whitehouse Station and Bartles Corner with the existing services at Flemington.

In addition to these routes, establishment of bus commuter - shopper links with major urban centers outside the County, such as Somerville, New Brunswick and Trenton, is also under consideration.

A preliminary investigation into the feasibility of each of the three proposed routes follows.

I. Hampton-Lambertville Service

A. Service Description

Based on the population of the municipalities through which it passes, this route appears to be the most feasible in terms of potential patronage. The route is approximately 33 miles long, serving Hampton, Glen Gardner, High Bridge, Clinton, Flemington, and Lambertville in addition to portions of Lebanon Township, Clinton Township, Readington, Raritan, and East and West Amwell. The route would serve both North and Central Hunterdon High Schools, Hunterdon County Medical Center, various municipal offices, the Hunterdon County Extension Center, Flemington Fairgrounds, and the Hunterdon County Shopping Center. In addition, it would provide potential service links with CNJ rail service at Hampton, Glen Gardner, and High Bridge; TNJ's New York service at Clinton; and West Hunterdon Transit's New York service at Flemington.

B. Operational Assumptions

Based on an average operating speed of 30 miles per hour, which includes time allowance for passenger boarding and alightings, trip time from terminus to terminus would be approximately 60 minutes. This means that if service extends from 7 a.m. to 7 p.m. and operates on a headway of 60 minutes, 12 daily trips would be provided in each direction. These hours of operation and service frequency are recommended in order to encourage both work oriented and off-peak non-work oriented ridership.

C. Capital Costs

Capital costs associated with the initiation of a new bus service could include the purchase of rolling stock, provision of a maintenance facility and maintenance equipment, office space and furniture for the service management, and the provision of signs and passenger amenities at bus stops. Estimation of a discrete total capital cost for a specific new bus route is rather difficult, since it will vary dependent on the agency through which the transportation service is provided. For instance, based on the level of service discussed above, two vehicles would be necessary to provide daily service. Obtaining a third vehicle, to act as a replacement for possible breakdowns, should also be considered. At an approximate cost of $59,000 for a 30-foot 33/55 passenger transit bus, this means an investment of $177,000. However, if the service could be provided by an existing bus company with excess equipment, this expenditure would be unnecessary. Likewise, maintenance facilities and office space would be available. Also, the cost of signs, benches, and shelters can sometimes be absorbed by major generators, such as shopping centers, which the buses serve.

D. Operating Costs

Based on the hourly operating cost estimate per bus of TNJ and Dilley Bus Service, as discussed in Chapter 4, the cost estimates for providing hourly bi-directional service from 7 a.m. to 7 p.m. on the proposed route are as follows:

Bus Operator	Hourly Cost Estimates	Daily Cost of Hunterdon Co. Service
TNJ	$21.50	$516
Dilley	$12 - $15	$288 - $360

E. Fares and Revenues

To establish potential patronage levels for the proposed bus service, with an adequate degree of confidence, would require a more detailed survey of travel desires within the County. However, it is possible to delineate appropriate fares and fare zones, estimate the various trip lengths and thereby determine the levels of patronage necessary to achieve a "break-even" system.

Considering the location of the population centers of Lambertville, Flemington, and Clinton, and the fact that the proposed route is intersected by I-78 in the north and N.J. Route 12 further south, it appears that the route in question would naturally divide into three fare zones: Hampton to Clinton, bounded by I-78; Clinton to Flemington, bounded by N.J. Route 12; and Flemington to Lambertville.

Utilizing TNJ's basic fare structure as a model, the base fare on this route would be $.40, with a $.15 increment for the second zone and a $.10 increment for the third zone. This indicates a one-way, end-to-end fare of $.65.

Based on the range of estimated operating costs discussed above ($300-$500), the following table illustrates the number of daily and "per trip" passengers needed to maintain a "break-even" system at the various fare levels.

Fare Levels	Number of Psngrs. Necessary for "Break-Even" System	
	Daily	Per Trip
40¢	750 - 1,250	32 - 52
55¢	545 - 910	23 - 38
65¢	460 - 770	20 - 32

II. Bloomsbury-Lambertville Service

A. Service Description

This potential route is approximately 26 miles long, and would provide service to Bloomsbury, Milford, Frenchtown, Stockton and Lambertville, in addition to portions of Holland, Alexandria, Kingwood and Delaware Townships. It would also offer potential links with TNJ's New York Service at Bloomsbury, West Hunterdon Transit's New York service at Frenchtown and the Hampton-Lambertville service at Lambertville.

B. Operational Assumptions

Based on an average operating speed of 30 miles per hour, to include time allowance for passenger boarding and alighting, trip time from terminus to terminus would be approximately 50 minutes. Therefore, if service extends from 7 a.m. to 7 p.m. and operates on a 50 minute headway, 14 daily trips would be provided in each direction.

C. Capital and Operating Costs

Based on the level of service discussed above, capital and operating costs for this route would be approximately equal to the costs of the Hampton-Lambertville service.

D. Fares and Revenue

As discussed previously, accurate patronage levels for bus service could not be adequately established without a more detailed study of travel desires. Therefore, the same method of delineating appropriate fares and fare zones, estimating trip lengths and determining the patronage levels necessary for a "break-even" system will be utilized.

Utilizing N.J. Route 12 as the demarcation line, this proposed route would divide into two fare zones, Bloomsbury to Frenchtown, and Frenchtown to Lambertville. Employing TNJ's fare structure as a model, basic fare on this route would be $.40, with a $.15 increment for a 2-zone ride. This indicates a one-way, end-to-end fare of $.55.

Based on the range of estimated operating costs ($300-$500), the following table illustrates the number of daily and "per trip" passengers necessary to maintain a "break-even" system at the two fare levels.

	Number of Psngrs. Necessary for "Break-Even" System	
Fare Levels	Daily	Per Trip
40¢	750 - 1,250	25-40
55¢	545 - 910	17-29

III. Califon-Flemington Service

A. Service Description

This potential route is approximately 23 miles long, and would provide service to Califon, Tewsbury, Readington, Raritan Township and Flemington, in addition to potential links with West Hunterdon Transit's New York service and the Hampton-Lambertville service at Flemington.

B. Operational Assumptions

Based on an average operating speed of 30 miles per hour, to include time allowance for passenger boarding and alighting, trip time from terminus to terminus would be approximately 45 minutes. Therefore, if service extends from 7 a.m. to 7 p.m. and operates on a 45 minute headway, 16 daily trips would be provided in each direction.

C. Capital and Operating Costs

Based on the level of service discussed above, capital and operating costs for this route would be approximately equal to the costs of the two previously discussed services.

D. Fares and Revenue

Utilizing U.S. Route 22 as the demarcation line, this proposed route would divide into two fare zones, Califon to Whitehouse and Whitehouse to Flemington. Employing TNJ's fare structure as a model, basic fare on this route would be $.40, with a $.15 increment for a 2-zone ride. This indicates a one-way, end-to-end fare of $.55.

Based on the range of estimated operating costs ($300-$500), the following table illustrates the number of daily and "per trip" passengers necessary to maintain a "break-even" system at the two fare levels.

	Number of Psngrs. Necessary for "Break-Even" System	
Fare Levels	Daily	Per Trip
40¢	750 - 1,250	27-45
55¢	545 - 910	20-33

IV. Summary and Conclusions

The preceding preliminary analysis has described the service to be provided and has indicated a potential magnitude of costs to be incurred by implementing each of Hunterdon County's proposed intra-county bus routes. The question then is: Do the benefits to be provided to Hunterdon County residents, in terms of service use, warrant the expenditures? To answer this question, a look at Hunterdon County's population, population density and potential patronage levels is necessary.

In a July, 1970 Interim Technical Report entitled Transit Supporting Densities, the Tri-State Regional Planning Commission set forth the following standards:

1. Bus travel occurs at two general levels of use (high and low), with 20,000 per square mile net residential density the approximate demarcation between the high and low use levels.
2. A determination of the density requirements of supportable transit service was found as existing in the 10 to 20 thousand per square mile net residential population range. This refers particularly to local bus service.

Although these standards were determined specifically for the Tri-State area, they can be used as general guidelines in other localities. As such, they indicate that Hunterdon County, with a net residential density of 793 per square mile, is far below the suggested level for a self-supporting bus service. Even

Lambertville City and Flemington Boro, the County's two most densely populated municipalities, have densities of only 3,963 per square mile and 3,561 per square mile, respectively.

This is not to imply that new bus service for Hunterdon County is unwarranted. It is evident that each of the three potential routes would provide a beneficial service to Hunterdon County by linking population centers, offering possible connections to longer haul rail and bus services, and providing north-south travel corridors through the County. However, since it is likewise evident that such a system would not be financially self-supporting, it is recommended that, prior to instituting such a service, further detailed study be undertaken, emphasizing the determination of accurate levels of potential patronage. With this information, it will then be possible to determine the level of return, in terms of service to the public, and decide if the necessary capital and operating expenditures would be sufficiently warranted.

CHAPTER VI

Marketing Existing and New Transit Systems In Hunterdon County

The success of a public transportation system is dependent on the utilization of that system. For this reason, the promotion of the system, through marketing, is as important as the development of the service itself.

A successful marketing program encompasses the following:

1. Systematic market research to identify the personal characteristics, tripmaking patterns, travel demands, and attitudes of major market segments.
2. Transit planning to develop routes, service modes, and other operational elements consistent with the satisfaction of recognized market needs.
3. Service development to increase the attractiveness of transit services and promote favorable attitudinal response.
4. User information and communications to increase the awareness and accessibility of transit service.
5. Promotional elements to enhance the public perception of transit as an attractive, high-quality service.

6. Monitoring and evaluation of marketing effects to instruct further activities.

Since the first two items are planning type functions primarily concerned with the identification and development of new service areas and since this chapter is oriented toward the marketing of a "given" system, items 1 and 2 will not be discussed in further detail.

I. Service Development

This item addresses the quality of the service itself, emphasizing the need for a marketable product. Certain criteria of service must be considered in the early stages of transit system development with the needs of the potential market in mind. These criteria include:

1. Frequency of Service (Scheduling to meet demand) - One must determine the trip purposes of potential system users and gear the scheduling to these needs. For instance, if the orientation is to work trips, heavy peak period service should be emphasized. In Hunterdon County, however, service will generally be more heavily oriented to the off-peak, shopping. medical appointment or personal business trip and, therefore, frequent service throughout the day is important.
2. Equipment - Size and type of buses should be appropriate for the needs of the potential ridership. Population densities in Hunterdon County suggest that smaller capacity vehicles would be appropriate.

3. Determination of Fares - The optimum fare is one which allows for a cost effective system while maintaining fares at a level low enough to attract ridership. Fare variations to be considered to attract patrons include special fares for the elderly, handicapped and school children, multiple trip tickets and one ticket transfers.
4. Location of Stops - Generally, stop location may be based on specific designation at major traffic generators and residential areas, a policy of flagging the bus at any street corner along the route, or a combination of the two. Due to the relatively light population density in Hunterdon County, a flag stop policy appears most appropriate. At major generators, however, shelters or benches should be provided. Consideration should also be given, at these points to providing turnouts which allow the bus to stop out of the flow of traffic.

II. User Information and Communications

User information and communication aids consist of those items which increase the awareness of the public as to the "how to's" of the route or system. The most important user aid is the schedule itself, which, aside from the timing and location of stops, should include a map of the route, information on possible interfaces with other transportation services, the zone and fare structure, and the phone number where more information may be obtained.

Signs also perform an important informational function. On the equipment itself, clear destination signs should be displayed outside, while route maps may be shown inside. Bus stops should be clearly marked, and route designations given. Trailblazers to major bus stop locations can be a great aid to the potential transit user.

Transportation Information Telephone Services are another method of disseminating transit information to the public. These programs serve to provide answers to questions concerning public transportation on an individual basis and, if handled through an existing agency, can be carried out at a relatively low cost. Within New Jersey, three counties, Bergen, Monmouth, and Morris Counties have existing programs.

Hours of operation of such a program are generally limited to normal business hours, however, possibilities for the extension of service to 24 hours without additional labor costs include the use of a recording machine or an answering service, at costs ranging from $25 - $65 per month.

Materials including schedules, route maps and other pertinent information must be provided to the telephonist in order that he or she will provide the public with accurate information.

Indicating a cost of the entire program is rather difficult since existing programs operate within county agencies and their costs are absorbed in the county budget. However, staff at the Monmouth County Planning Board estimated an annual cost of $15,000 to operate the information program. This figure includes office space, necessary materials, salaries and benefits for one full-time and one part-time employee and the cost of telephone service. It does not include, however, office equipment and furniture.

Utilization of the telephone service ranges from 6-10 daily calls in Monmouth County to approximately 150 daily calls in Bergen County. Since Hunterdon County's transit coverage is considerably less and its population one-seventh of Monmouth County's and one-tenth of Bergen's the program could most probably be handled at the outset by existing staff of the planning board or transportation committee, since it does not appear that the volume of calls would warrant additional manpower. This practice would aid considerably in reducing costs.

III. Promotion

The fifth step of the marketing process is promotion: the actual selling of the product. In order to establish public awareness and enhance the perception of the public transit system, various methods can be employed. The media - newspapers, radio and TV - may be employed in the traditional sense of paid advertising, but a less cost intensive method for use of the media is the press release which results in news stories about the transit service. Also, such promotional programs as free ride days, 1/2 fare shopping days, or other special service days may be instituted. Although these involve certain costs, the return, not only in media coverage, but in new ridership, is generally worth the investment.

In addition, promotional signs and materials may be placed at shopping centers and other major trip generators to ensure the wide distribution of accurate information.

IV. Evaluation and Monitoring

The last element of marketing consists of a continuing program of evaluation and monitoring: of the system itself, the needs of the market and the response to the marketing methods. These elements can be measured by various means: periodic analysis of patronage levels, operating costs and revenues; field observation of the transportation system at work; and survey of passengers' attitudes and needs.

Further information and assistance concerning marketing is available by contracting the Program Manager, Office of Transit Management, Urban Mass Transportation Administration, 2100 Second Street, S.W., Washington, D.C. 20591. This particular division of UMTA is presently performing a 34 month study of marketing techniques. The product of this study will be a Mass Transit Marketing Manual, to be available for distribution in January, 1977.

CHAPTER VII

County Alternatives for the Operation of New Transit Services

In New Jersey, the generally accepted operating options which are potentially available to the counties for implementing improved transportation services fall into four broad categories. These are: 1) new intra-municipal operation; 2) route expansion for an existing franchised carrier; 3) contract operation by existing franchised carrier, and 4) operation by a county or by a county improvement authority acting as a common carrier. All of these options, of course, are subject to various levels of regulation by various departments of state government.

I. Regular Route & Intra-Municipal Operations

The Board of Public Utility Commissioners is empowered by law (N.J.S.A. 48:1 et. seq.) to regulate intrastate and interstate motor bus transportation companies and services. In general, this regulation encompasses routes, schedules, fares, liability insurance, and equipment.

The scope of the regulatory power covers all companies operating transit services which are accessible to the general public. This power does not apply directly to charter operations or to operations whose bus units have a capacity of 10 persons or less and operate wholly within the boundaries of a given municipality. That municipality must also "consent" to such an operation by formal action.

This system of "municipal consents" historically was a requirement of establishing bus routes and services through the conventional PUC system. Normally, justification for a new route includes a petition which demonstrates the need for and public interest in a particular route and service. Subsequent to an adequate demonstration of need, the PUC would grant a Certificate of Public Convenience and Necessity for operation of the route. In practice, the process is complex and involves, in some instances, a formal public hearing and an adversary proceeding process due to the large and interrelated system of existing route certificates.

The foregoing service operation alternatives are not recommended for further consideration at this time. First, the intra-municipal limitation would not permit the implementation of any of the recommended service options indicated in previous sections of this report.

Second, the complexity of the conventional PUC system of route expansion and the probability that the recommended services would require other than fare box support, at least during initial development phases, strongly suggests that an alternate method of service expansion be seriously considered.

II. Contract Operation

The Transportation Act of 1966 (P.L. 1966 c.301) established the New Jersey Department of Transportation essentially in its present form. Through various amendments to that law, the Department, through the Commuter Operating Agency, has initiated and sustained a program of operating subsidy payments to support essential motor bus services throughout New Jersey. This financial support is provided on an annual contract basis. As a part of this contract, the Department may require the county or counties in which the service is operated to reimburse the Department for not less than 25 percent of the cost of such passenger service. This subsidy program began in fiscal year 1970 with eight companies and a budget of about $531,000, and by fiscal 1974 had grown to assist some 23 companies with a budget of just over $6,878,000. The expansion of Transport of New Jersey's subsidy assistance from selected routes to a general operating subsidy, in fiscal 1975, more than doubled the State's subsidy funding requirements. This brought the total FY 1975 subsidy payments to just over $27,233,000.

During the subsidy contract period (variable, but usually one year) the Department assumes the regulatory powers normally associated with the Public Utilities Commission relative to the subsidized carrier. These powers are exercised under the provisions of the Transportation Act of 1966, as amended, and allow the Department to regulate such things as experimental franchise rights (especially new enfranchisements), schedules, and fares.

By this means, the Department in conjunction with Hunterdon County, could effectuate changes in public transportation services in the County. This would involve an amendment to an existing operating subsidy contract to cover any revenue shortfall resulting from new, experimental transit services. Key factors involved would be the identification of an appropriate contract carrier and the availability of financial operating support at both the state and county/municipal level. In addition, regulations involving the use of federal capital and operating funds would require immediate attention, especially with respect to labor protection issues.

The operation of an experimental route, even on a continuing basis, would be subject to a continuing determination of "essentiality" as required by the provisions of the Transportation Act of 1966.

III. County & Authority Operation

The New Jersey statutes provide for the operation of transit services by counties and county improvement authorities. This legal authority is keyed to a "class" definition for New Jersey counties involving gross population and geographic location. Hunterdon County is, by this definition, a County of the third class, having a population of 50,000 to 200,000 and not situated on the Atlantic Ocean.

County operation of a public transportation system within a county and between municipalities within adjoining counties is provided by N.J.S.A. 40:35A. This power is specifically limited to counties of the fifth class and, as such, it would appear that Hunterdon County may not directly operate public transportation services.

An alternative for Hunterdon County would be to fully investigate and define its power to create a county improvement authority for the purpose of operating motor bus service in the County. While New Jersey statutes would limit, again on the basis of "class", a Hunterdon authority from exercising the powers of a common carrier, N.J.S.A. 40:37A-98, however, provides that:

> "Any county improvement authority may engage in the business of operation of public transportation facilities ... by contract."

It would appear that this section permits a county improvement authority to contract with a common carrier to provide public transportation services. Therefore, while a county improvement authority

may not exercise the powers of a common carrier (except those improvement authorities in counties of the second and fifth class, N.J.S.A. 40:37A-90) it may contract with a common carrier for the provision of public transportation services.

It should be noted that while legal advice from the Department's Legal Services Office was received by the study staff, a final determination of the foregoing jurisdictional and administrative matters would require formal review by the appropriate legal authority. Furthermore, pending legislation now before the State Legislature would authorize all counties directly to operate public transportation service and to enter into an agreement with the Department of Transportation/Commuter Operating Agency for subsidization of such service.

CHAPTER VIII

Funding Sources for Transit Capital and Operating Costs

The Urban Mass Transportation Act of 1964 (49 U.S.C. 1601 et. seq.) is the vehicle by which the United States Secretary of Transportation can provide assistance for the development of comprehensive and coordinated mass transportation systems, both public and private, in metropolitan areas, urban areas and certain non-urban areas.

The purposes of this Act are:

1. To assist in the development of improved mass transportation facilities, equipment, techniques and methods, with the cooperation of mass transportation companies both public and private;
2. To encourage the planning and establishment of areawide urban mass transportation systems needed for economical and desirable urban development, with the cooperation of mass transportation companies both public and private; and
3. To provide assistance to State and local governments and their instrumentalities in financing such systems, to be operated by public or private mass transportation companies as determined by local needs.

Capital assistance is available under the provisions of Sections 3, 5, and 16 of the Act for officially designated urban areas and generally, through Sections 4 and 16 for non-urbanized areas. The general provisions of each of the preceding sections is indicated below.

Under the terms of Section 3, the U.S. Secretary of Transportation is authorized, in accordance with the provisions of the Act, and on such terms and conditions as he may prescribe, to make grants or loans to assist States and local public bodies and agencies thereof in financing (1) the acquisition, construction, reconstruction, and improvement of facilities and equipment for use, by operation or lease or otherwise, in mass transportation service in urban areas and in coordinating such service with highway and other transportation in such areas, (2) the establishment and organization of public or quasi-public transit corridor development corporations or entities, and (3) the acquisition of real property and interests in real property for use as rights-of-way, station sites and related purposes on urban mass transportation systems, including the net cost of property management and relocation payments.

On the basis of engineering studies, studies of economic feasibility and data showing the nature and extent of expected utilization of the facilities and equipment, the U.S. Secretary of Transportation shall estimate what portion of the cost of a project to be assisted under Section 3 cannot be reasonably financed from revenues--which portion shall hereinafter be called "net project

cost." The Federal grant for any such project to be assisted under Section 3 shall be in an amount equal to 80 per centum of the net project cost.

Section 4 of the Act provides that of the total amount available to finance activities under other sections of the Act (other than under Section 5) up to $500,000,000 shall be made available exclusively for assistance in areas other than urbanized areas.

Under Section 5 of this Act, the Secretary may approve as a project, on such terms and conditions as he may prescribe, (A) the acquisition, construction, and improvement of facilities and equipment for use, by operation or lease or otherwise, in mass transportation service, and (B) the payment of operating expenses to improve or to continue such service by operation, lease, contract, or otherwise.

For this purpose, sums shall be made available for expenditure in urbanized areas or parts thereof on the basis of a specified formula. The federal grant for any construction project under this section shall not exceed 80 per centum of the cost of the construction project. The Federal grant for any project for the payment of subsidies for operating expenses shall not exceed 50 per centum of the cost of such operating expense project.

In addition to the grants and loans otherwise provided for under this Act, Section 16 authorizes the Secretary to make grants and loans (1) to States and local public bodies and agencies thereof for the specific purpose of assisting them in providing mass transportation services which are planned, designed and carried out so as to

meet the special needs of elderly and handicapped persons, and (2) to private non-profit corporations and associations for the specific purpose of assisting them in providing transportation services meeting the special needs of elderly and handicapped persons for whom mass transportation services planned, designed, and carried out under paragraph (1) are unavailable, insufficient, or inappropriate.

Since Hunterdon County is not located within an officially designated urbanized area, financial assistance to the county is not available under Section 5 of the Urban Mass Transportation Act of 1964. However, the terms of Section 4 and Section 16 (which, in turn, imply the terms of Section 3) do apply.

It should be noted that while Section 4 authorizes the reservation of federal transit funds for expenditure exclusively in other than urbanized areas, a companion appropriation measure has not been enacted at the time of this writing.

Additional financial assistance for public mass transportation, bus, and parking projects is available through the Federal Aid Highway Act of 1973 (P.L. 93-87, 87 Stat. 250 23 U.S.C. 142).

Under the terms of this Act, in order to encourage the development, improvement, and use of public mass transportation systems which operate buses for the transportation of passengers on Federal Aid Highways so as to increase the traffic capacity of the Federal Aid systems for the movement of persons, the U.S. Secretary of Transportation may approve as a project on any Federal Aid System the construction of exclusive or preferential bus lanes, highway

traffic control devices, bus passenger loading areas and facilities (including shelters), and fringe and transportation corridor parking facilities to serve bus and other public mass transportation passengers, and sums apportioned under Section 104 (b) of this title shall be available to finance the cost of projects under this paragraph, through a specific funding formula.

In addition to these projects, the Secretary may approve as a project on the Federal Aid urban system, for payment under a specific funding formula, the purchase of buses, and, beginning with the fiscal year ending June 30, 1976, approve as a project on the Federal Aid Urban System, the construction, reconstruction, and improvement of fixed rail facilities, including the purchase of rolling stock for fixed rail.

Sums apportioned in accordance with paragraph (5) of subsection (b) of Section 104 of this Act shall be available to finance the Federal share of projects for exclusive or preferential bus, truck, and emergency vehicle routes or lanes.

Funds available for expenditure under this Act shall be supplementary to and not in substitution for funds authorized and available for obligation pursuant to the Urban Mass Transportation Act of 1964, as amended.

APPENDIX

New Jersey Journey To Work Modal Split By County

N.J. Journey-to-Work Modal Split

By County

County	Auto Driver or Passenger	Bus	Subway	Rail	Walked	Other
Atlantic	77.0	9.2	0.1	0.2	10.6	2.9
Bergen	77.0	12.4	1.4	2.0	5.6	1.6
Burlington	75.2	3.3	0.3	0.5	18.8	1.9
Camden	77.6	10.0	3.2	1.9	5.3	2.0
Cape May	81.9	1.6	0.2	0.7	11.5	4.1
Cumberland	90.4	0.8	0.1	0.1	6.4	2.2
Essex	65.1	22.4	0.8	2.9	7.9	0.9
Gloucester	87.1	4.7	0.4	0.3	4.8	2.7
Hudson	49.4	28.3	6.0	1.0	14.1	0.8
Hunterdon	87.7	0.9	0.2	2.0	6.4	2.8
Mercer	81.5	5.9	0.1	2.0	8.9	1.6
Middlesex	83.3	5.5	0.1	3.3	6.4	1.4
Monmouth	79.8	5.4	0.2	5.1	7.7	1.8
Morris	85.4	2.1	0.2	5.3	5.4	1.6
Ocean	88.6	2.8	0.2	1.0	4.5	2.9
Passaic	79.1	10.8	0.1	0.8	7.9	1.3
Salem	90.8	0.5	0	0.1	6.3	2.3
Somerset	86.5	1.7	0.1	4.9	5.1	1.7
Sussex	89.2	1.3	0.2	0.8	5.8	2.7
Union	78.1	7.8	0.2	5.6	7.2	1.1
Warren	87.4	0.8	0.1	0.2	9.5	2.0
TOTAL	76.0	10.8	1.1	2.6	8.0	1.5

Note: Does not include those working at home.

Source: U.S. Census 1970