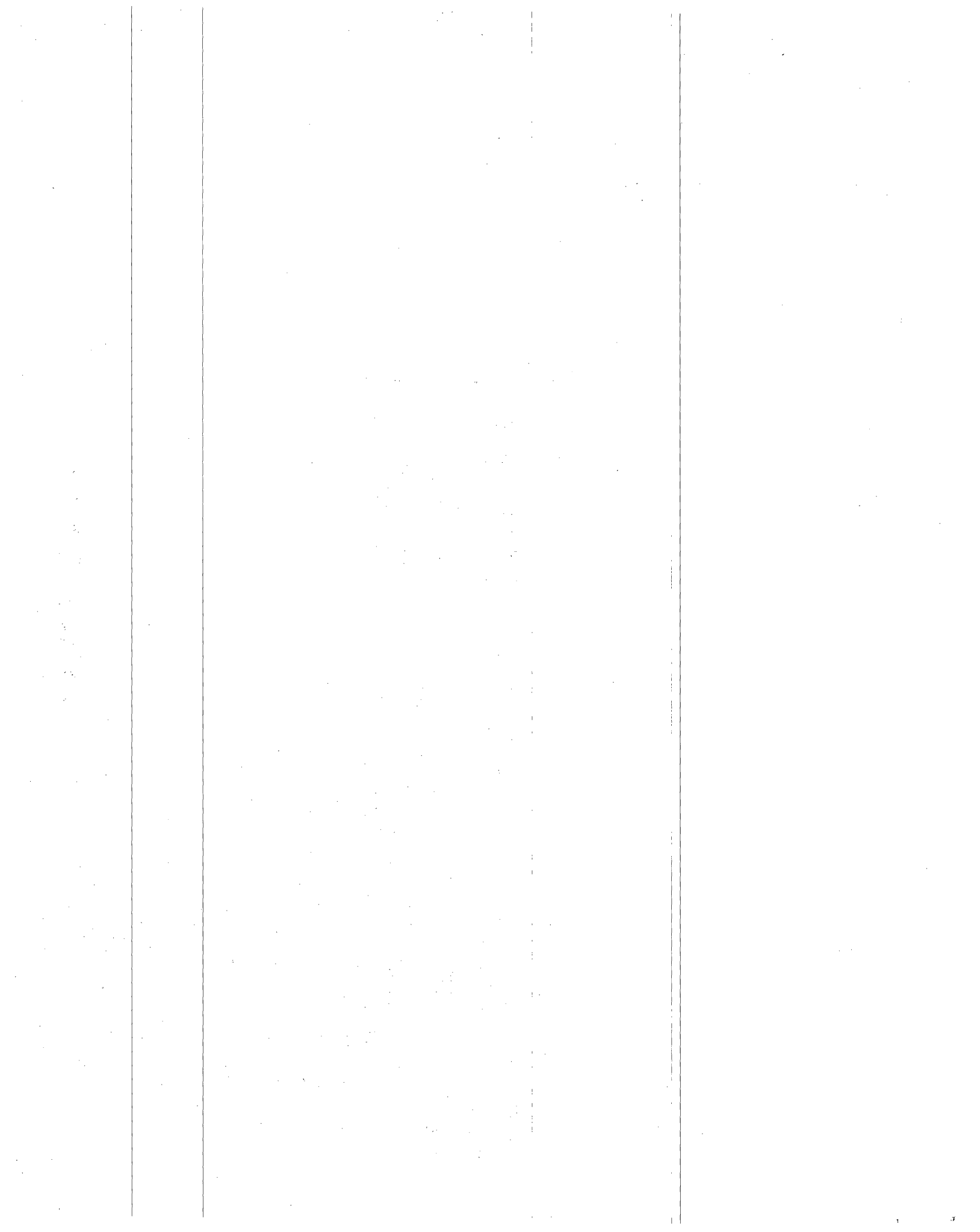


HADDONFIELD DIAL-A-RIDE
first progress report



HADDONFIELD

DIAL-A-RIDE

DEMONSTRATION

Report No. UMTA-NJ-06-0002-73-1

FIRST PROGRESS REPORT

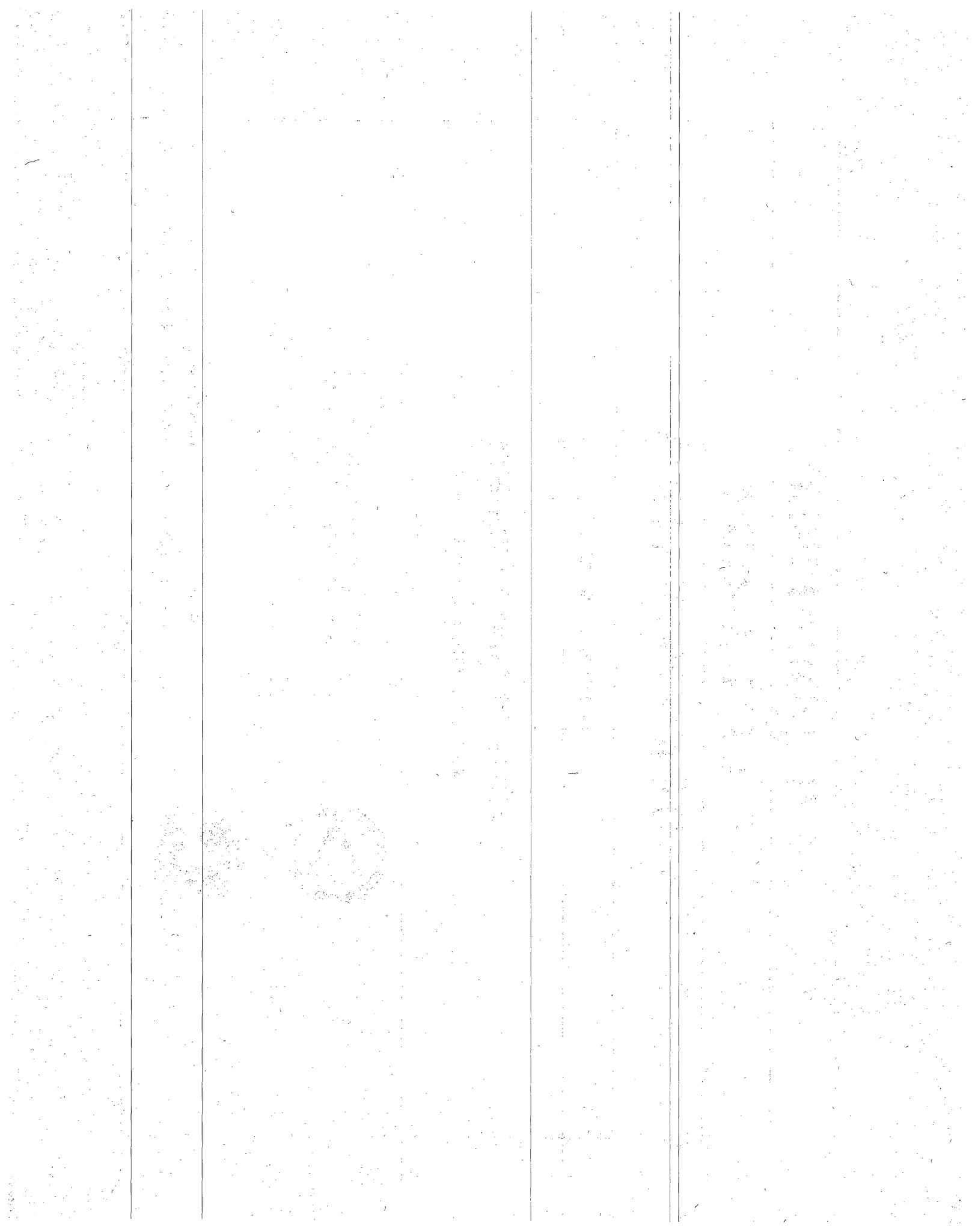
FEBRUARY THROUGH JULY 1972



STATE OF NEW JERSEY
DEPARTMENT OF TRANSPORTATION



U.S. DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION

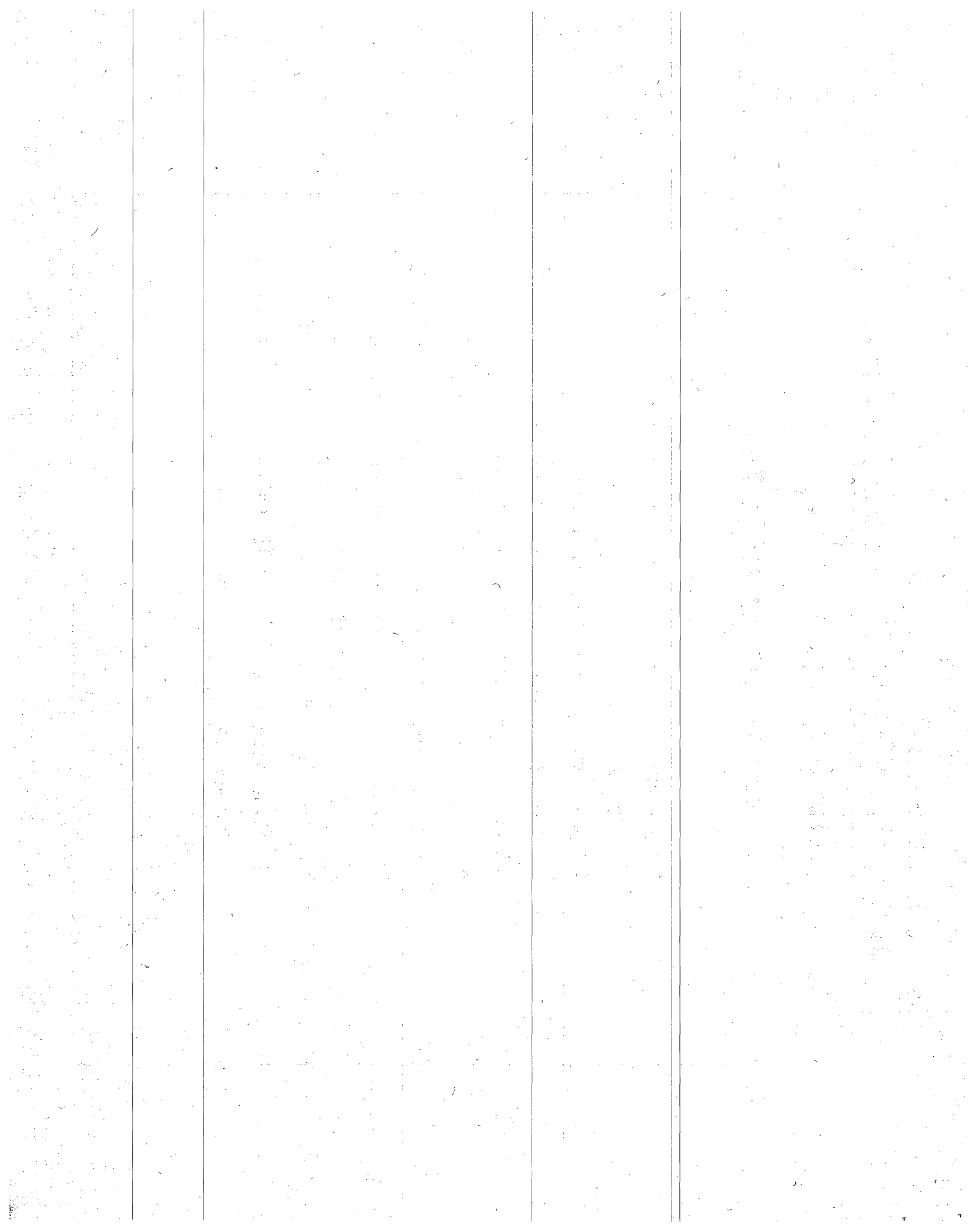


HADDONFIELD DIAL-A-RIDE

first progress report

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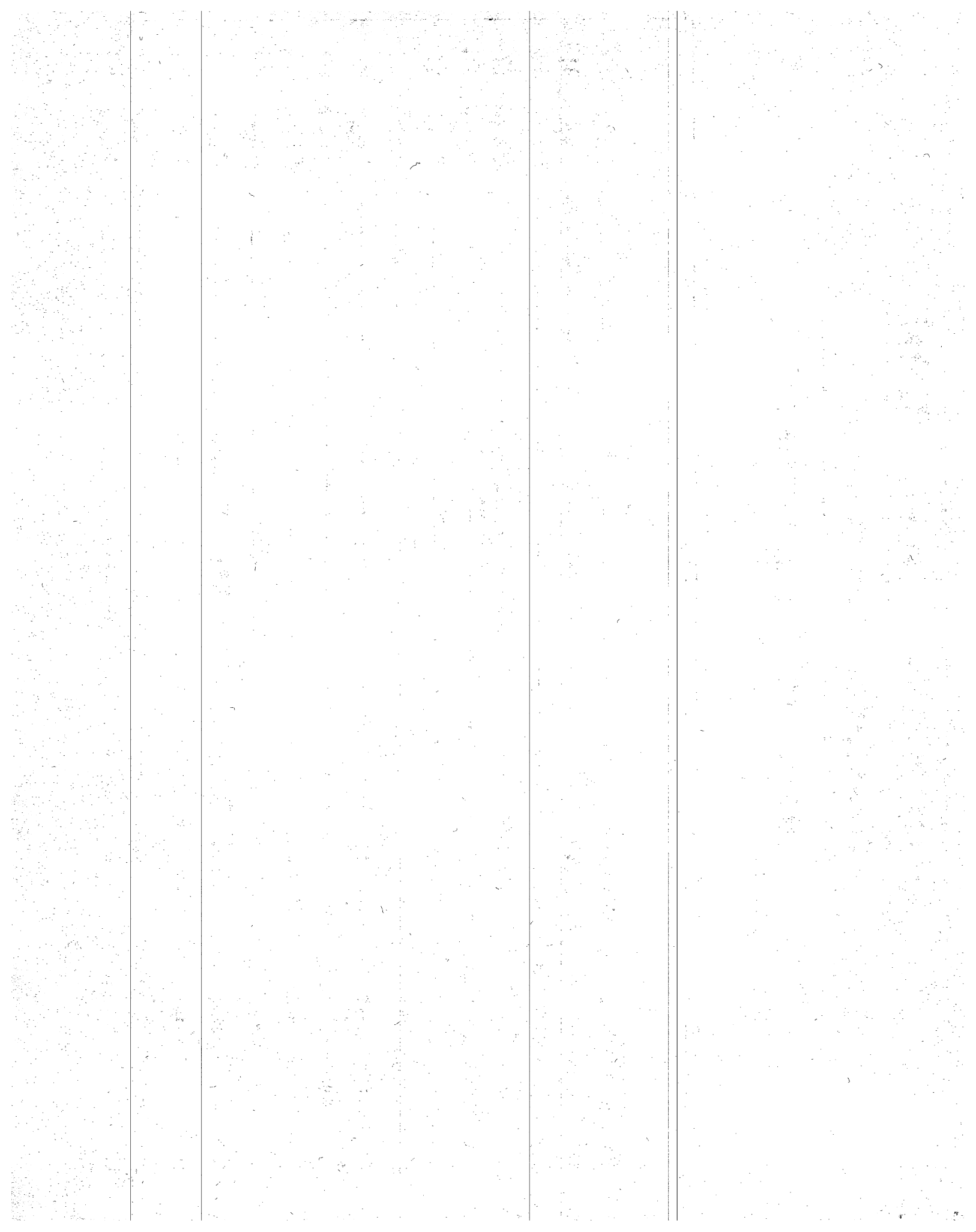


HADDONFIELD DIAL-A-RIDE

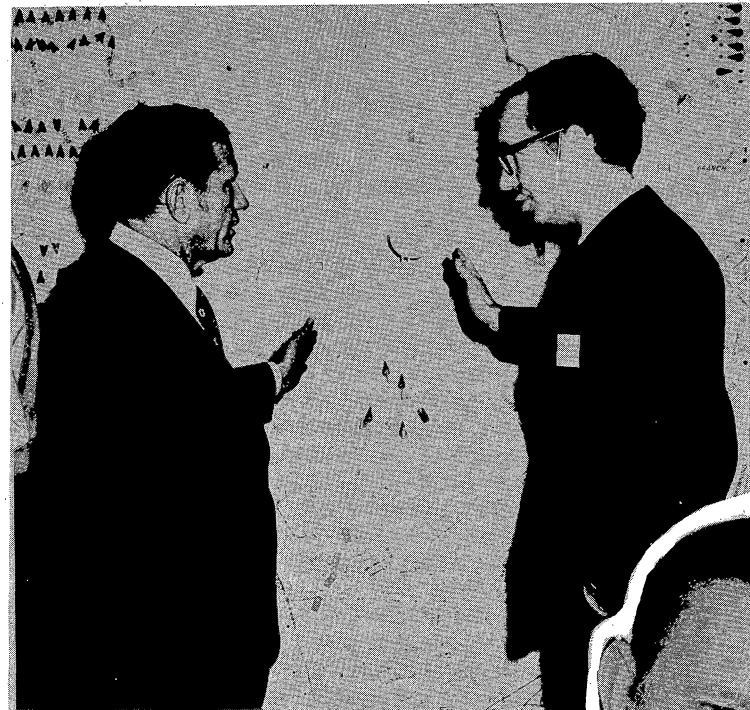
first progress report

maps, tables graphs

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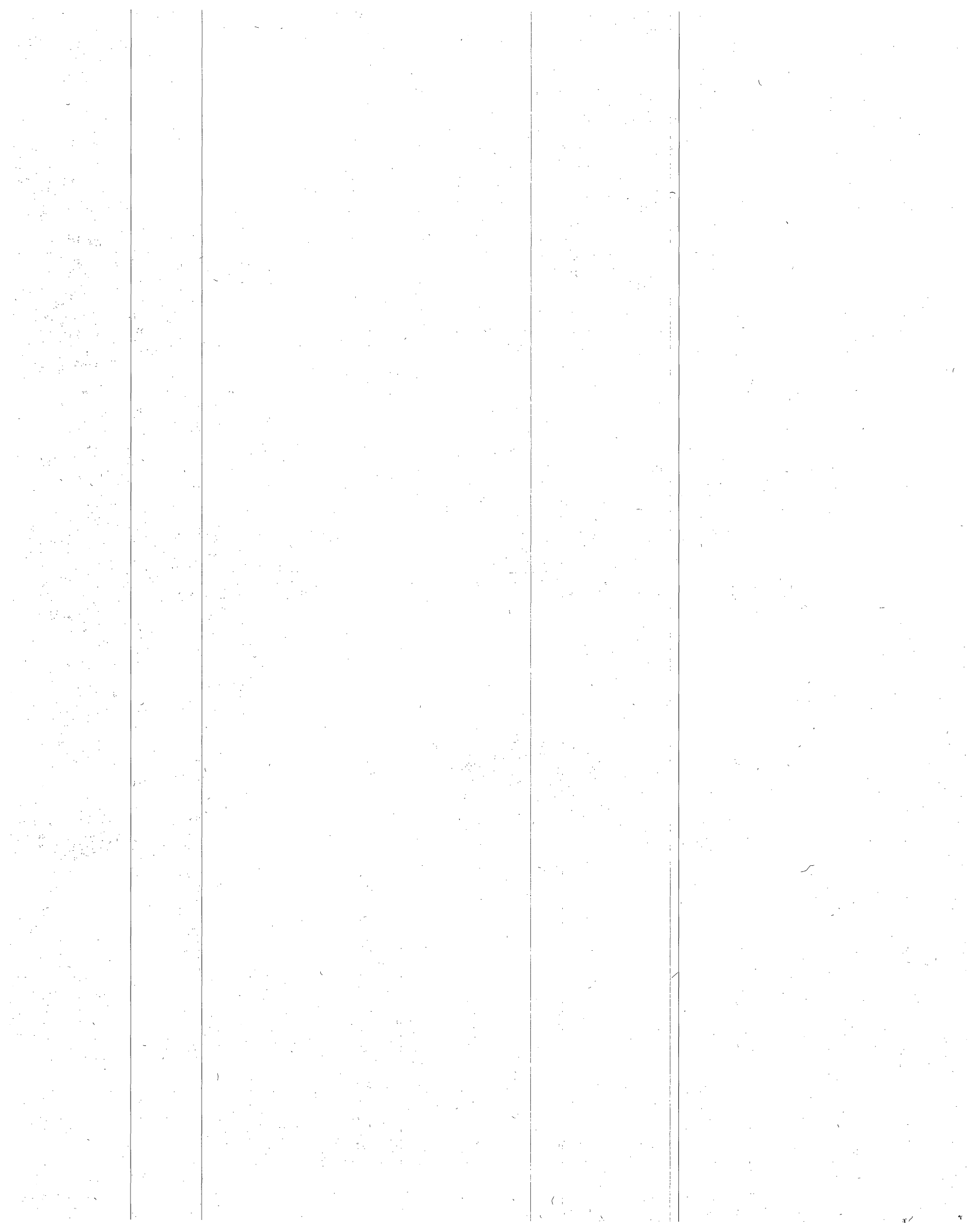


board vehicles weekdays
3:15PM to 5:30PM
at other hours use the FREE
DIAL-A-RIDE
PHONES



INAUGURATION OF HADDONFIELD
DIAL-A-RIDE BY SECRETARY
OF TRANSPORTATION JOHN VOLPE







INTRODUCTION

This is the First Progress Report on the Dial-A-Ride Demonstration being conducted in the vicinity of Haddonfield, N. J. It covers the period from February 19, 1972 through July 31, 1972, and explains some of the workings of this demand-activated, door-to-door bus service, the locale where it operates, how it has been accepted, and how effective it has been in terms of wait and ride times for passengers.

Dial-A-Ride is an advanced transportation concept. While the concept has been known to transportation people for many years, only in recent years has adequate control technology been developed for demand-activated, door-to-door personalized, shared-ride transportation. This control technology permits effective use of vehicles while minimizing customers' wait and travel times to give an overall acceptable level of service at a reasonable price. Haddonfield Dial-A-Ride is one of the largest, most complex demand-activated transportation systems yet attempted. It uses twelve 17-passenger vehicles which are dispatched by radio to any point in the service area.

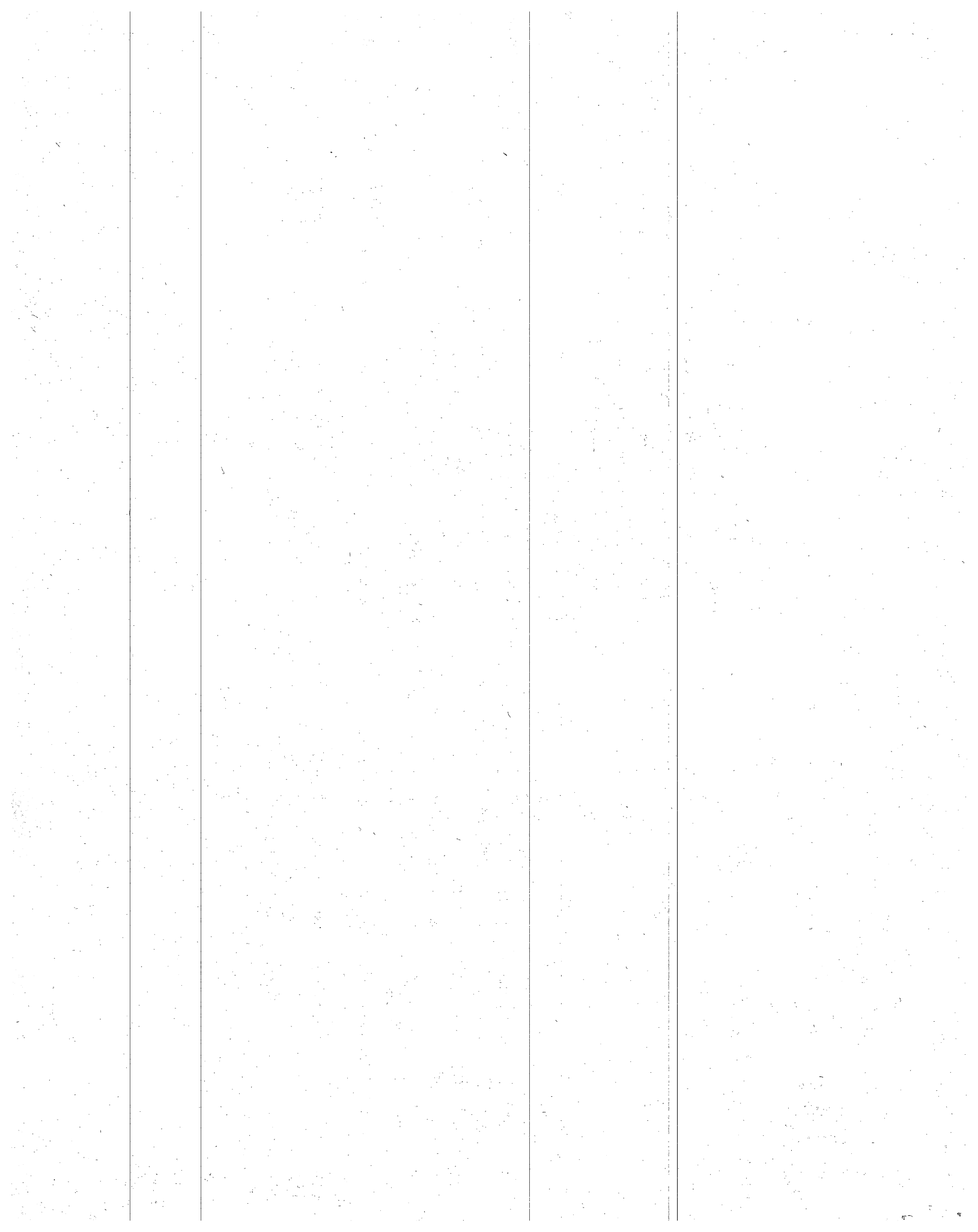
Dial-A-Ride in Haddonfield is designed to offer a complete spectrum of demand-activated transportation services, 24 hours a day, 7 days a week. Transportation is available through a simple phone call. This phone call brings the Dial-A-Ride bus to your door, and then takes you to your destination, stopping to pick up or let off other passengers who are going the same way. Passengers share their rides with others and thus share the overall cost of the trip.

Dial-A-Ride service was inaugurated February 19, 1972, by Secretary of Transportation John A. Volpe with a phone call placed from the Haddonfield Station of the Hi-Speed Lindenwold Line. Secretary Volpe became Dial-A-Ride's first customer, and was joined by 240 others on that first day of service.

The Haddonfield Dial-A-Ride Demonstration is sponsored by the New Jersey Department of Transportation (N.J.D.O.T.) under a Research, Development, and Demonstration Grant from the U.S. Department of Transportation, Urban Mass Transportation Administration (UMTA).

The Dial-A-Ride system is planned, designed, managed, and operated for the State of New Jersey by LEX Systems, Inc., as prime contractor and DAVE Systems, Inc. as associate contractor. The MITRE Corporation, under separate contract to UMTA, is responsible for measuring and analyzing Dial-A-Ride's cost and benefits.

The findings of the MITRE Corporation and LEX/DAVE will be documented in subsequent reports. In addition, Progress Reports will be issued semi-annually.



I. OBJECTIVES

The prime objective of this demonstration is to provide accurate and reliable data. Data which are indicative of Dial-A-Ride benefits and its costs, and which when analyzed in conjunction with data emanating from similar systems and services and which when properly presented will aid:

- (a) The Urban Mass Transportation Administration in evaluating Dial-A-Ride and in its decision to continue development and to fund implementation through its Capital Grant Program.
- (b) The New Jersey Department of Transportation and the local communities in their evaluation of Dial-A-Ride and in their decision to retain service after the demonstration is concluded.
- (c) Other communities throughout the nation in evaluating Dial-A-Ride and in their decision to implement.

Toward that end, the demonstration is and will be conducted as an experiment. A variety of services are offered. Fares and service area size will be changed. Similarly, control technology will be changed: starting with complete manual control and phasing gradually toward as much computerized control as possible.

Throughout these changes, measurements will be made which will provide data not only on Dial-A-Ride's costs and its benefits, but also on its impact on competing and complimenting modes and on the community, and perhaps most important of all, data on why things happened the way they did.

To the extent the demonstration yields accurate and reliable data, it will be considered a success.



II. SUMMARY OF OPERATIONS

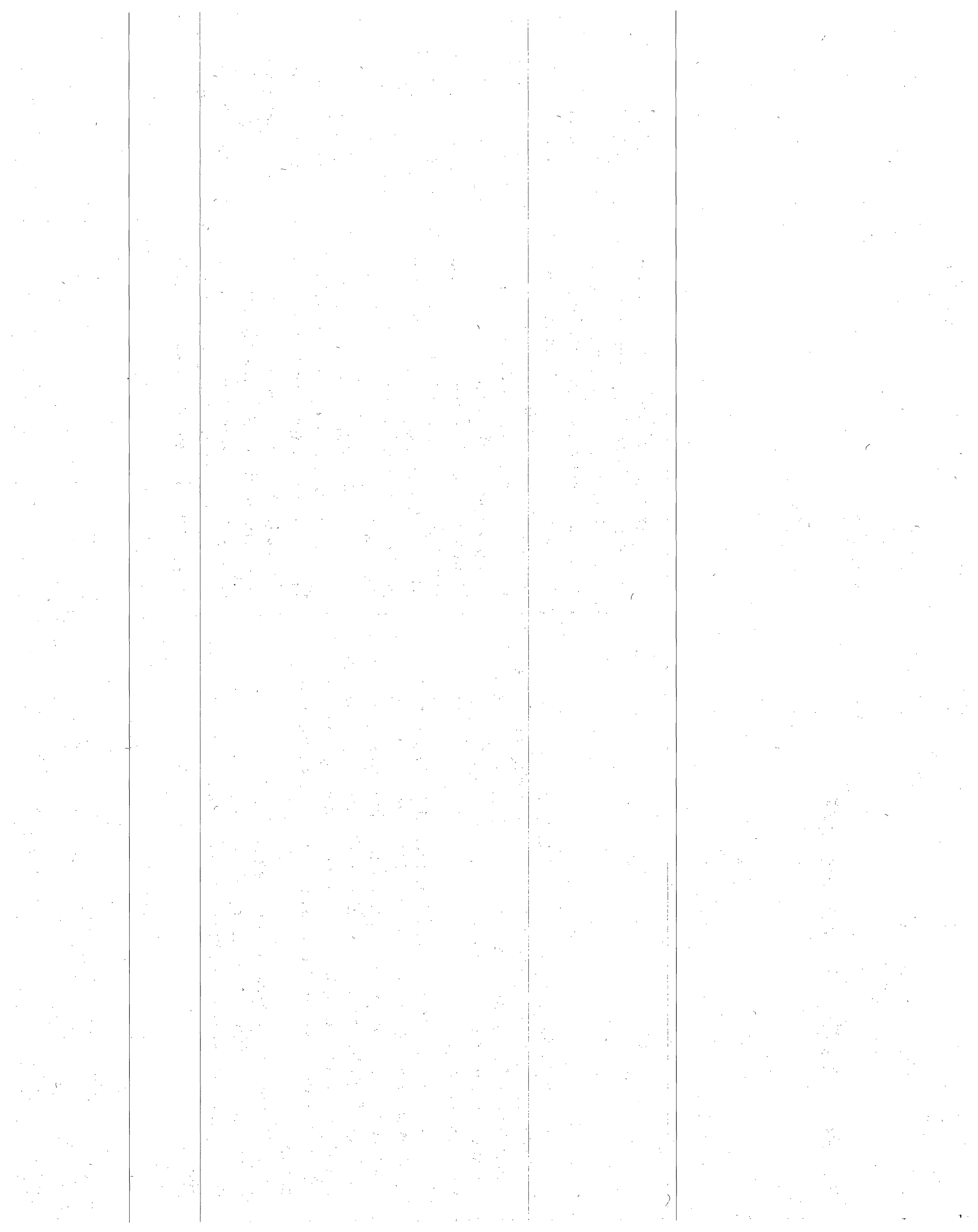
Service began on February 19, 1972. Ridership increased rapidly from 240 on the first day to 418 just a week later. In the period from February 19, 1972 to March 1, 1972, Dial-A-Ride operated 10 days and carried a total of 3,326 passengers, averaging 333 per day.

Service was interrupted on March 1, 1972 when members of the Amalgamated Transit Union (ATU), went on strike throughout New Jersey. The strike by ATU drivers, which was in no way related to Dial-A-Ride, lasted until May 15. Advantage was taken of this time to practice control skills and implement "tune-up" refinements to the system in preparation for the resumption of service.

The primary causes of problems during the first 10 days of service were (1) radio interference; (2) extremely bad weather; (3) less than 5% commuter ridership; and (4) false calls and "no shows".

Radio interference was caused by a trucking company based in New York City, about 90 miles away, but with the same base station frequency as Dial-A-Ride. The frequency was assigned by the Federal Communications Commission, with knowledge that the trucking company shared its use, but with the expectation that interference would be tolerable. This was not the case when the first snowstorms of the year hit during startup. Radio communications between the Dial-A-Ride dispatcher and drivers were slowed and, at times, the trucking company completely obliterated Dial-A-Ride transmissions with its stronger base station signal. This problem was solved when Dial-A-Ride requested and was granted a new radio frequency by the Federal Communications Commission.

Because of the bad weather, variations in passenger wait times caused some individuals to be picked up 20 to 30 minutes later than expected. Experience and training has brought actual pick-up times to an average of 2 or 3 minutes earlier than the times promised to customers when they call for service. Apology calls were made to people who had been inconvenienced by service variations during this poor weather period — only one of these people said they would not use Dial-A-Ride again.



Commuter ridership to and from the Hi-Speed Line and to offices and other places of work in the service area was low in the first 10 days of operation, accounting for less than 5% of the total. After the strike, increased emphasis was placed on advertising aimed at the commuter. As a result, commuter ridership in the mornings has increased to slightly over 10% of the total, or about 53 passengers per day on regular "to work" trips.

Passengers taking Dial-A-Ride from the train station in the evening are also on the increase, and account for over 10% of daily ridership. The train station, incidentally, is the pickup or delivery point for over 100 passengers a day.

Initially, false calls for service plagued Dial-A-Ride; almost 20% of the requests received turned out to be non-existent addresses or resulted in "no shows". False calls and "no shows" have decreased significantly since service was resumed May 15, however, accounting for less than 2% of the calls to Dial-A-Ride each day. Apparently, youngsters in the service area no longer find Dial-A-Ride a novelty, and procedures, which now call for a check on every suspected "prank" request, are effective.

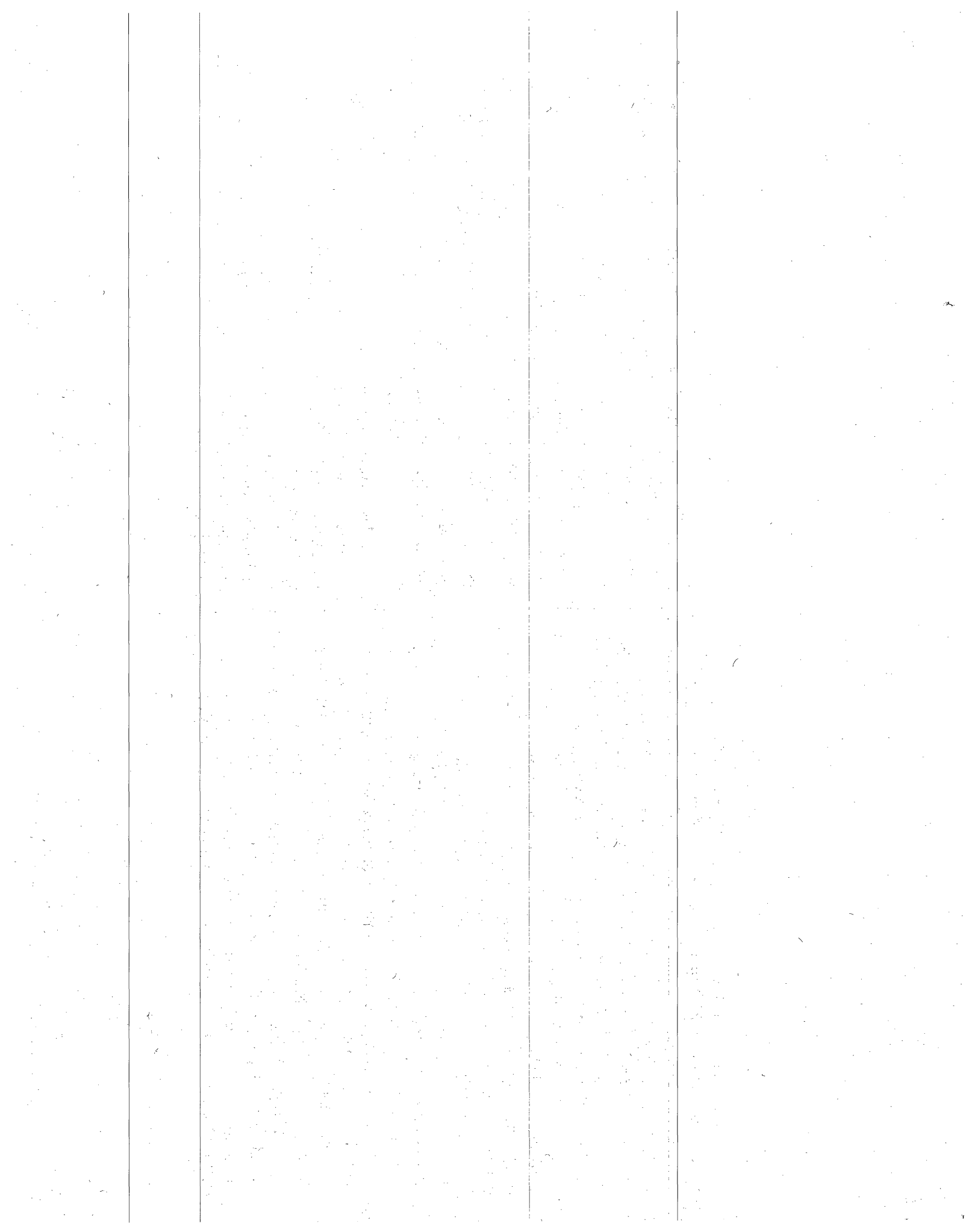
The problems noted above were corrected when service resumed or shortly thereafter. Emphasis in operations was placed on improving service — cutting down on customer wait time and arriving as close to the promised pick-up time as possible.

Forty percent of the drivers returning after the strike were new to Dial-A-Ride and had to learn both operating procedures and the service area. Within two weeks, the new drivers and the system had settled down, as expected.

Upon resumption of service on May 15, 1972, 152 passengers were carried initially and ridership increased rapidly thereafter. Ridership levels, with 90% of the daily demand being for the Many-to-Many service (any point to any other point in the service area), reached a weekday average of 502, and weekend average of 219, by the end of July. These averages compare with 306 and 191 (weekday and weekend) in May, 455 and 239 in June and at the time of going to press, average weekday ridership was 740 persons per day in November, 1972.

Wait times are currently averaging about 10 to 15 minutes and travel times about 10 minutes. Pick-up times for most passengers are averaging two to three minutes earlier than the pick-up time promised.

Of the passenger trips made to date, 17% are to and from the Haddonfield Station of the Lindenwold Line, 12% are to and from the Cherry Hill Mall and the remaining 71% are to and from local destinations.



III. LOCALE

The terrain of the Camden County portion of Southern New Jersey is generally flat to gently rolling. The Cooper River winds through the service area, separating Haddonfield from the Township of Cherry Hill. Interstate Highway 295 forms the southern boundary of the Dial-A-Ride service area.

The Hi-Speed Lindenwold Line, operated by the Port Authority Transit Corporation (PATCO) bisects the service area and can be crossed at only two points south of King's Highway in Haddonfield. Running parallel to the Hi-Speed Line is the Cooper River. It has three crossings which provide access between sections of the service area.

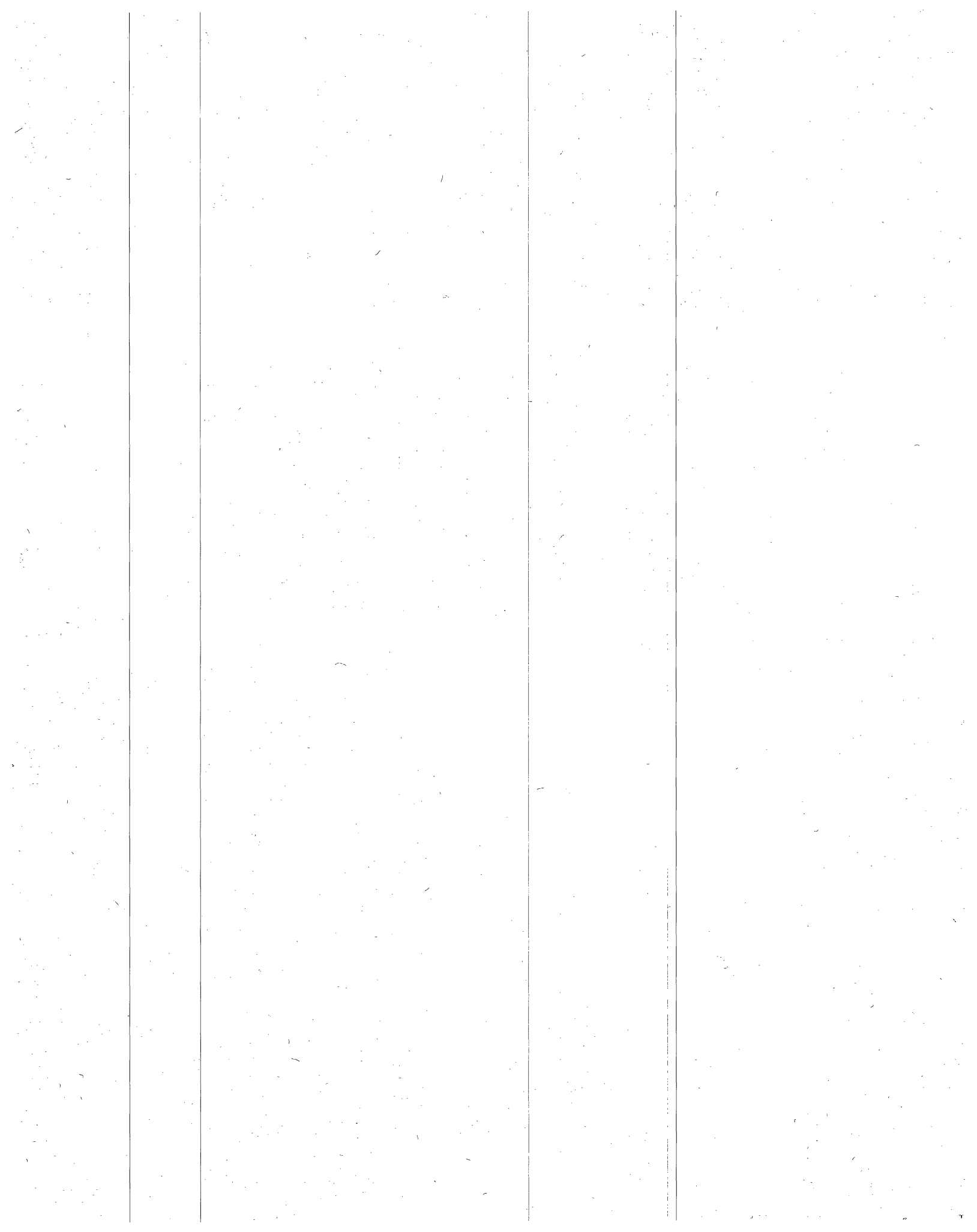
The communities served by Dial-A-Ride (all of Haddonfield, portions of Lawnside, Barrington, and Cherry Hill Township) have many wooded areas and all the streets are lined with trees, some of which are over two hundred years old. Low hanging branches are common and require that buses have "hard hat" antennas.

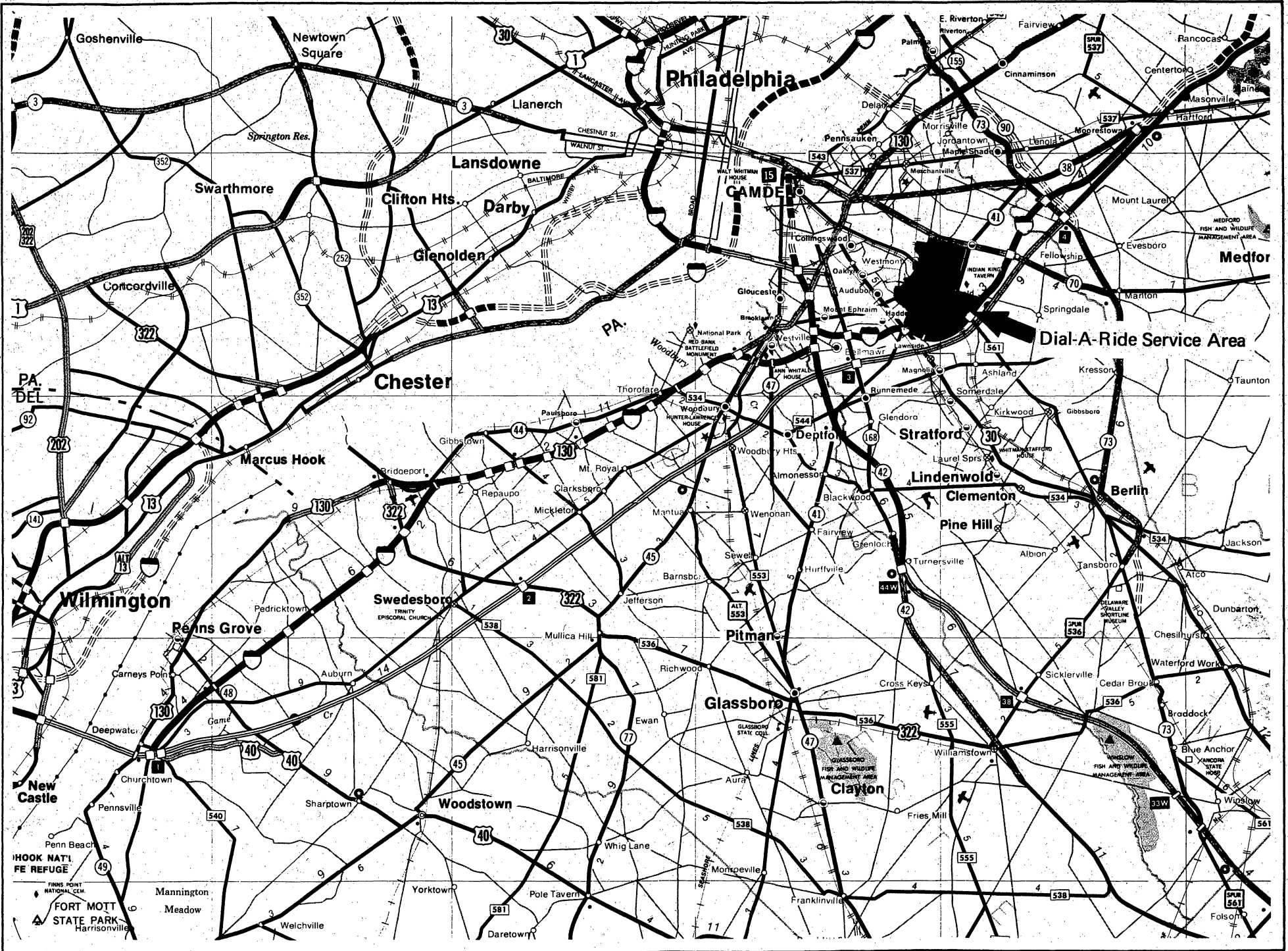
There are no high-rise buildings in the service area, although several high-rise apartments are located on State Route 70 just to the east of the service area.

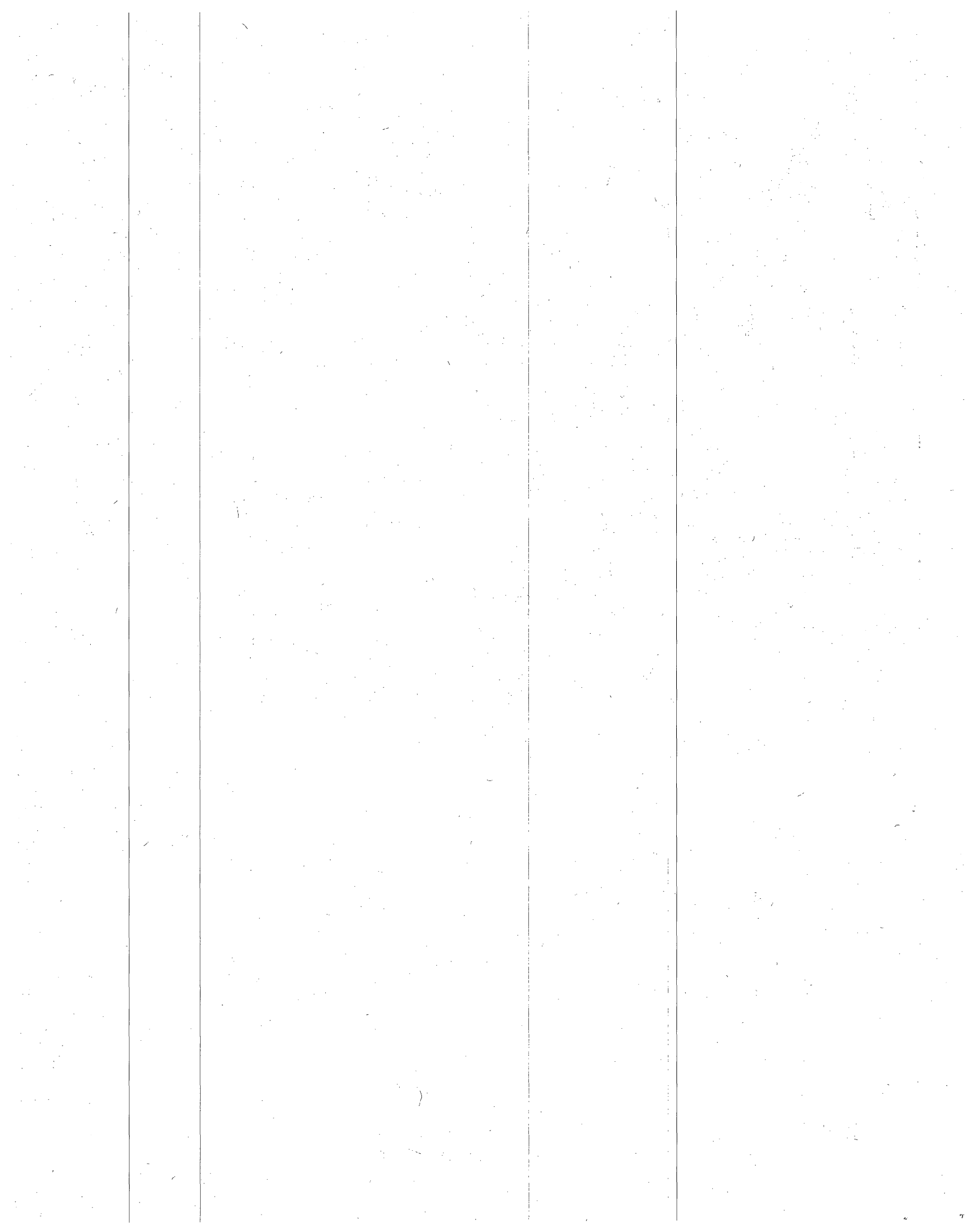
Most of the service area has a non-grid street pattern requiring the drivers to know the exact location of all streets. Street signs are small and difficult to read, and low hanging branches obliterate many signs. Many residences do not display any house number.

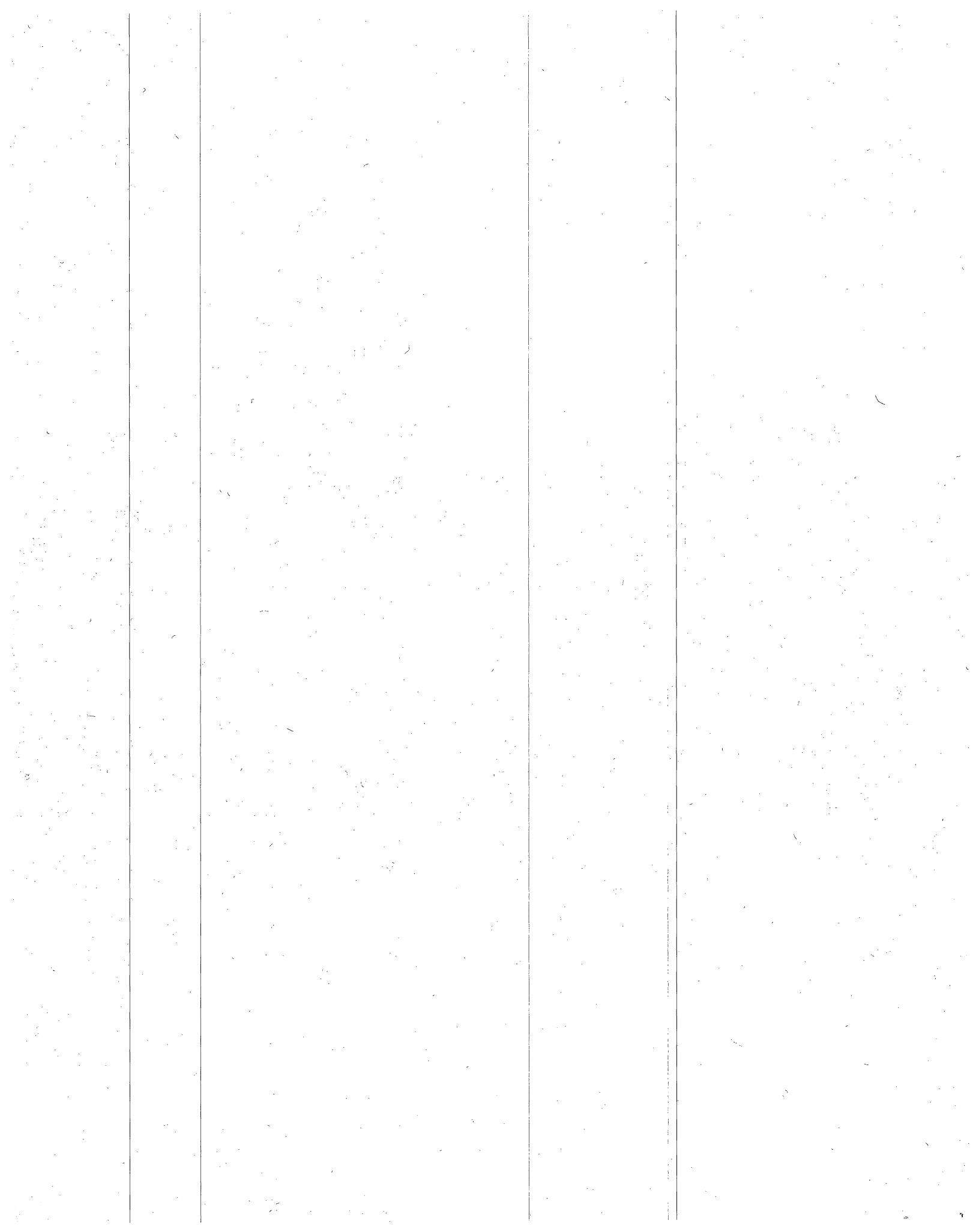
In addition to the contiguous service area, Dial-A-Ride also serves Cherry Hill Mall, a large regional shopping center 3 miles north of downtown Haddonfield. The Mall is reached via Grove Street and Haddonfield Road. Buses run "closed door" (no passengers picked up or delivered) on the corridor from Grove Street Circle to the Mall.

Mid-day automobile travel times in the contiguous service area are about 10 minutes north and south and 11 minutes east and west. Travel time to the Mall from the Hi-Speed Line Station in Haddonfield averages a little over 10 minutes.









IV. DEMOGRAPHICS

The Haddonfield Demonstration area provides a mixture of incomes, occupations and ethnic concentrations. The service area includes both white-collar workers with high median incomes and blue-collar workers with moderate incomes. Occupations in the area range from the semi-skilled to the corporate executive; and areas change from high minority concentration to none at all. This initial service area has a total population of 24,400* in 6.4 square miles.

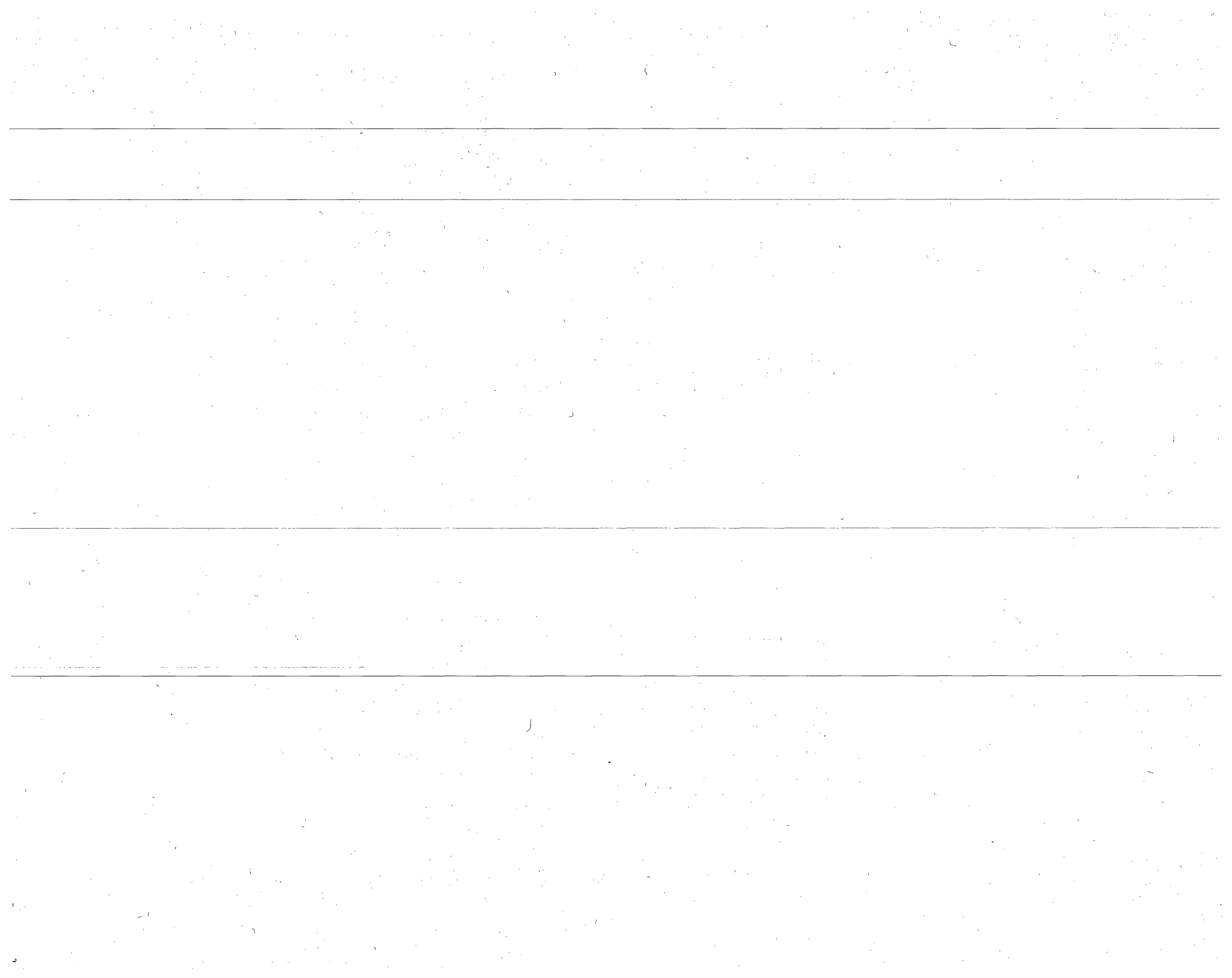
The following are brief descriptions of the municipalities served by Dial-A-Ride:

1. Borough of Haddonfield

Haddonfield is a predominantly white-collar community with a median family income of over \$16,000* per year. Population of the Borough is approximately 13,000 persons living in 3.3 square miles giving a population density of 5,000 persons per square mile. Over 80% of the Borough's land area is composed of residential and street uses. Commercial users make up about 2% of the land area providing for the Borough's only basic employment. These retail and service establishments are concentrated at and around the intersection of Haddon Avenue and King's Highway. Industry in the Borough is virtually non-existent and the present zoning ordinance does not provide for industrial expansion. The amount of vacant land available for development is negligible and future land-use changes are not contemplated.

Traffic movement poses a major problem in the Borough. Considerable traffic congestion exists on King's Highway and Haddon Avenue, which provide access to the 900-space parking lot at the Haddonfield Station of the Hi-Speed Line.

** All population and income figures based on data from 1970
U.S. Census*



2. Borough of Lawnside

Lawnside, a predominantly Black community, is located at the southern boundary of Haddonfield. Dial-A-Ride serves 0.2 square miles of the Borough at present. This area has a population of 800 persons with density of 2500 persons per square mile. Total population is approximately 2,800 people living in the 1.4 square miles of the Borough, which has an overall density of 1,900 persons per square mile. The median income of its families is \$9,700. The majority of the developed land (approximately 70%) is in residential use and little basic employment exists within the Borough. Its zoning ordinance has specified several areas for light industrial and commercial development.

3. Barrington

Located southwest of Haddonfield, Barrington is a residential community occupying 1.6 square miles, 0.4 being served by Dial-A-Ride at present.

The total population of Barrington is approximately 8,400 giving an overall density of 5,000 persons per square mile. The population of the area served is 2,000 giving a density of 5,700

persons per square mile. A substantial number of the Borough residents find employment in Camden and Philadelphia, which is true of most communities in this area. Median income for a family in Barrington is \$12,000 per year. No major land-use changes are expected in this almost fully developed community.

4. Cherry Hill Township

Cherry Hill occupies an area of 24 square miles in the northeast portion of Camden County. Only 2.5 square miles (2 census tracts, population approximately 8,600) is served by Dial-A-Ride. Population density in these tracts is 5,000 persons per square mile.

Cherry Hill is an expanding area. Total population is approximately 64,000 people (2,600 persons per square mile), and the median family income is slightly over \$12,000 per year. Of the developed land (approximately 50%), one half is in residential use, 25% in street uses, 7% in commercial use, 15% in public use, and 3% in industrial use. Of significance to the project is the Cherry Hill Mall, located three miles from the center of Haddonfield. This shopping complex contains about 115 stores employing some 2,000 persons and is a major shopping center in Southern New Jersey.

** All population and income figures based on data from 1970 U.S. Census*



POPULATION

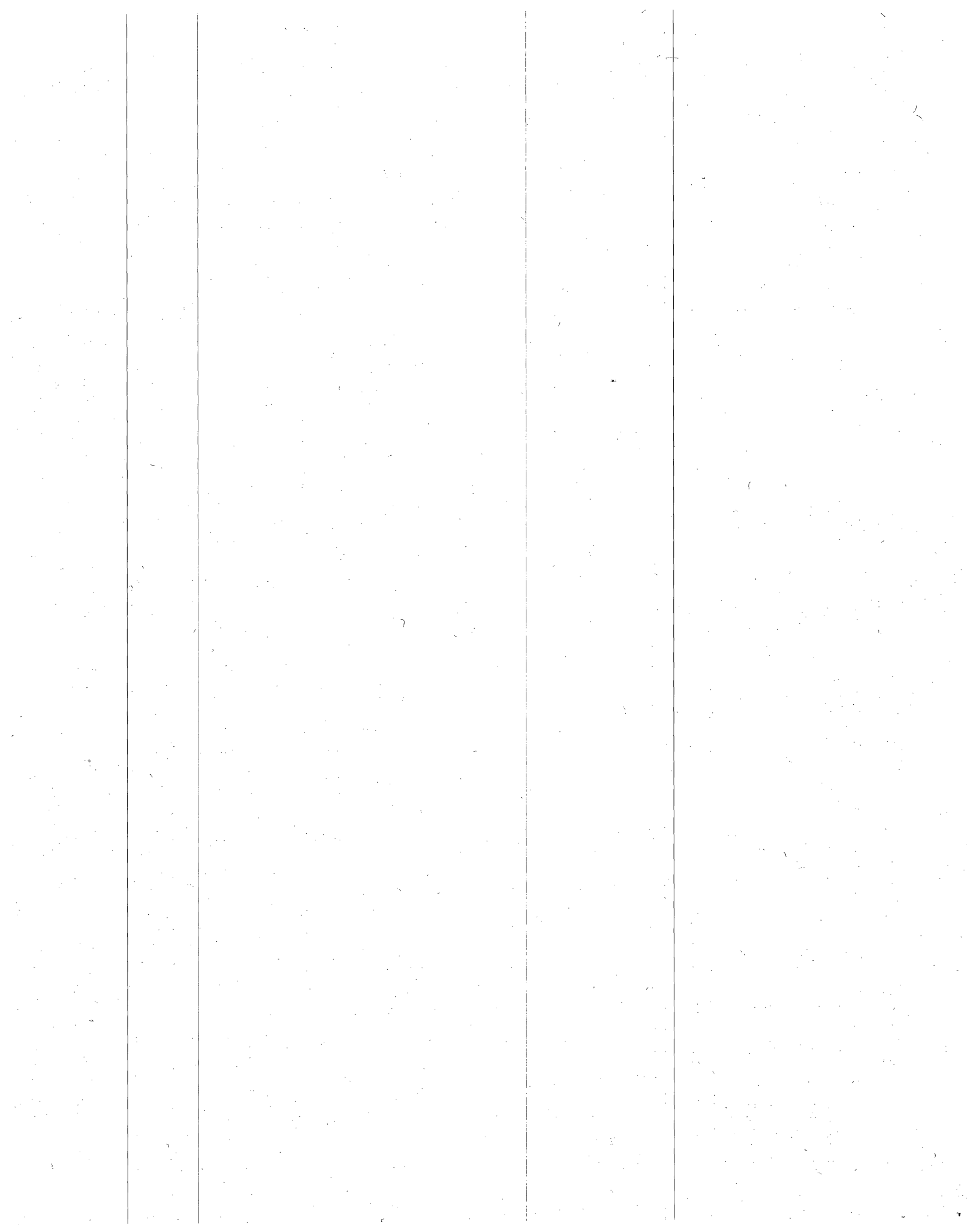
Minor Civil Division	Total Population	1970 Density	Negro Population	People Under 18	People 18 to 34	People 35 to 64	People Over 65	Number of Households	Male Heads of Households	Persons in All Households	Persons Per Household
HADDONFIELD BORO	13,118	4,985	221	4,218	2,080	5,118	1,702	4,198	3,279	12,905	3.07
BARRINGTON BORO	8,409	5,023	106	2,930	2,126	2,792	561	2,592	2,148	8,403	3.24
CHERRY HILL TWP.	64,395	2,595	816	25,592	11,671	23,835	3,297	17,379	15,745	64,010	3.68
LAWNSIDE BORO	2,757	1,897	2,495	938	479	1,006	334	791	594	2,695	3.41

HOUSING

Minor Civil Division	Total Units	Owner Occupied	Negro Owner Occupied	Total Renters	Negro Renters	Avg. Owner Occupied Value	Average Contract Rent	Overcrowded Housing Units	Average Rooms in Unit	Vacant For Sale or Rent
HADDONFIELD BORO	4,261	3,528	47	670	20	26,174	105	65	6.67	29
BARRINGTON BORO	2,688	1,779	4	813	33	16,614	129	130	5.34	45
CHERRY HILL TWP.	18,094	14,370	176	3,009	55	28,055	178	311	6.77	539
LAWNSIDE BORO	805	670	615	121	117	14,609	68	65	5.91	4

SOURCE:

U.S. Department of Commerce

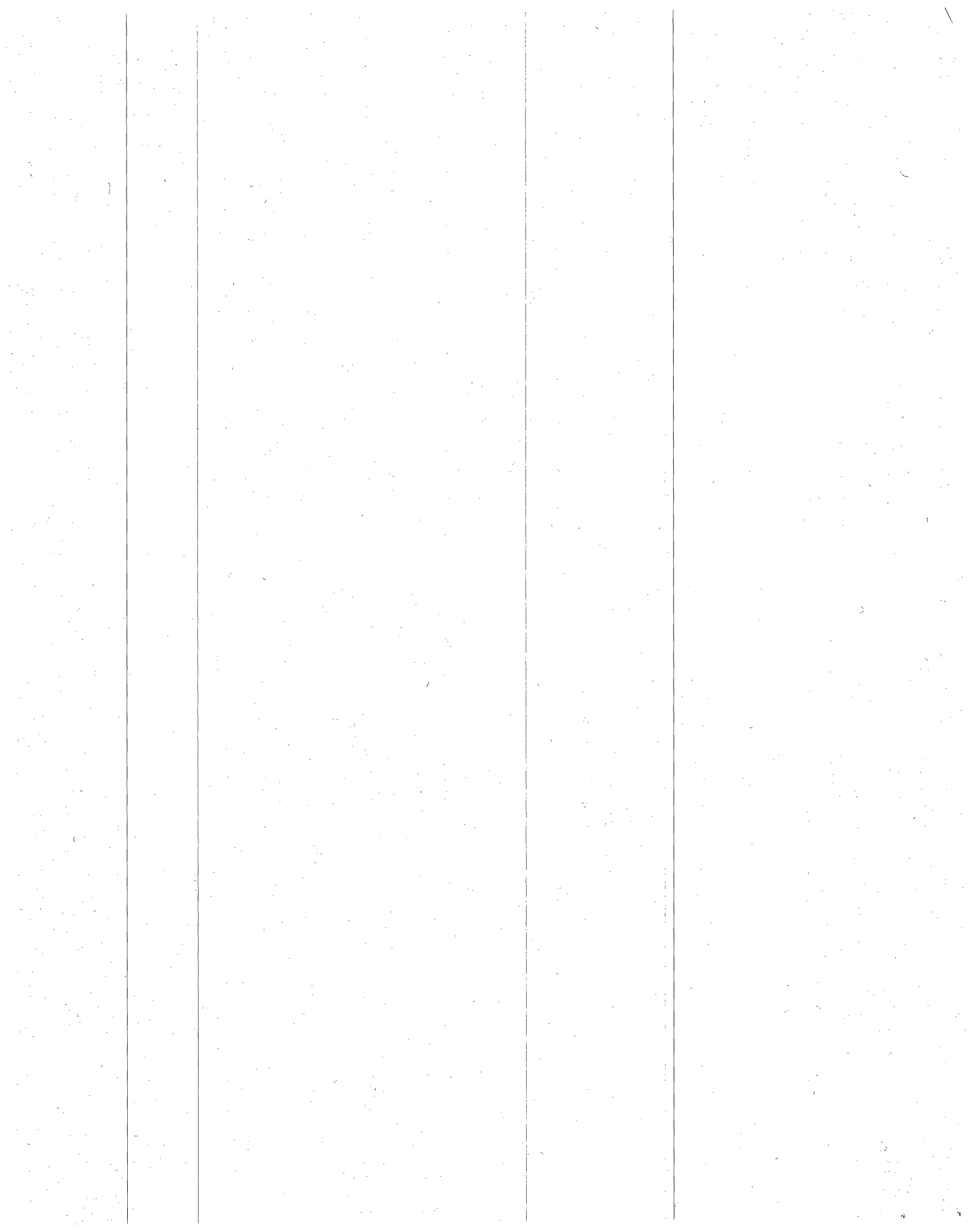


V. LOCAL TRANSPORTATION

Local transportation services in the Demonstration area and immediately available to residents are a high-speed rail line, two bus companies providing three routes, and one taxi company. Airline and interstate rail or bus services are outside the service area.

Inter-city transportation serving Haddonfield is provided by: (1) the Hi-Speed Lindenwold Line, operated by the Port Authority Transit Corporation (PATCO) and running from center-city Philadelphia 22 miles to Lindenwold, New Jersey; (2) two bus routes operated by Transport of New Jersey (TNJ) and running from Cherry Hill through Haddonfield to the Haddon Heights area; and (3) a bus route operated by Southeastern Pennsylvania Transportation Authority (SEPTA).

The Lindenwold Line (usually called the Hi-Speed Line or PATCO) has four stations in center-city Philadelphia and eight stations in Southern New Jersey including one in Haddonfield. The most modern example of automated high-speed rail transportation to date, the Lindenwold Line carries a large commuter load into and out of Philadelphia each day at speeds up to 75 miles per hour with less than five minute headways (time between trains) at peak travel times. The Hi-Speed Line operates 24 hours a day, and carries a total daily average of 37,500 people, about 10% of whom use the Haddonfield Station.

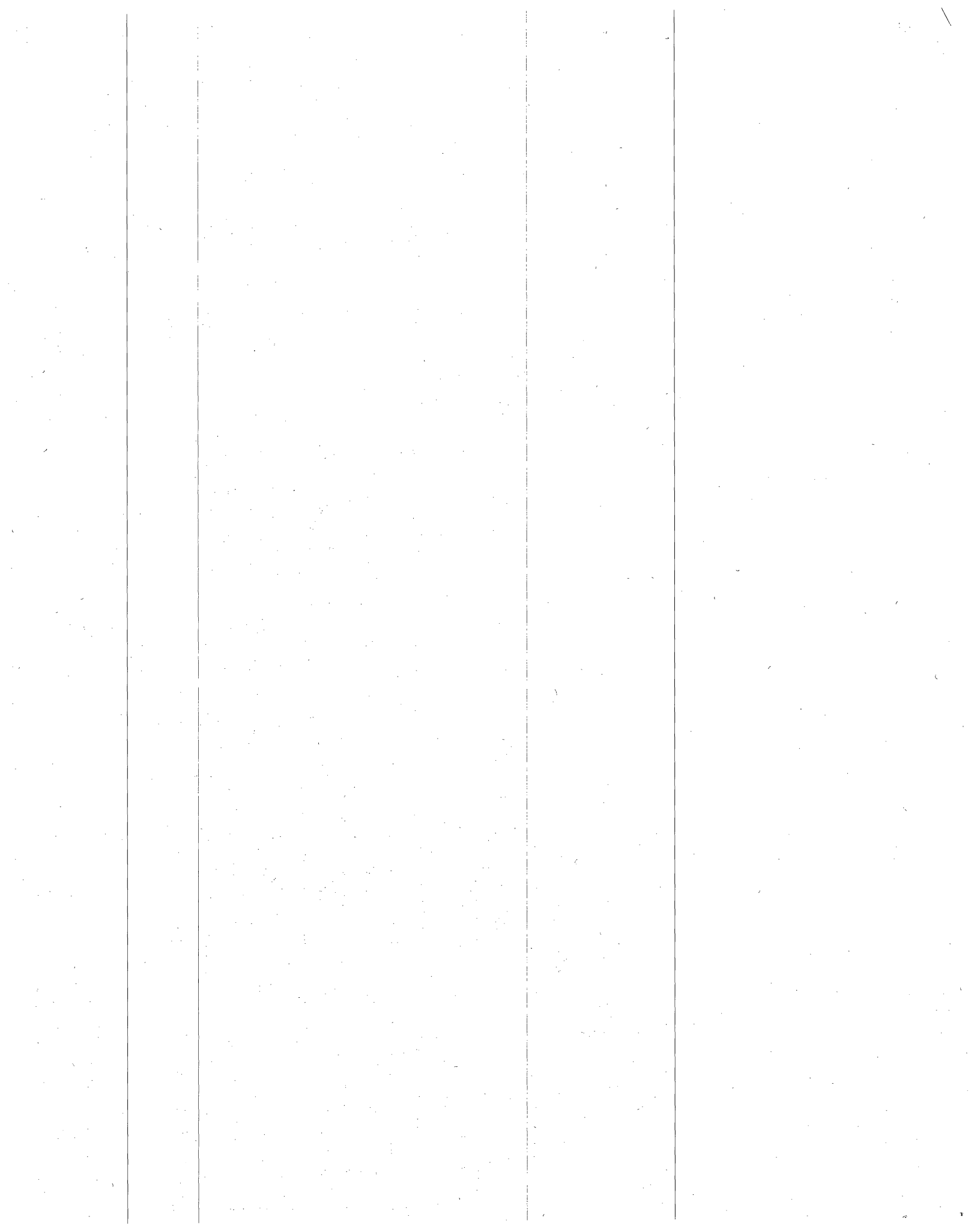


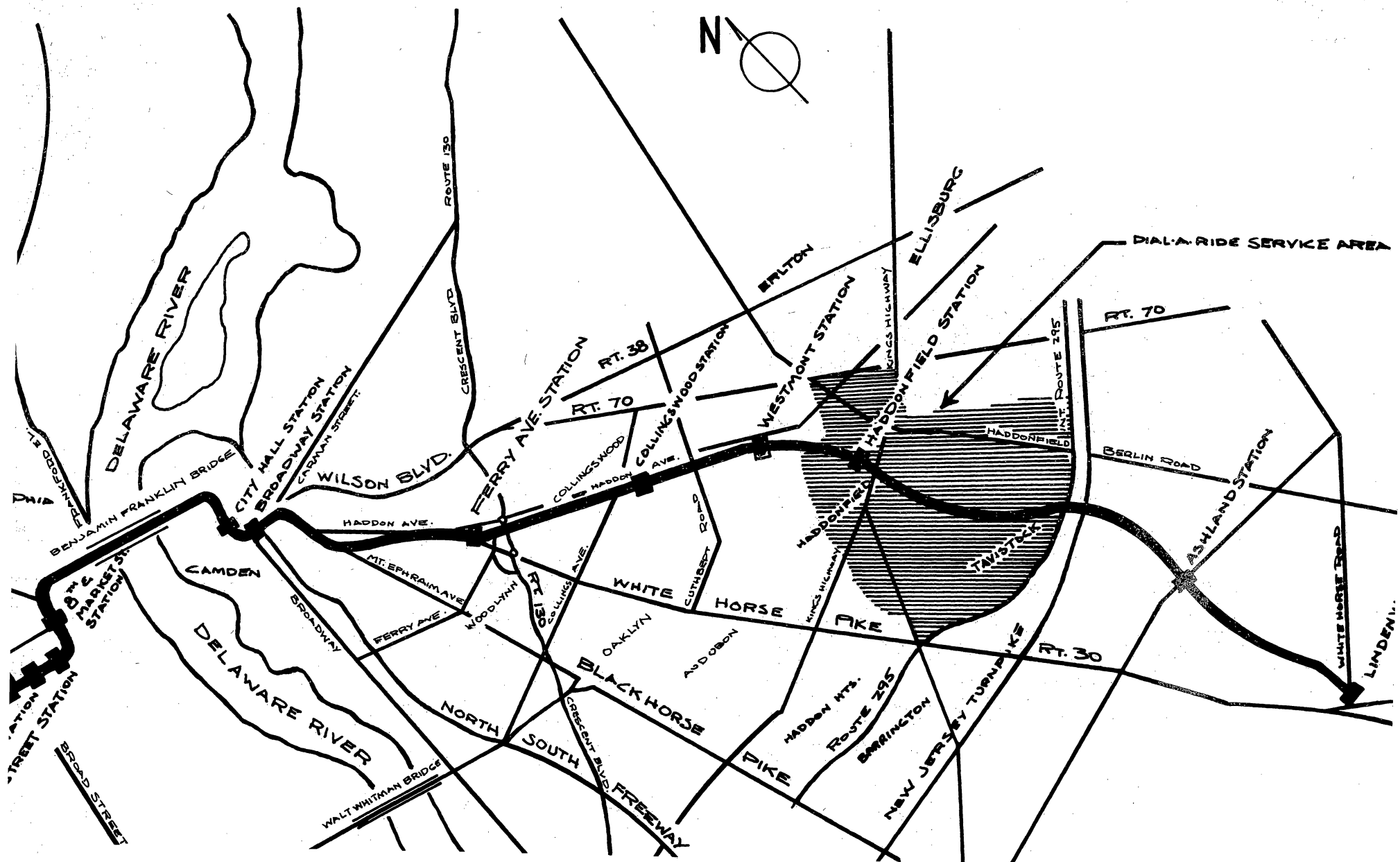
Transport of New Jersey (TNJ) has two bus routes running through Haddonfield. One route runs from north to south, serving the Cherry Hill Mall, the Hi-Speed Line Station in Haddonfield and continues on out King's Highway into Haddon Heights. The other route runs from east to west on Haddon Avenue and Berlin Road. Eight buses per day are scheduled on each route serving Haddonfield.

Southeastern Pennsylvania Transportation Authority (SEPTA) runs only one bus route along Marlton Pike (Route 70) from approximately ten miles to the East of Haddonfield into center-city Philadelphia. Seven buses a day on this route divert during peak hours into the Haddonfield Station of the Hi-Speed Line. There is no Saturday, Sunday, or Holiday service.

Several taxicab companies operate within the Dial-A-Ride service area. One of these is based in Haddonfield, while the others operate from surrounding communities. The Haddonfield company has ten vehicles, eight of which operate during peak periods, and carries an average of 250 to 300 passengers per day on weekdays during the winter.

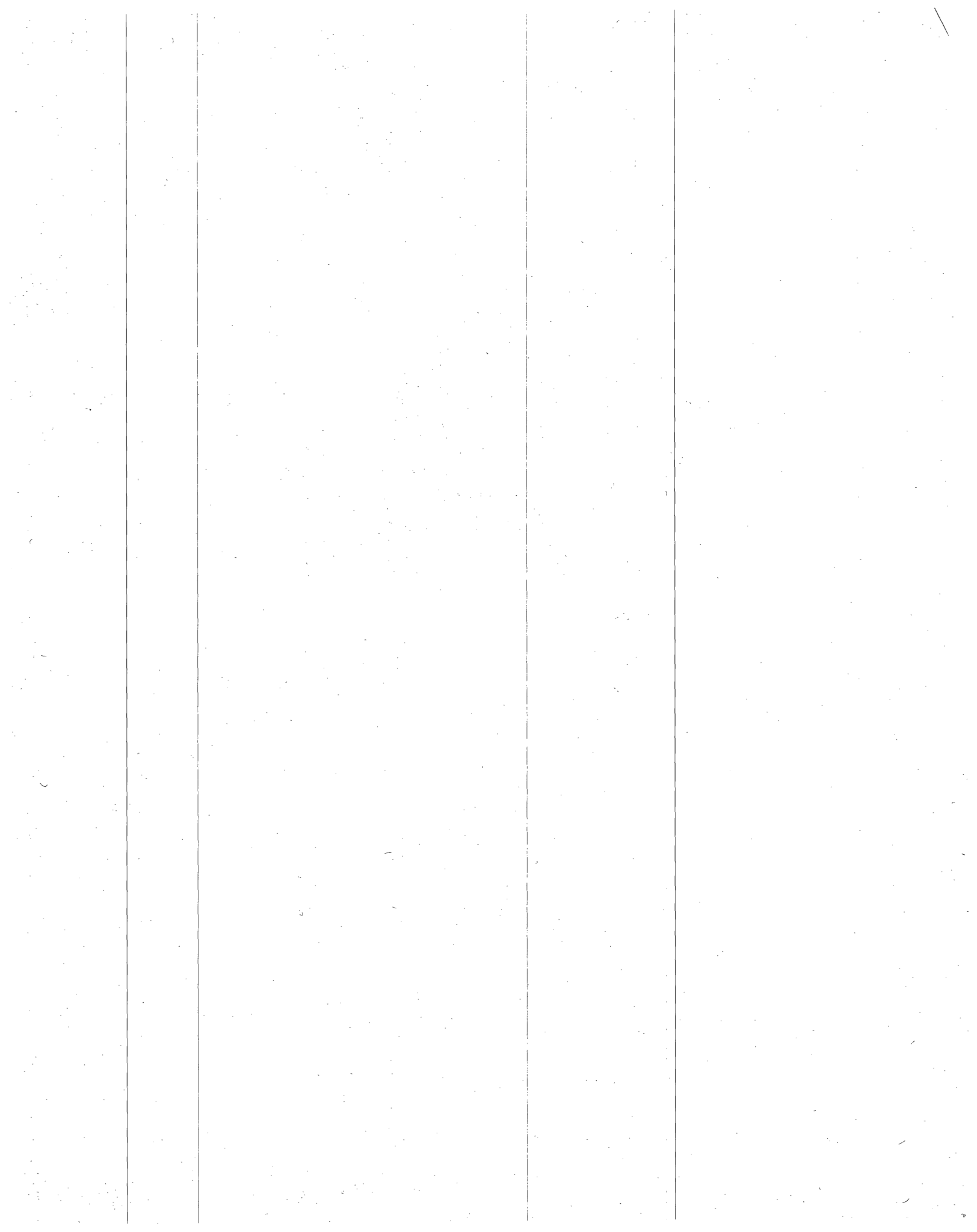
Fares on both the TNJ and SEPTA bus routes are 35¢ for the zone encompassing what is essentially the Dial-A-Ride service area. Hi-Speed Line fares from the Haddonfield Station to Center-city Philadelphia are 60¢ each way. Parking at the Hi-Speed Line Station in Haddonfield is metered at 25¢ for each twelve hours. Taxi fares in Haddonfield are 75¢ plus tip per trip in the Borough itself, with trips outside the Borough costing the basic 75¢ plus 95¢ for the first mile thereafter and 50¢ for each succeeding mile. To make a comparison, a trip from downtown Haddonfield to the Cherry Hill Mall (3 miles) would cost \$2.20 plus tip by taxi, 45¢ by TNJ bus and either 60¢, 50¢ or 40¢ on Dial-A-Ride depending on whether the fare was paid by cash or discount ticket.





DELAWARE RIVER PORT AUTHORITY

Phila.—Lindenwold Rapid Transit Line



VI. TYPES OF SERVICE

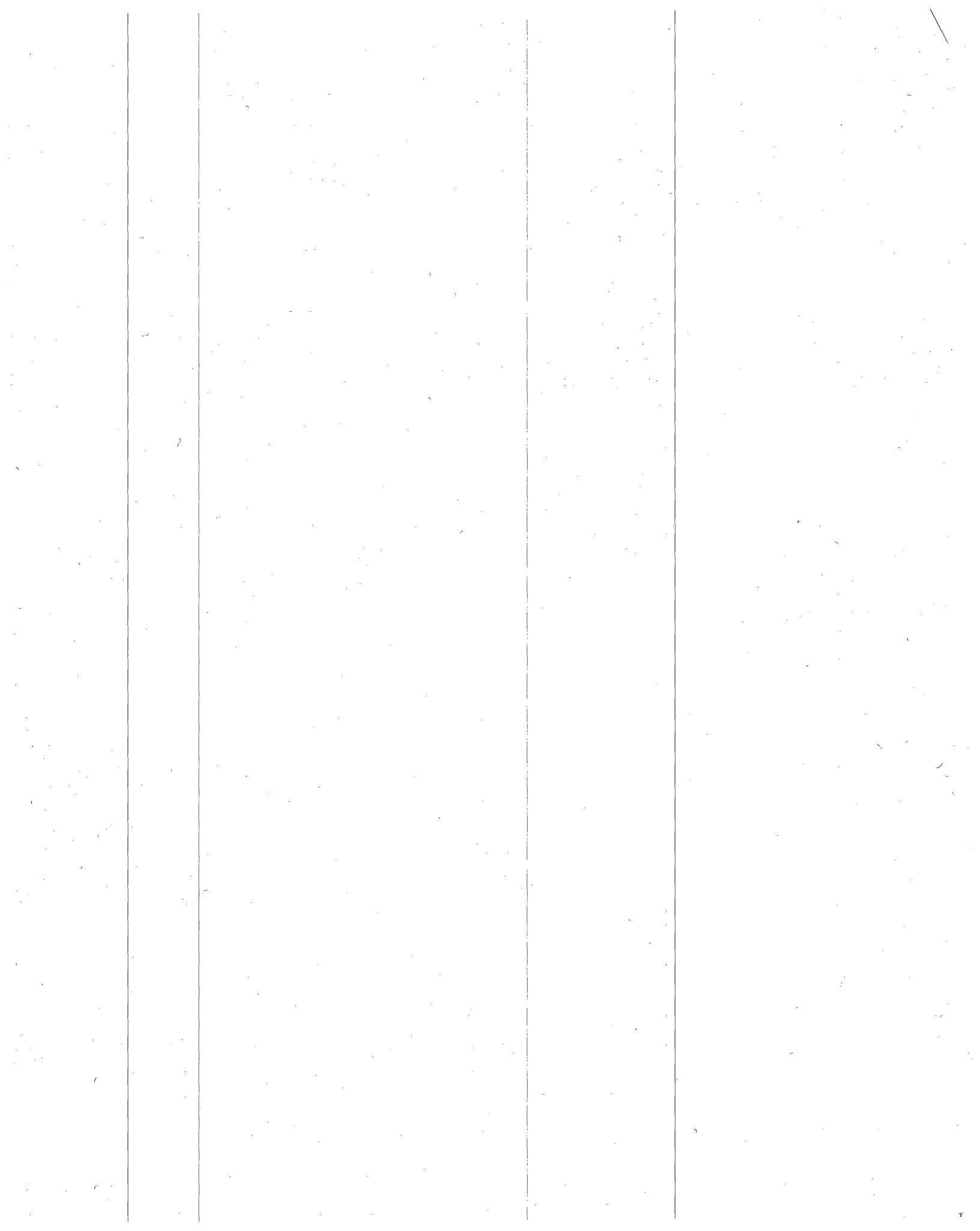
There are three types or modes of service offered by the Dial-A-Ride system in Haddonfield: Gather, or Many-to-One (from any point to one specific point in the service area); Scatter, or One-to-Many (from a specific point to any other point in the service area); and Many-to-Many (from any point to any other point in the service area).

The Gather mode of operation (Many-to-One) collects customers from their individual homes and delivers them to a specific point in the service area, e.g., the Hi-Speed Line Station, or the Mall. This type of service is dependent upon a large number of people reserving trip time on a daily basis -- i.e., being picked up at the same time each day and delivered to the same point each day. A schedule of stops for each bus can be pre-planned and given to a driver each morning so he can run his "route".

The Scatter mode (One-to-Many) distributes persons from one pickup point to many destinations within the service area, e.g., from station to home. This type of service operates in such a manner that when the customers board the vehicle, the driver records the delivery addresses, makes up his own schedule of stops, and delivers each passenger.

The Many-to-Many type of service is essentially similar to a limosine operation, except that the rides are shared and "closed loop" control is in effect. A person calls the control center and gives his pickup *and delivery* location. A bus is dispatched to the pickup location, *and the driver reports to the control center by radio when pickup is made and when delivery is made*. Thus, the control center knows at all times where the bus is and where it is going next.

The flexibility of these modes or types of service is such that they can be mixed at any time through application of adaptive control techniques. The design of the Dial-A-Ride system in Haddonfield permits insertion of trips which are essentially Many-to-Many within the "tour" (scheduled stops) of a vehicle operating in a Gather or Scatter mode. This improves vehicle productivity and reduces passenger wait time.



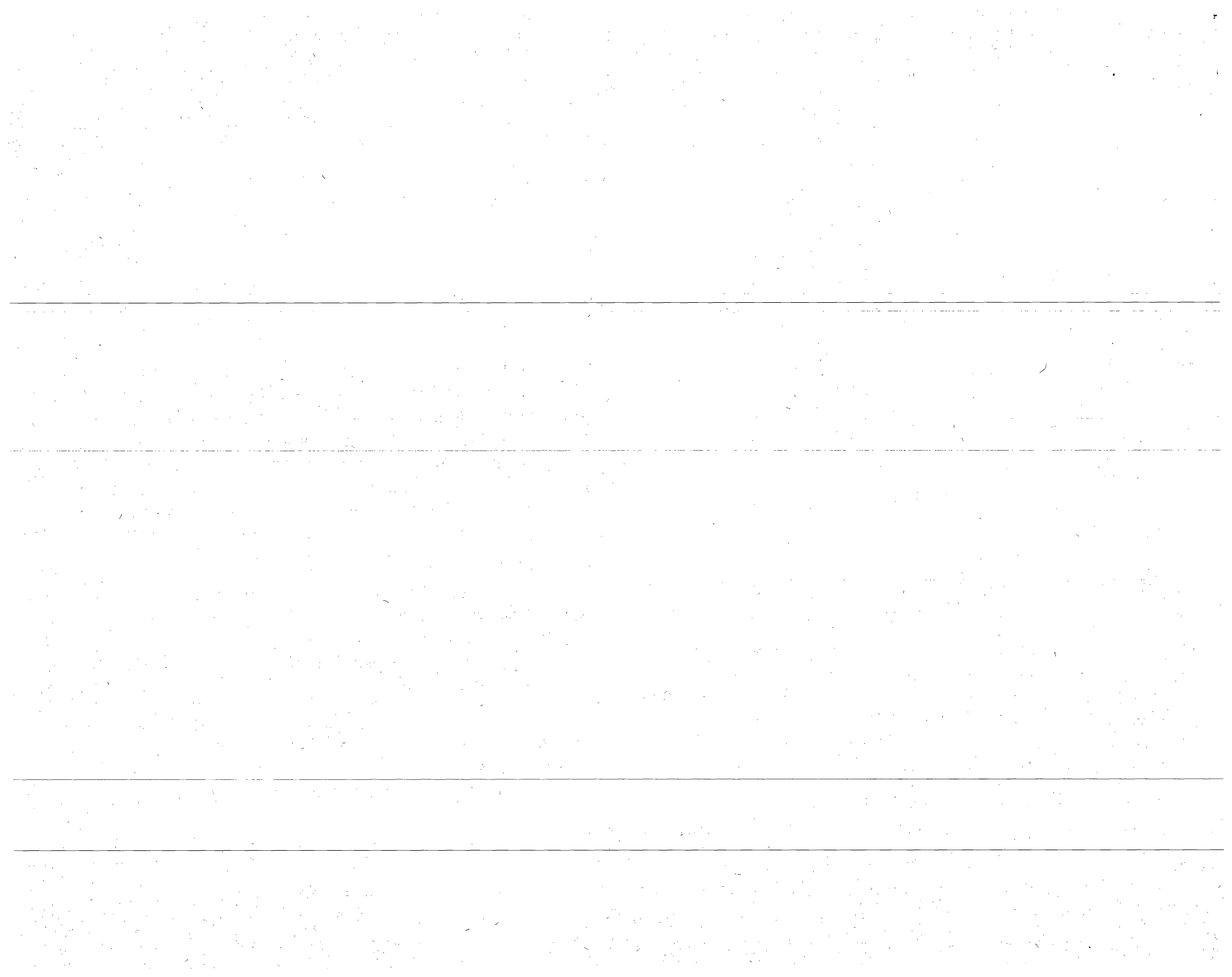
After approximately three month of service, it is obvious that demand-activated service must be constantly sold to the public. Merely having the vehicles on the street does not generate passengers or increase ridership after a certain point. Therefore, the Dial-A-Ride service has been actively sold to various businesses and organizations in the area.

For example, convenience of Dial-A-Ride has been emphasized to local auto dealerships which now offer pre-paid transportation to customers who bring their cars in for servicing. For many of their customers, these dealerships have solved the problem of getting home or to work without a car.

The Camden County Music Fair, located in the Dial-A-Ride service area, presents several musical plays with established stars during the summer months. Its advertisements now feature Dial-A-Ride as a means of transportation to and from its shows. Arrangements were made with the management of the Music Fair to provide special locations for pickup and delivery of its patrons. Local residents giving theatre parties have found Dial-A-Ride a very efficient mode of transportation between the Music Fair and the local country club.

The Cherry Hill Arena hosts various events, and like the Music Fair, it has advertised the use of Dial-A-Ride as a means of going to and from its activities. So far, the Arena's Roller Derby fans have been the largest patrons, often filling Dial-A-Ride vehicles to capacity.

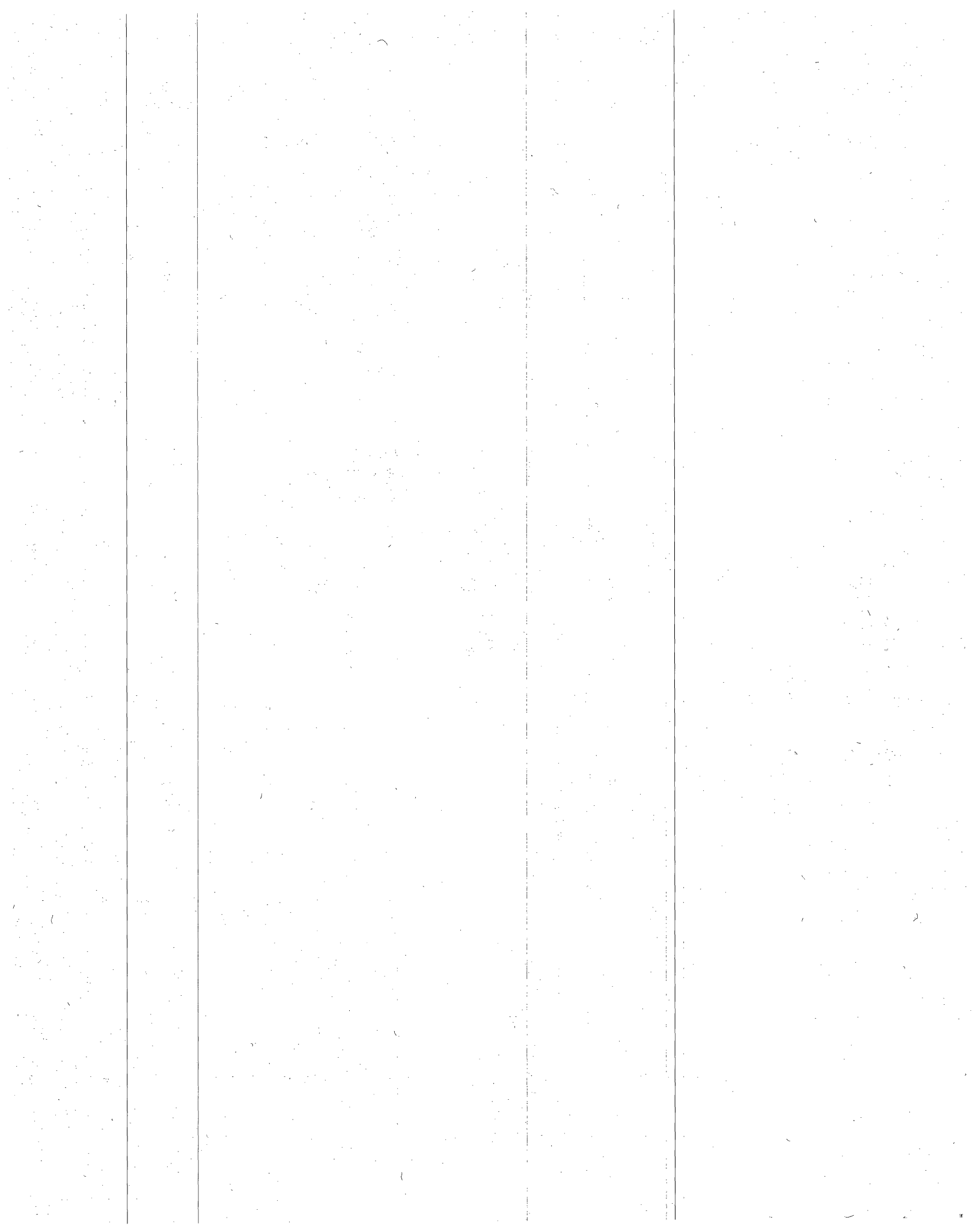
To continue to increase ridership, experience has shown that Dial-A-Ride service and, more important, the concept of demand-activated transportation must be constantly promoted to other groups, businesses, and organizations in the area.



**HADDONFIELD DIAL-A-RIDE
FARE STRUCTURE**

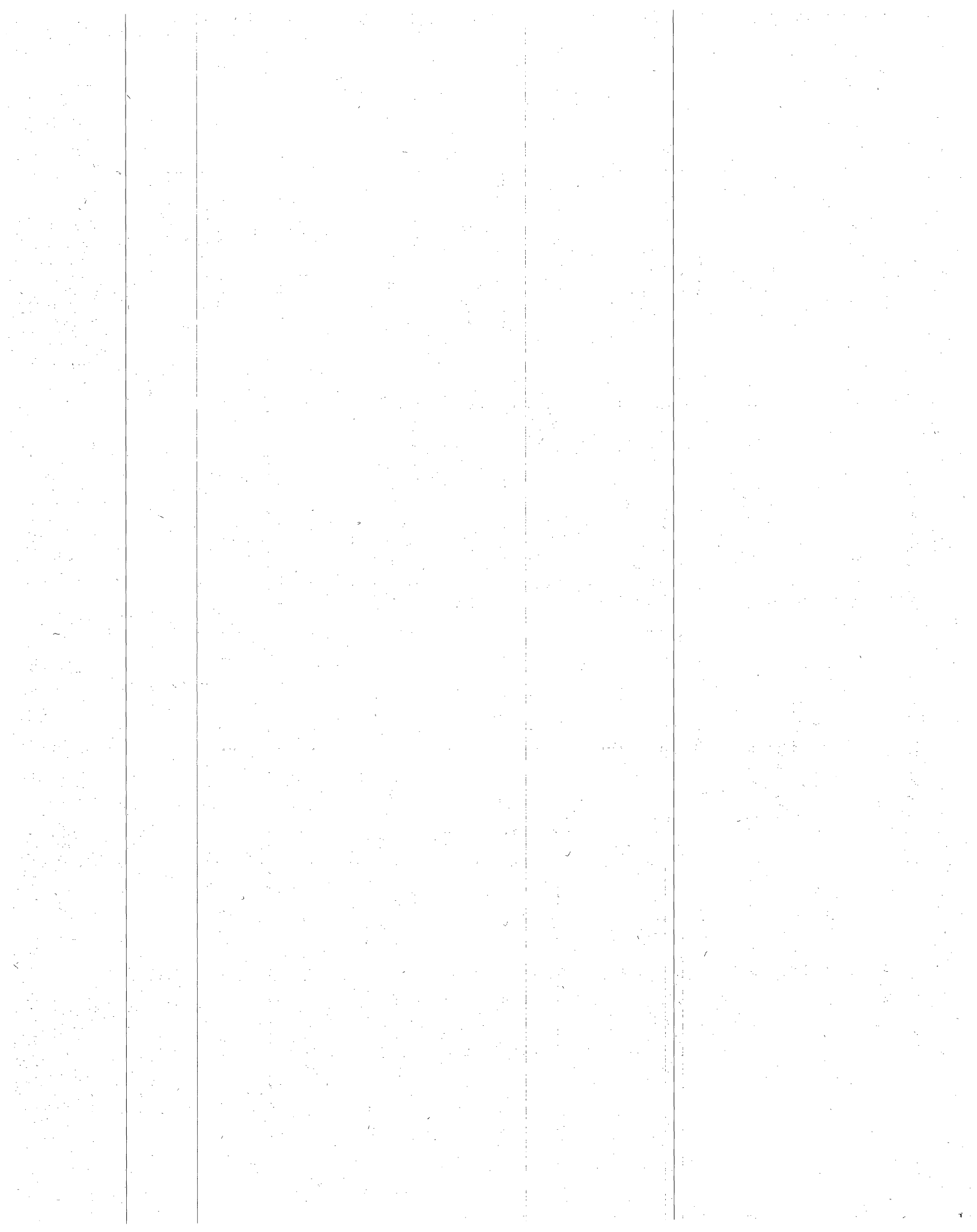
- Child in arms (under 35'' tall) Free
 - Person in wheelchair (on wheelchair bus when available) - Regular fare (or senior citizen fare)
-

Type of Fare	Fare Per Rider	Cost	Who	When Valid
REGULAR	60¢ cash	60¢	Anyone	Any Day Any Hour
	50¢ ticket (discount)	40-ride book \$20		
		10-ride book \$5		
FAMILY and GROUP	40¢ ticket (discount)	10-ride book \$4	Three or more persons traveling together from same pick-up point to same destination	Weekdays: 9:30 am - 4:30 pm 7:00 pm - 6:30 am Sats., Sundays, Holidays: Any Hour
SENIOR CITIZEN	40¢ ticket (discount)	10-ride book \$4	Senior Citizens (age 65 and over)	Any Day, Any Hour



SOME EXISTING DEMAND-ACTIVATED SYSTEMS

Location	No. of Passengers	Pop. of Service Area	Fare Reg./Discount	Primary Function	Type of Service	Comments
Ann Arbor, Mich.	3 Vans 11 Pass.	99,000 City pop. 3,300 Households in area served	N.A.	Neighborhood to CBD	Many-to-Few	Supplements fixed route Local bus service
Batavia, N. Y.	4 Vans 23 Pass.	18,000	60¢ Discounts avail.	Total city transit service	Many-to-Many	Replaced fixed route private bus system
Bay Ridges, (Pickering) Ontario	5 Vans	13,700	30¢ Discounts avail.	Feeder to Com-muter rail transit	Many-to-One One-to-Many Many-to-Many	Replaced fixed route service
Columbia, Md.	3 Minibuses	60,000	50¢	Feeder to com-muter bus and intra-village transportation	Fixed route Many-to-Many	Entirely new bus service in "New Tours." Demand-responsive during A.M. P.M. rush and all day Saturday
Regina, Sask.	2 Vans 14 Pass.	18,000	29¢	Feeder to down-town RTS trunk service	Many-to-Many	Replaced limited local bus service in area
Haddonfield, N. J.	11 Minibuses 1 Handicap-ped 17 Pass. Mini-bus	24,400	60¢ Discounts avail.	Feeder to Hi-Speed Commuter Train (PATCO); intra and inter-Boro transit	Many-to-Many Many-to-One One-to-Many	Supplements limited fixed route bus service
Columbus, Ohio	4 Minibuses	27,000	25¢	Feeder to local transit system in service area	Many-to-Many	Serves inner city Model Cities area
Buffalo, N. J.	7 Vans 11 Pass.	62,000	No charge, sub-sidized by HUD	Supplements local bus service	Many-to-Many	Serves inner city Model Cities area, Oper-ated for handicapped and elderly citizens only
Fort Walton Beach, Fla.	2 Vans	20,000	N.A.	N.A.	Many-to-Many	Privately owned and operated.
Carter County, Minn.	1 Van 11 Pass.	5,400 (no. persons eligible in service area)	25¢	Rural to town	Many-to-Few	Only elderly served by system



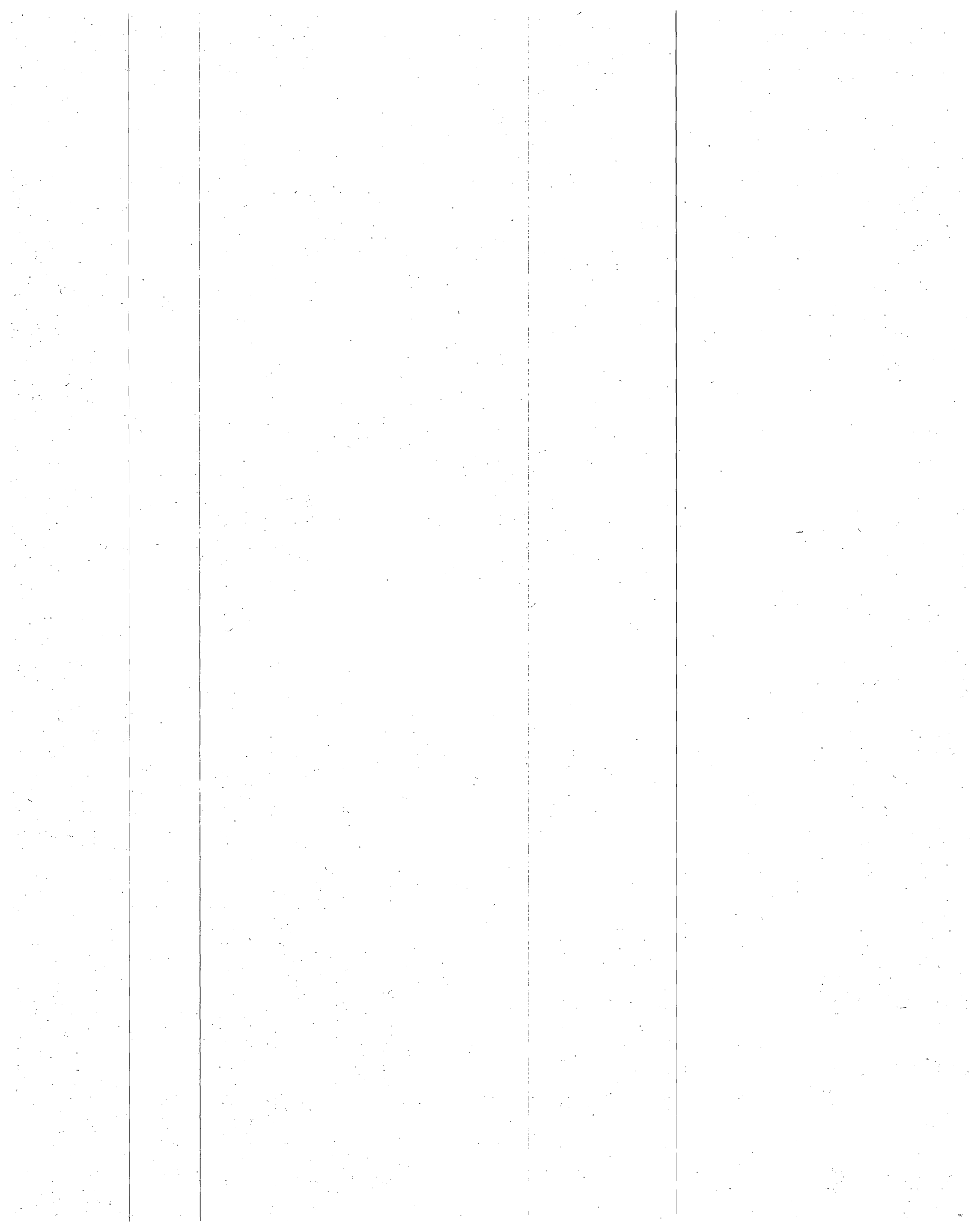
VII. RIDERSHIP

During the 11-week period since resumption of service (May 15 through July 28), total DAR ridership has amounted to 27,435 passengers. During this period, with the exception of the week containing Memorial Day, weekly ridership increased until the latter part of June when a peak of 3,069 passengers was reached. Ridership then leveled off at about 3,000 passengers per week. The average weekday ridership has been 495 passengers per day, with the peak daily ridership being 580 passengers on June 23. The greatest ridership has generally been experienced on Fridays and the lowest, on Sundays.

Saturday ridership has been somewhat erratic, exceeding the average for weekdays twice -- once during the first week of operation and again during the week ending June 11, when it reached a peak of 402 passengers. Since that time, Saturday ridership has leveled off somewhat, with a mean of 297 passengers per day. Sunday ridership during the 11-week period has remained relatively constant, increasing from a low of 92 passengers per day during the first week of operation to a mean of 136 passengers per day for the period June 11 to July 30.

The hourly ridership distribution for Dial-A-Ride on a typical weekday is characterized by a substantial number of trips between the hours of 9:00 a.m. and 4:00 p.m. with an overflow into the p.m. peak period (4:00 p.m.-7:00 p.m.) and relatively few requests during the a.m. peak (7:00 a.m. - 9:00 a.m.).

Trips made between 9 a.m. and 4 p.m. account for 45 percent of the daily total. Combining these trips with those made during the p.m. peak period (4 p.m. - 7 p.m.), results in about 65 percent of the daily total, or about 320 trips, being made during these two periods. This reflects Dial-A-Ride's ability to attract local non-work trips.



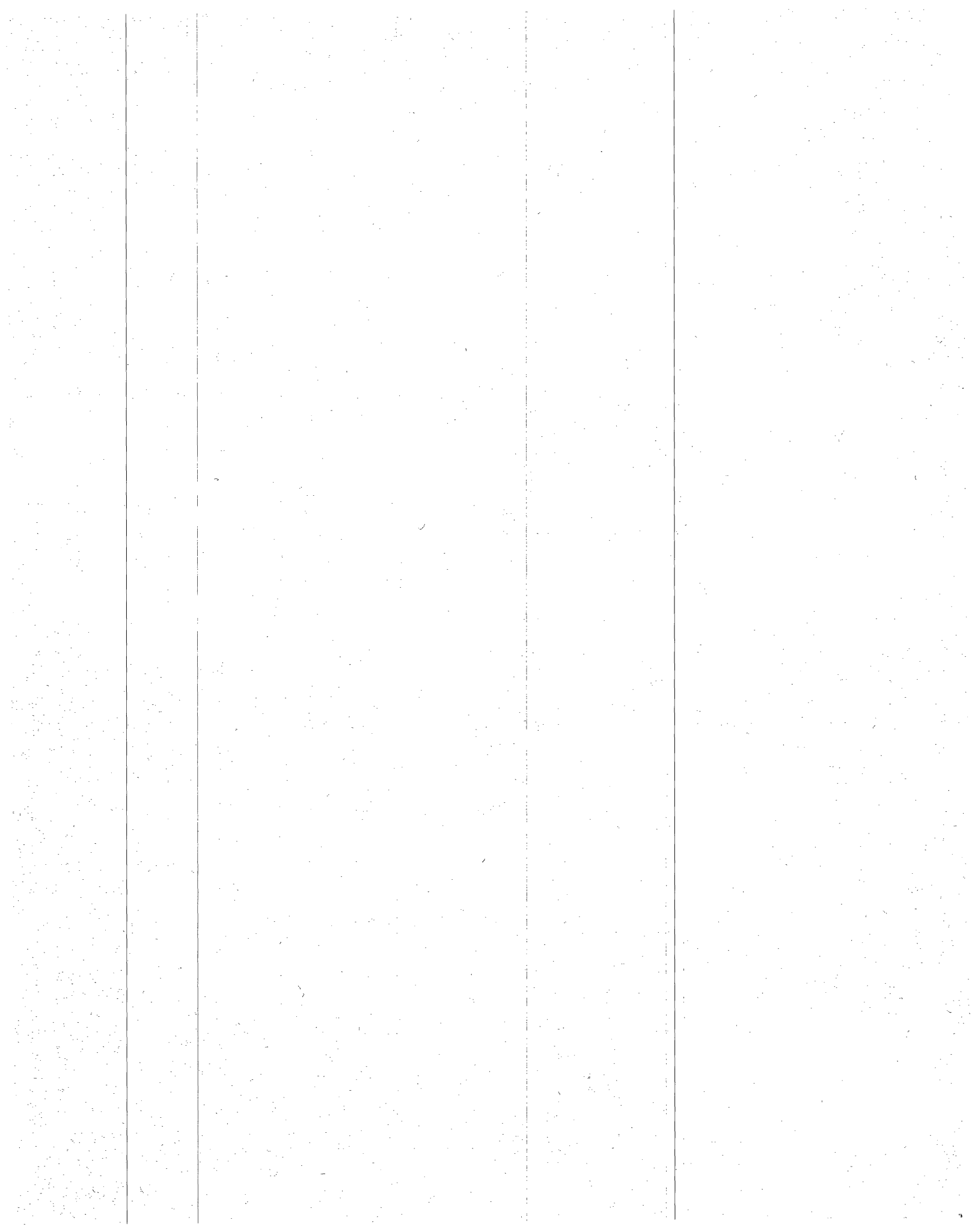
Patronage on Dial-A-Ride during the 7:00 a.m. to 9:00 a.m. peak period accounts for only seven percent of the daily total ridership. This is less than the expected ridership in these hours and may be because many service area residents live within walking distance of the station, and for those who travel to the station by auto, commuting habits have not yet changed.

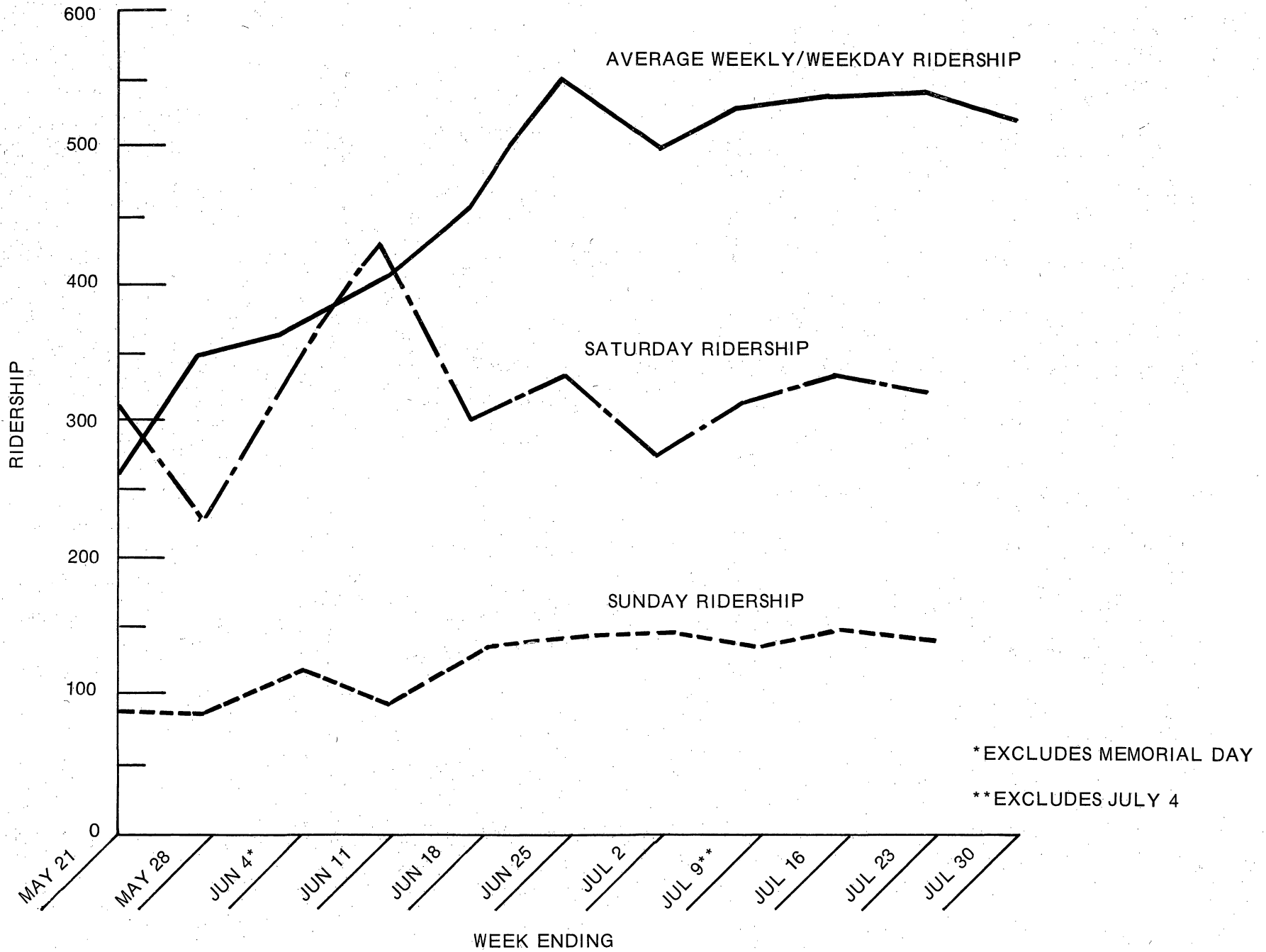
The hourly ridership distribution for Dial-A-Ride contrasts strongly with that observed by other transit operations in which a majority of the daily ridership occurs during the morning and evening peaks with relatively little ridership in the hours between.

Ridership Averages, Standard Deviations, and Percent of Weekly Total by Day of Week, June 19, 1972 Through July 30, 1972*.

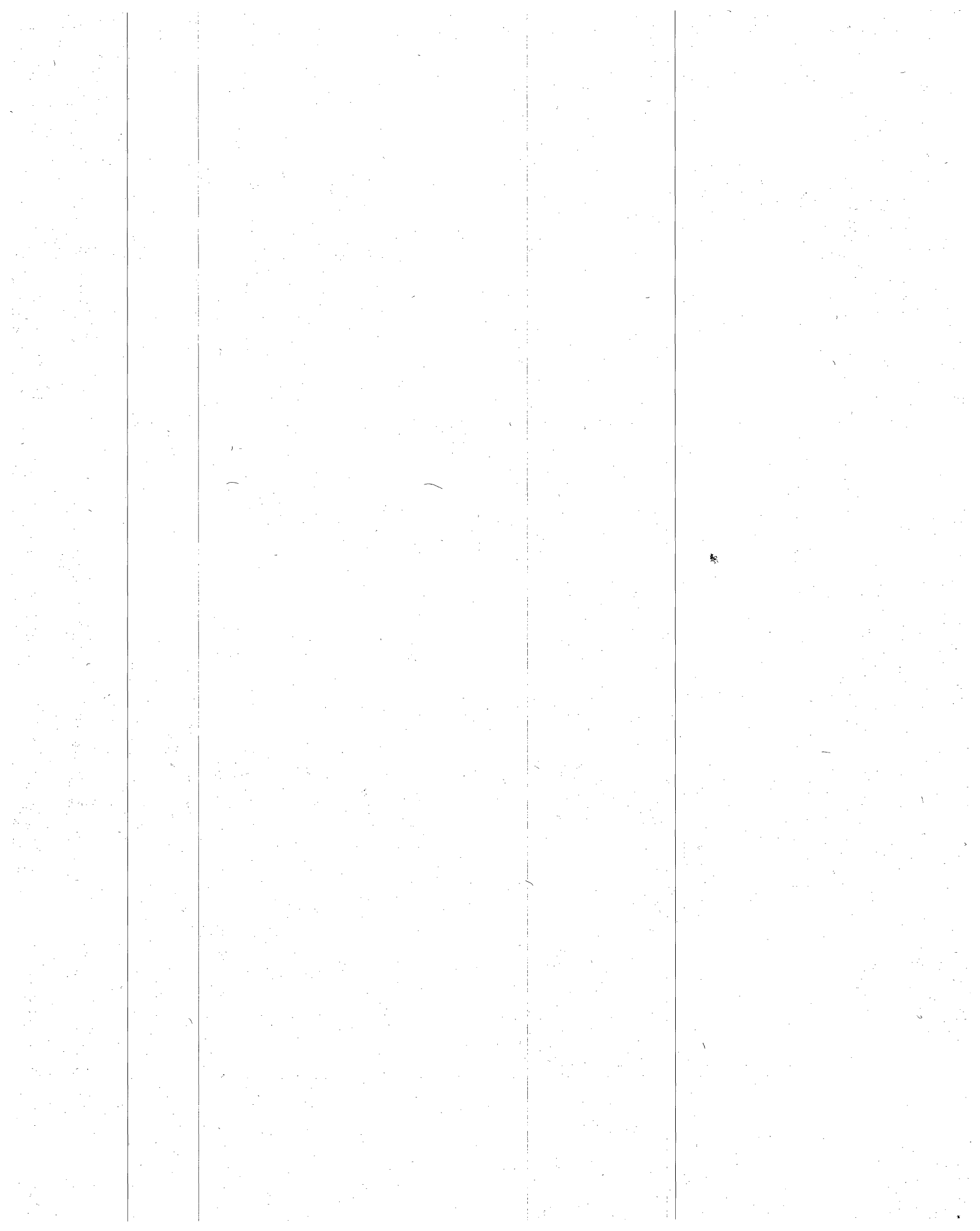
Day of Week	Mean	Standard Deviation	Percent of Weekly Total
Monday	446.3	26.26	15.19
Tuesday	491.8	48.23	16.73
Wednesday	525.7	34.78	17.89
Thursday	512.8	36.61	17.45
Friday	528.3	27.65	17.98
Saturday	299.3	21.44	10.18
Sunday	134.7	9.65	4.58
TOTALS	2,938.9		100.00

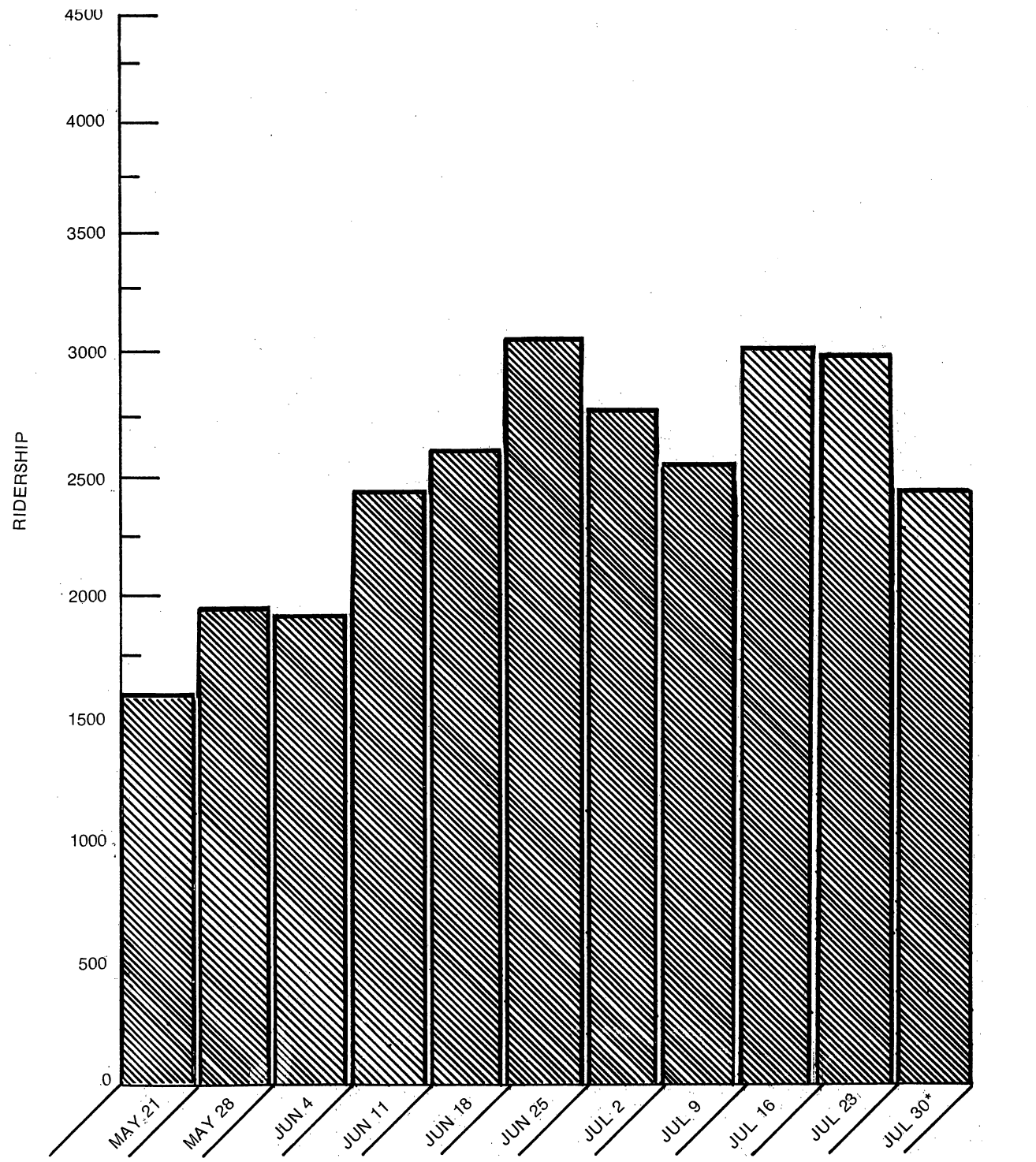
* Excludes the 4th of July





DIAL-A-RIDE: RIDERSHIP, MAY 15-JULY 28,1972





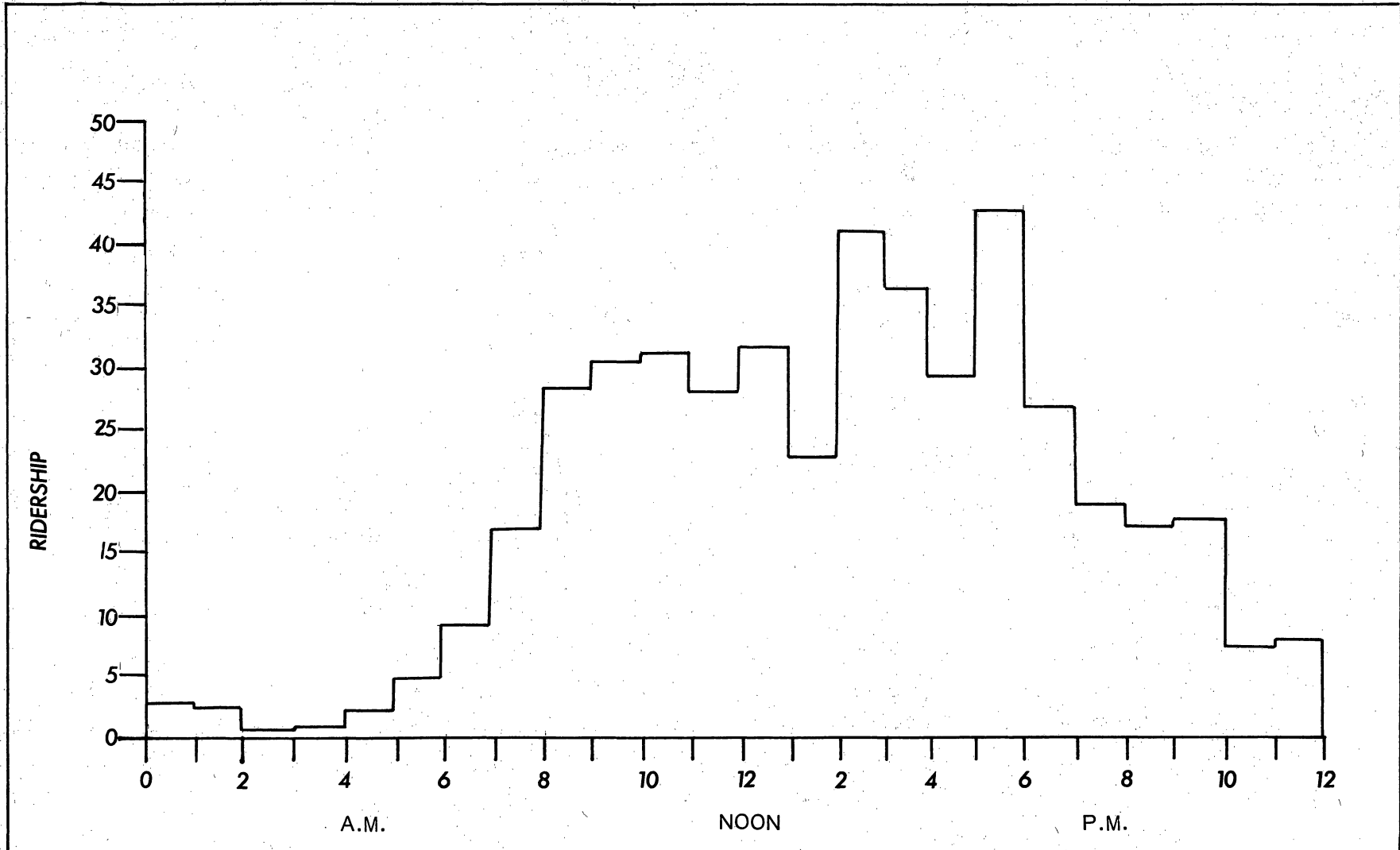
WEEK ENDING

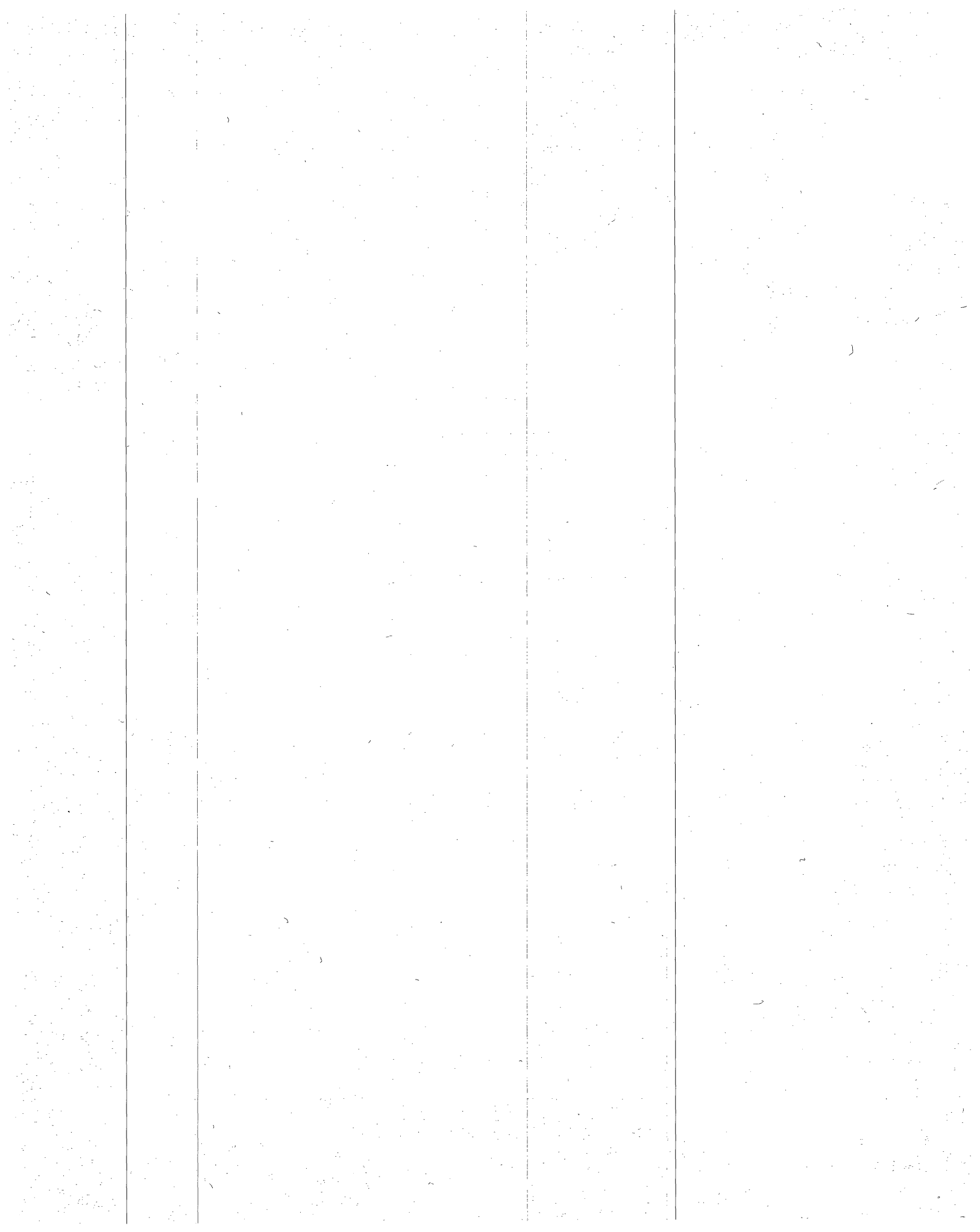
*5 DAY WEEK

DIAL-A-RIDE RIDERSHIP BY WEEK, 1972



AVERAGE HOURLY WEEKDAY RIDERSHIP DISTRIBUTION
JUNE 8 & 16 AND JULY 10, 18 & 25, 1972





VIII. VEHICLE PRODUCTIVITY

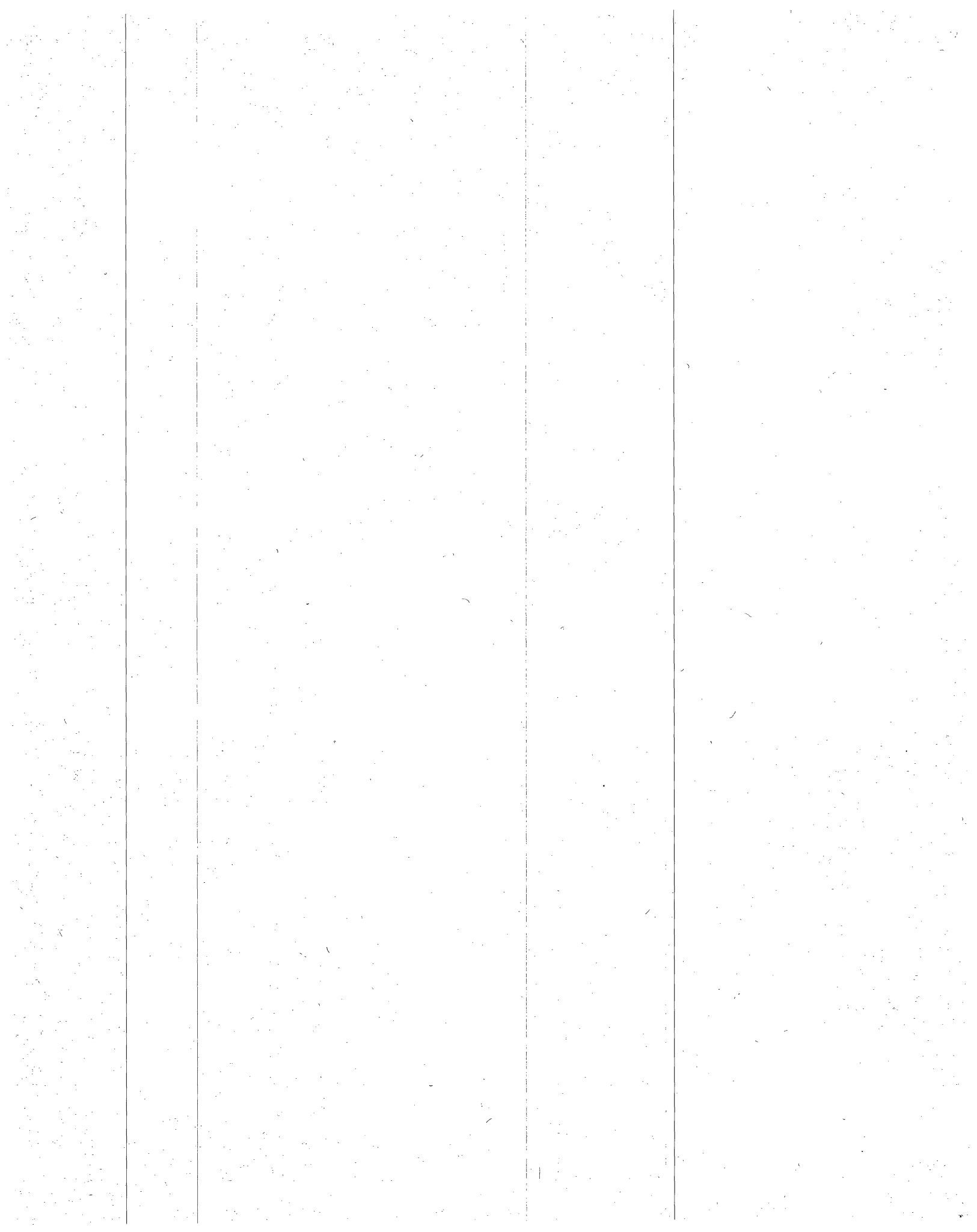
Vehicle productivity is defined as the number of requests received per vehicle per time period (hour or day). As such, it depends on two factors, these being the number of requests for service received and the number of vehicles available to service these requests. Vehicle productivity, however, should not be viewed as the only measure of system performance.

For a given demand rate, a large number of vehicles in operation will result in both a relatively low vehicle productivity and a high quality of service since waiting and riding times will be short. As the number of operating vehicles is reduced, productivity will increase since each vehicle will carry more passengers and quality of service will decrease, since there will be fewer vehicles to service customer requests.

During the first 11 weeks of the Haddonfield demonstration, the number of requests for service have been low with respect to the number of vehicles in operation. Consequently, the average productivity has been 4.09 passengers per vehicle hour.

It should be noted that the experimental nature of the project, which dictates an excess of supply over demand, will cause vehicle productivities to be lower than those which would occur in an operational system.

Another reason for low productivity is that the hourly vehicle distribution over a 24-hour period was conceived with the typical hourly transit demand distribution in mind and this has not been the case.

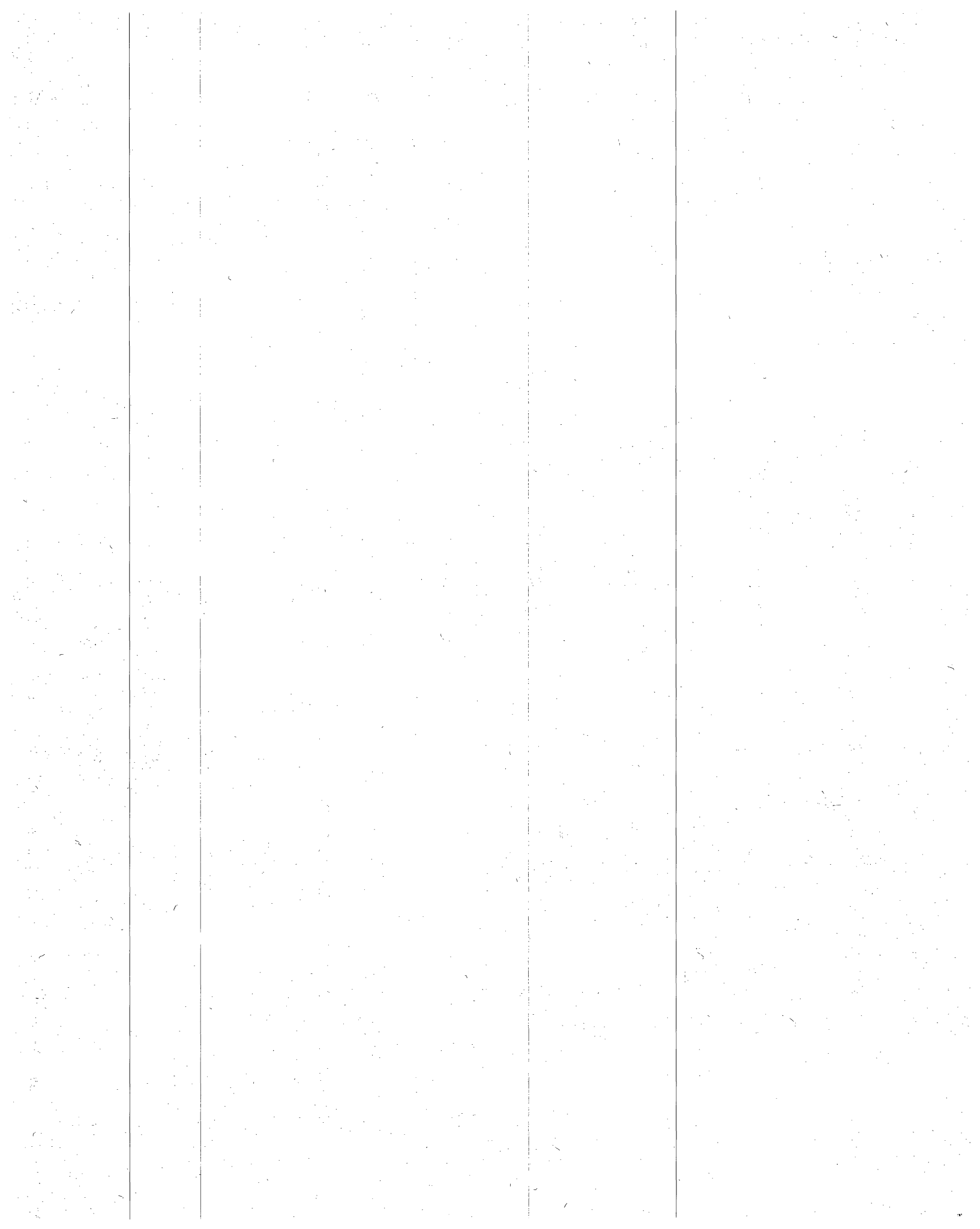


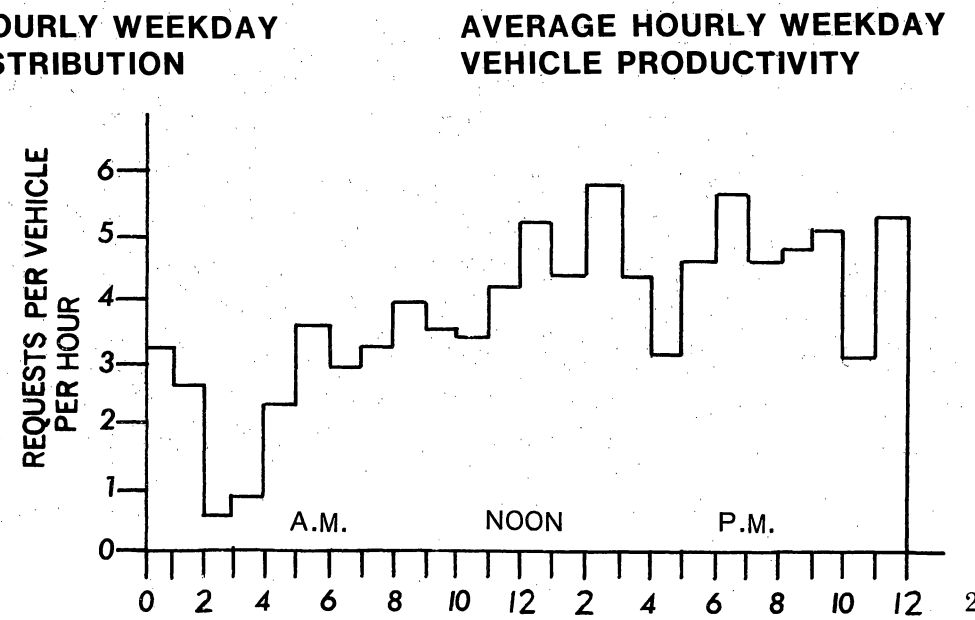
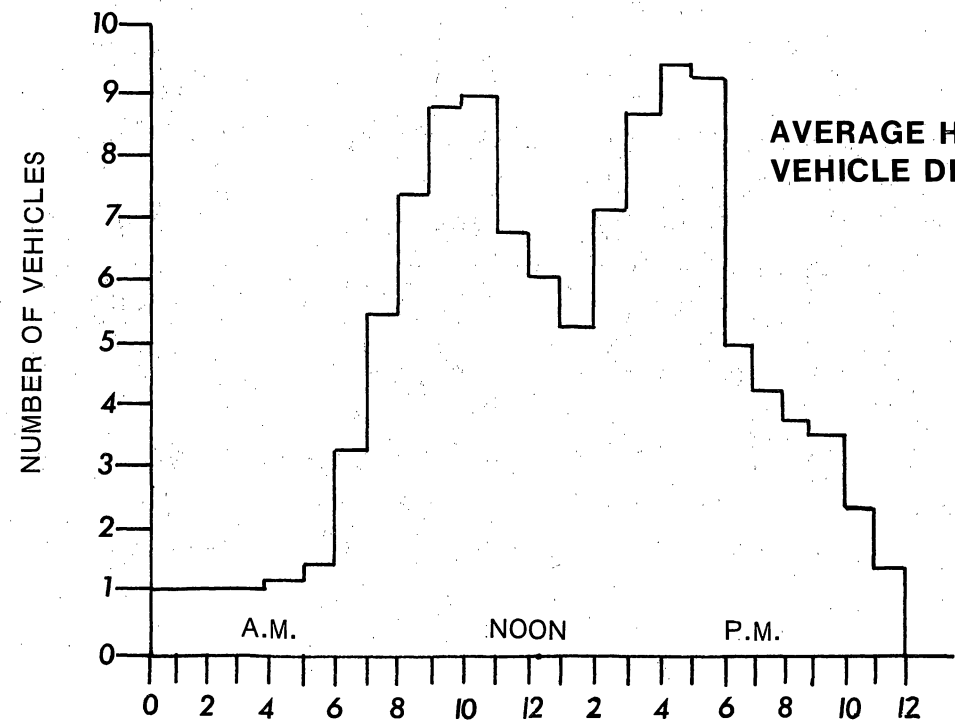
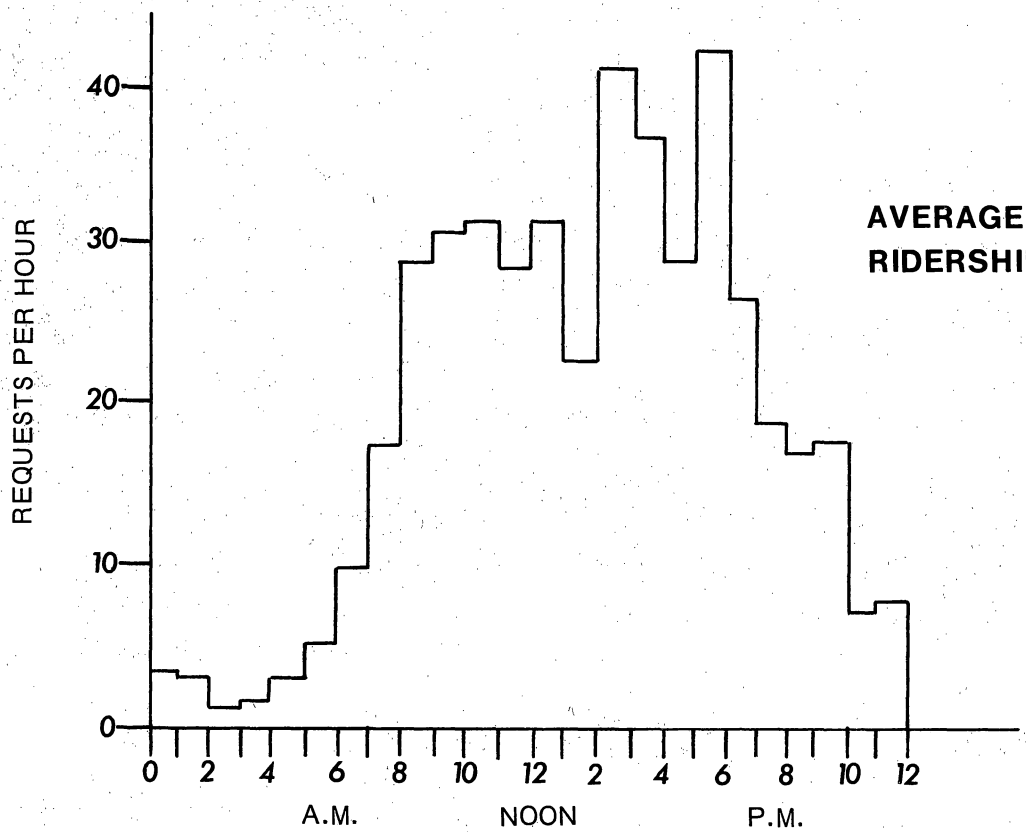
On a typical weekday morning between 5 a.m. and 11 a.m., vehicle productivity is fairly low, this reflecting the relatively small use being made of Dial-A-Ride by commuters and the relatively high number of vehicles in service. Productivity between 11 a.m. and 4 p.m. is then above average, this being due to the fact that the vehicle supply dips during this period and ridership continues to rise. Between 4 p.m. and 5 p.m. productivity dips sharply but then rises and remains above average from 5 p.m. to 10 p.m. thus reflecting a fairly good fit between vehicle supply and requests for service during these hours. In order to provide a better match between supply and demand in the other hours of the day, supply will be tailored to demand with the next driver rebid scheduled for September 1972.

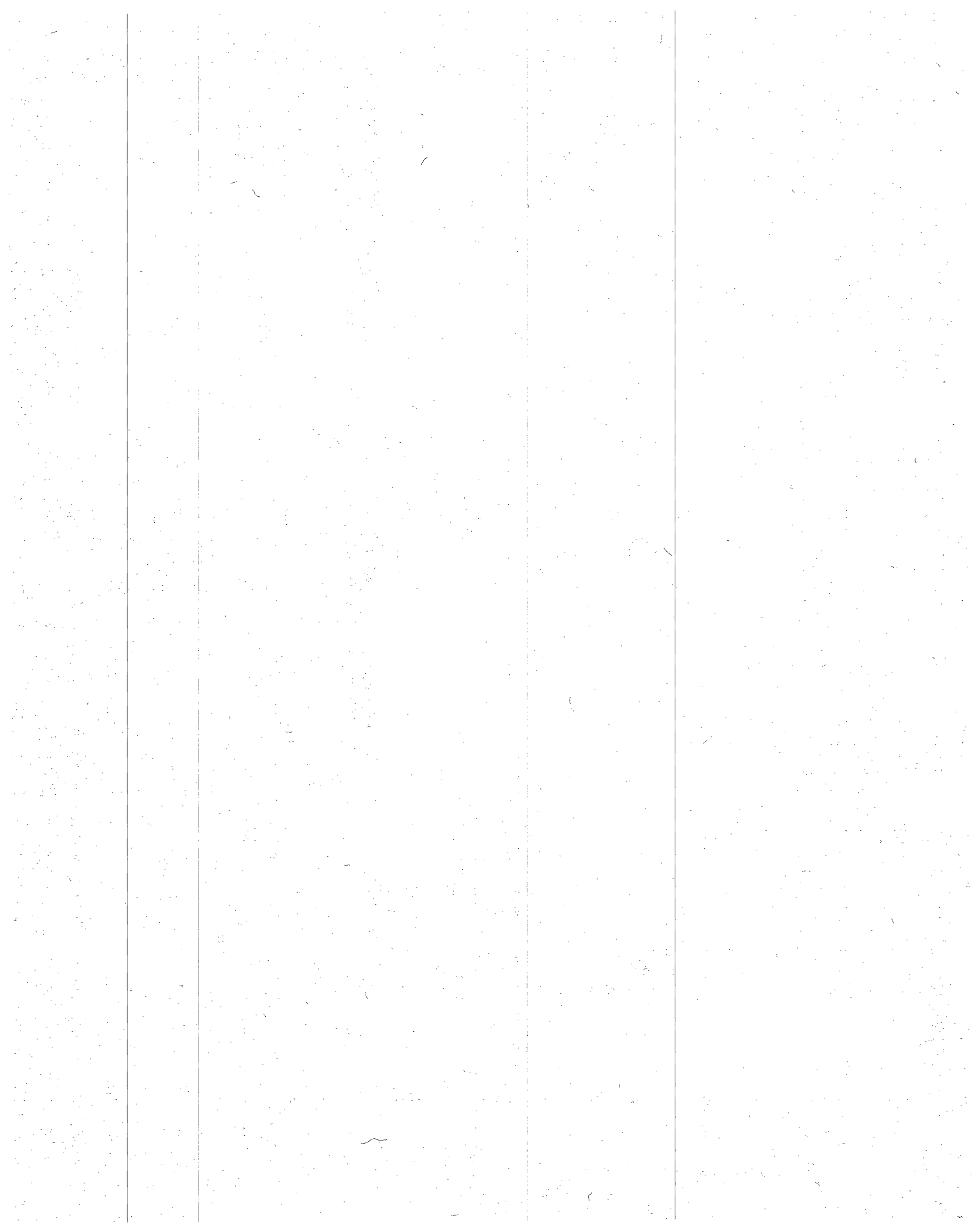
The following is average ridership, vehicles in service and vehicle productivity by period of the day for five representative weekdays in June and July 1972.

	Period	Average Hourly Ridership	Average No. of Veh. in Ser.	Average Productivity
1. a.m. peak:	7:01 a.m. — 9:00 a.m.	23.00	6.35	3.62
2. Mid-day:	9:01 a.m. — 4:00 p.m.	31.54	7.30	4.32
3. p.m. peak:	4:01 p.m. — 7:00 p.m.	32.73	7.83	4.18
4. Evening	7:01 p.m. — 11:00 p.m.	15.40	3.45	4.46
5. "Owl":	11:01 p.m. — 7:00 a.m.	3.97	1.39	2.86

It can be seen that vehicle productivity is highest in the two off-peak periods 9:01 a.m. - 4:00 p.m. and 7:01 p.m. - 11:00 p.m., this reflecting the non-work trip use that Dial-A-Ride is receiving in these periods.







IX. QUALITY OF SERVICE

One factor that greatly influences the number of riders attracted to Dial-A-Ride is the quality of service provided. While the term "quality of service" may connote a combination of factors, it is considered here to consist of only one factor, i.e.; time. To determine the quality of service, three easily computable measures were chosen; these being average wait time, pick-up time deviation, and ride time. These statistics are meaningful measures of quality of service for the three types of trips offered by Dial-A-Ride.

These types of trips are: immediate, deferred, and periodic. An immediate trip is one which the passenger wants to start as soon as possible. A deferred trip is one that the passenger wants to start at some specified time in the future (e.g., later in the afternoon or the next morning). A periodic trip is one that is made regularly, at the same time, to the same destination, on the same day or days of the week. Only one telephone call is sufficient to initiate periodic service; the passenger is not required to call each time he wants to make a periodic trip.

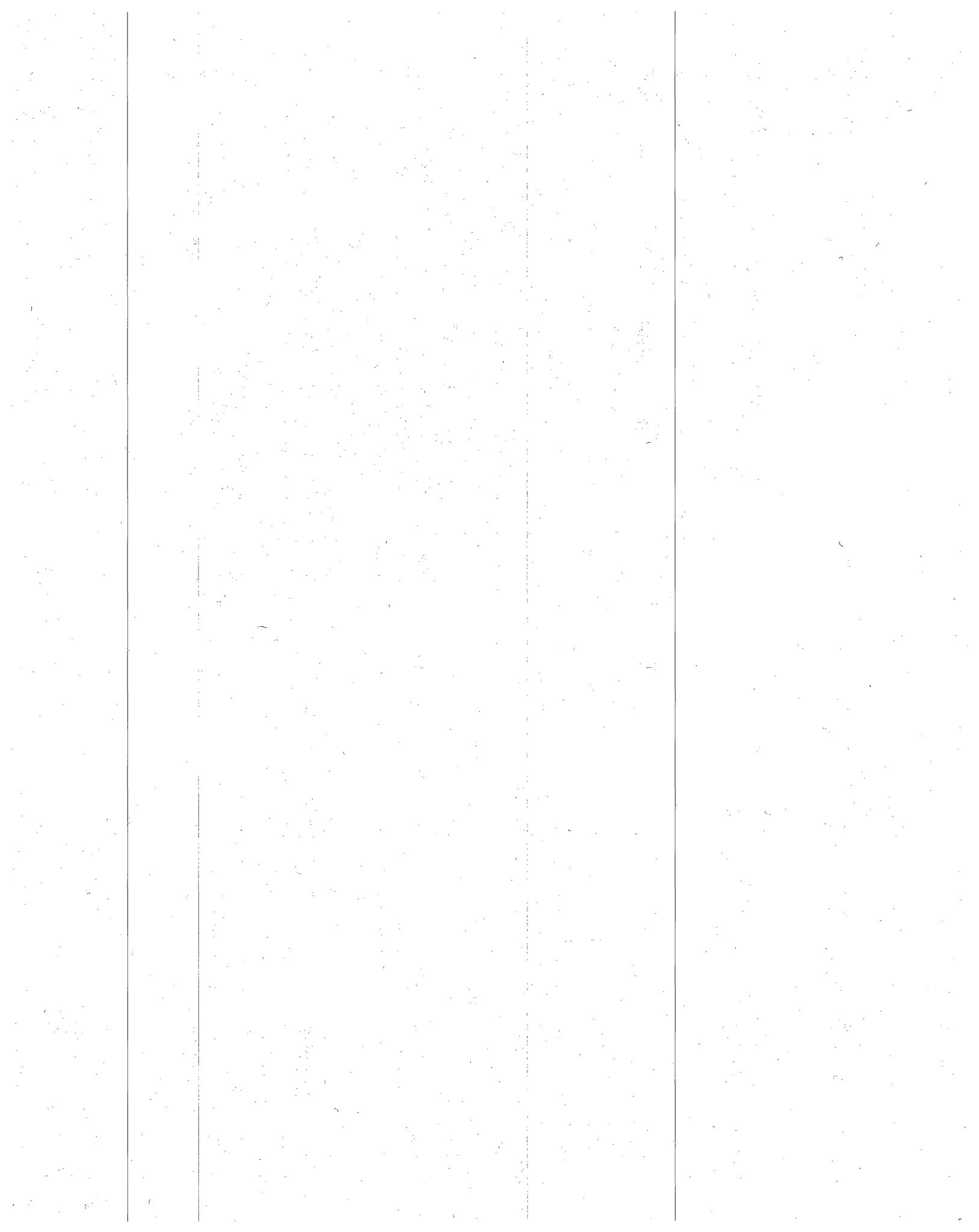
Wait time is that time elapsing from the end of the telephone call requesting service to the time the vehicle arrives to pick up the customer. Of the three types of trips serviced by Dial-A-Ride, wait time is a measure of quality of service for immediate trips only.

Average wait time on a weekday is 12.64 minutes with three factors contributing to this average. The first is the time required to execute the control room procedures. (i.e., assigning the trip to a vehicle, notifying the driver of the location of the pick-up, and recording data). The second factor is the time required for the vehicle to travel from its current location to the pick-up point. A third factor is often a delay by the passenger due to not being ready when the vehicle arrives.

Beginning with the early morning hours, the mean wait time gradually increases as the number of requests for service increases and reaches a maximum of 16.5 minutes during the 3:00 p.m. - 7:00 p.m. peak period.

The wait times in the periods 4:00 a.m. to 5:00 a.m. and 8:00 p.m. to 9:00 p.m. are the result of very few samples; consequently, *these figures are atypical*.

Pick-up time deviation is the difference between the pick-up time "promised" to the passenger by the telephonist at the time the trip is requested and the actual pick-up time. Unlike wait time, pick-up time deviation can be measured for all three trip types; i.e., immediate, deferred, and periodic.



The mean pick-up time deviation is -2.13 minutes, thus indicating that on the average, vehicles arrive about 2 minutes earlier than promised. This deviation usually falls within a narrow range, varying from -4.5 minutes to $+3.0$ minutes. This is desirable, since customers are not likely to be satisfied with the service if vehicles arrive excessively early or late.

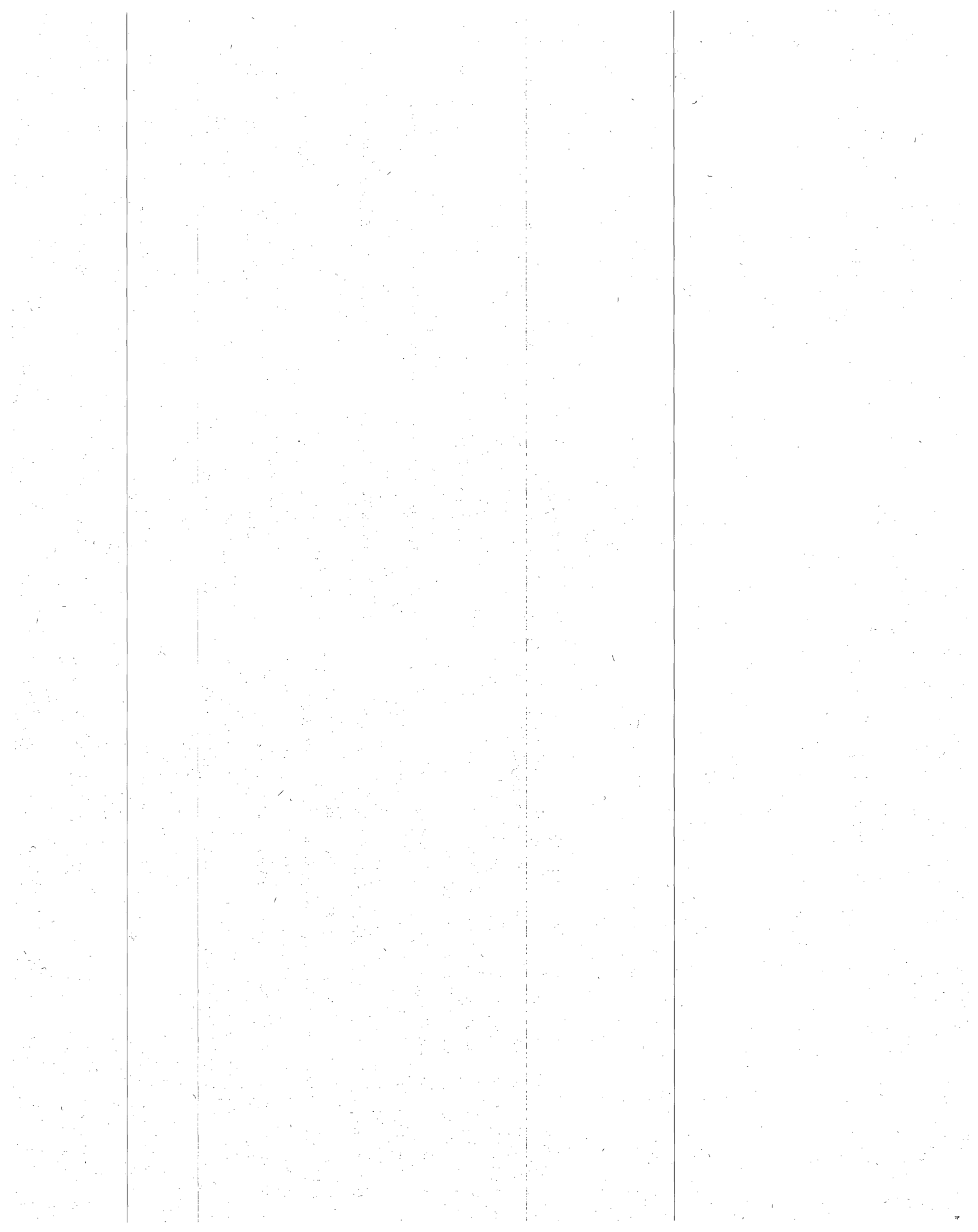
Four factors contribute to the -2.13 minute average pick-up time deviation. Three of these factors are those which contribute to wait time, as explained above. The fourth is the accuracy with which the control room staff estimates the promised pick-up time. This estimation process takes into account the average pick-up time deviation of the previous half hour, the number of buses available, and the location of the current trip.

A third measure of quality of service is ride time. Ride time is the time the passenger rides on the vehicle from pick-up

to delivery. It is a measure of quality of service for many-to-many, scatter and gather trips. Average ride time on a weekday is 9.95 minutes. This is close to the average automobile ride time of nine minutes, obtained from the first household survey. It is also in consonance with the low vehicle productivities discussed earlier. The implication is that passengers usually travel relatively direct from origin to destination without making many intermediate stops for other pickups and dropoffs.

As with the mean wait time, the mean ride time increases on an hourly basis until peak ridership is reached during the mid-day period.

At this point, the ride time reaches and remains at a level of about 11.5 minutes. Consequently, during that time of the day in which the greatest number of passengers are carried (2:00 p.m. - 7:00 p.m.) the typical trip on Dial-A-Ride will take a total of about 24 minutes (13 minutes wait time and 11 minutes ride time).



The following is average wait time, average ride time and average pick-up time deviation by period of the day for the days sampled.

	Period	Average Wait Time	Average Ride Time	Average Pick-Up Time Deviation
1. A.M. peak:	7:01 a.m. – 9:00 a.m.	9.86	7.29	-3.39
2. Mid-day:	9:01 a.m. – 4:00 p.m.	12.98	10.15	-3.07
3. P.M. peak:	4:01 p.m. – 7:00 p.m.	14.29	11.36	-1.11
4. Evening:	7:01 p.m. – 11:00 p.m.	16.26	10.86	+1.61
5. “Owl”:	11:01 p.m. – 7:00 a.m.	15.76	8.02	-1.75

It can be seen that as the day progresses and ridership increases, the average wait and ride times also increase.

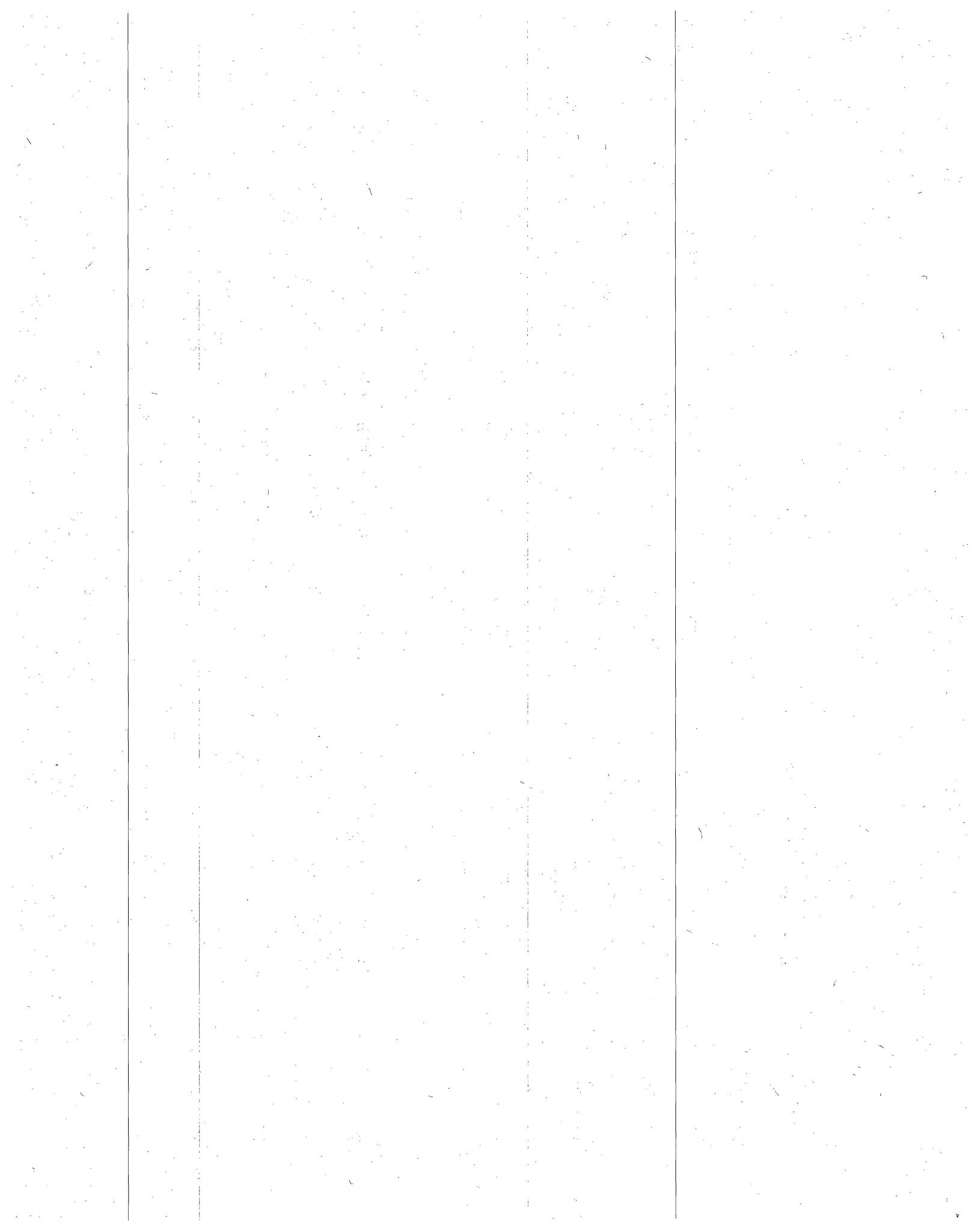
As vehicle productivity (requests per vehicle per hour) increases, so do the average wait and ride times since each vehicle will have more passengers to pick up and drop off.

This relationship does exist for five typical weekdays (June 8, 16; July 10, 18, 26), the average vehicle productivity and average sum of wait and ride times were plotted on an hour by hour basis. As the day progresses and ridership increases, both vehicle productivity and customer wait and ride times also increase.

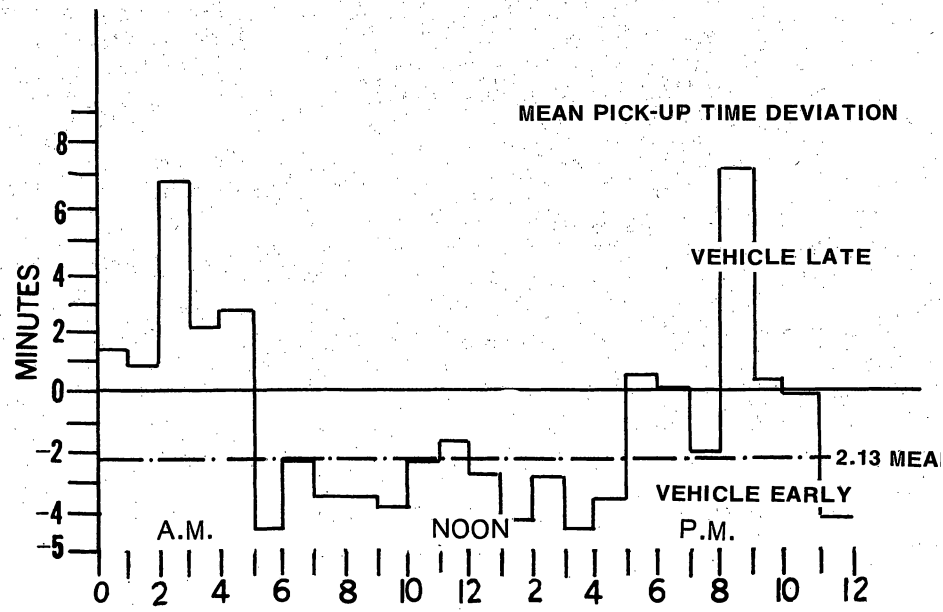
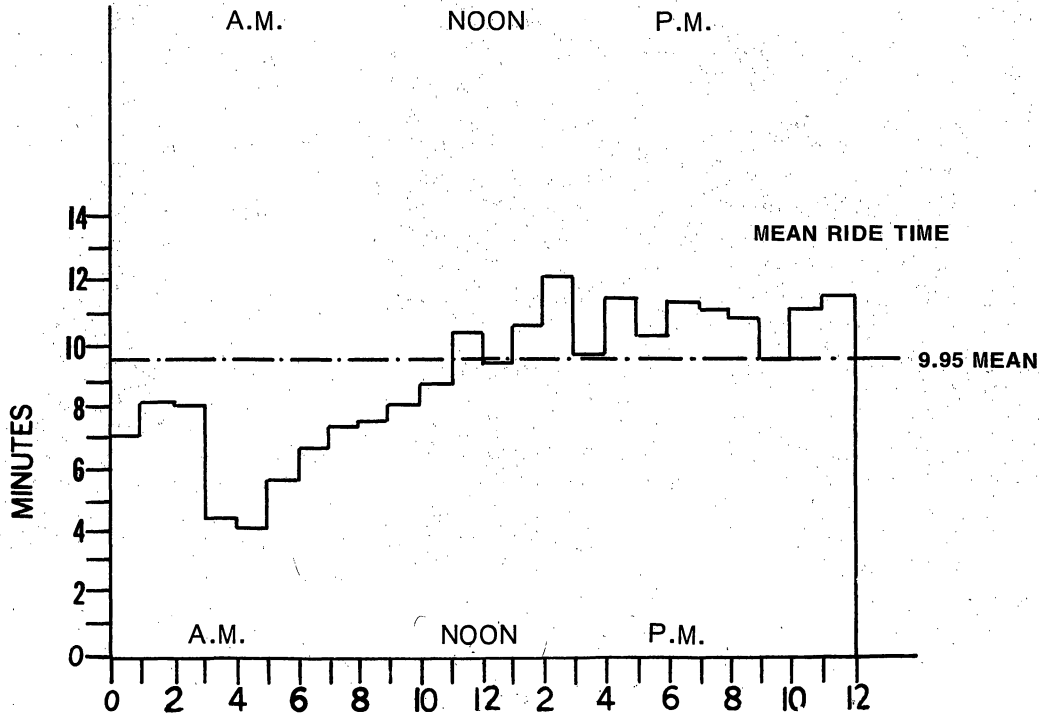
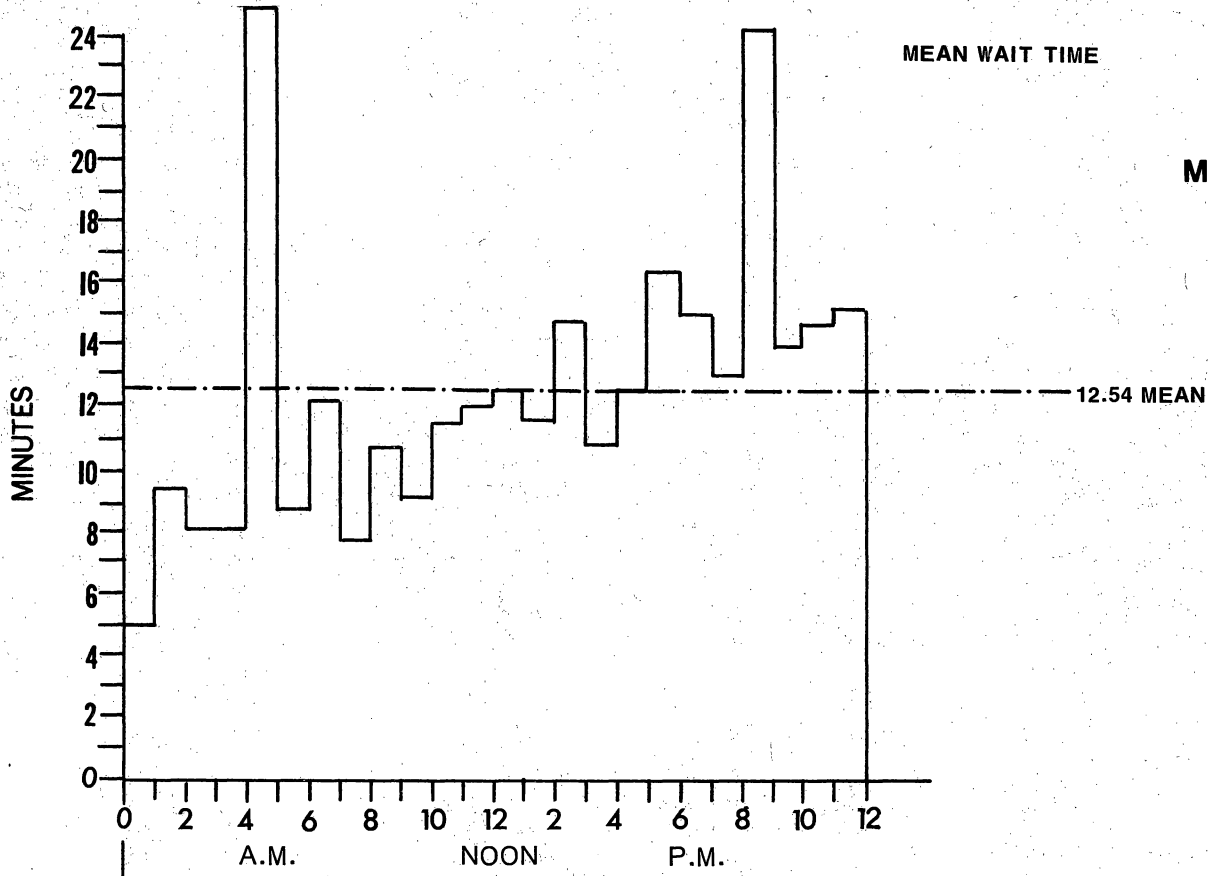
Using the Spearman rank correlation coefficient, it is found that the correlation between the sum of wait and ride times and vehicle productivity is +.52. This is sufficiently high to indicate that a statistically significant positive correlation exists between these two variables. When one is plotted against the other, it is found that the regression equation describing the relationship between the two is:

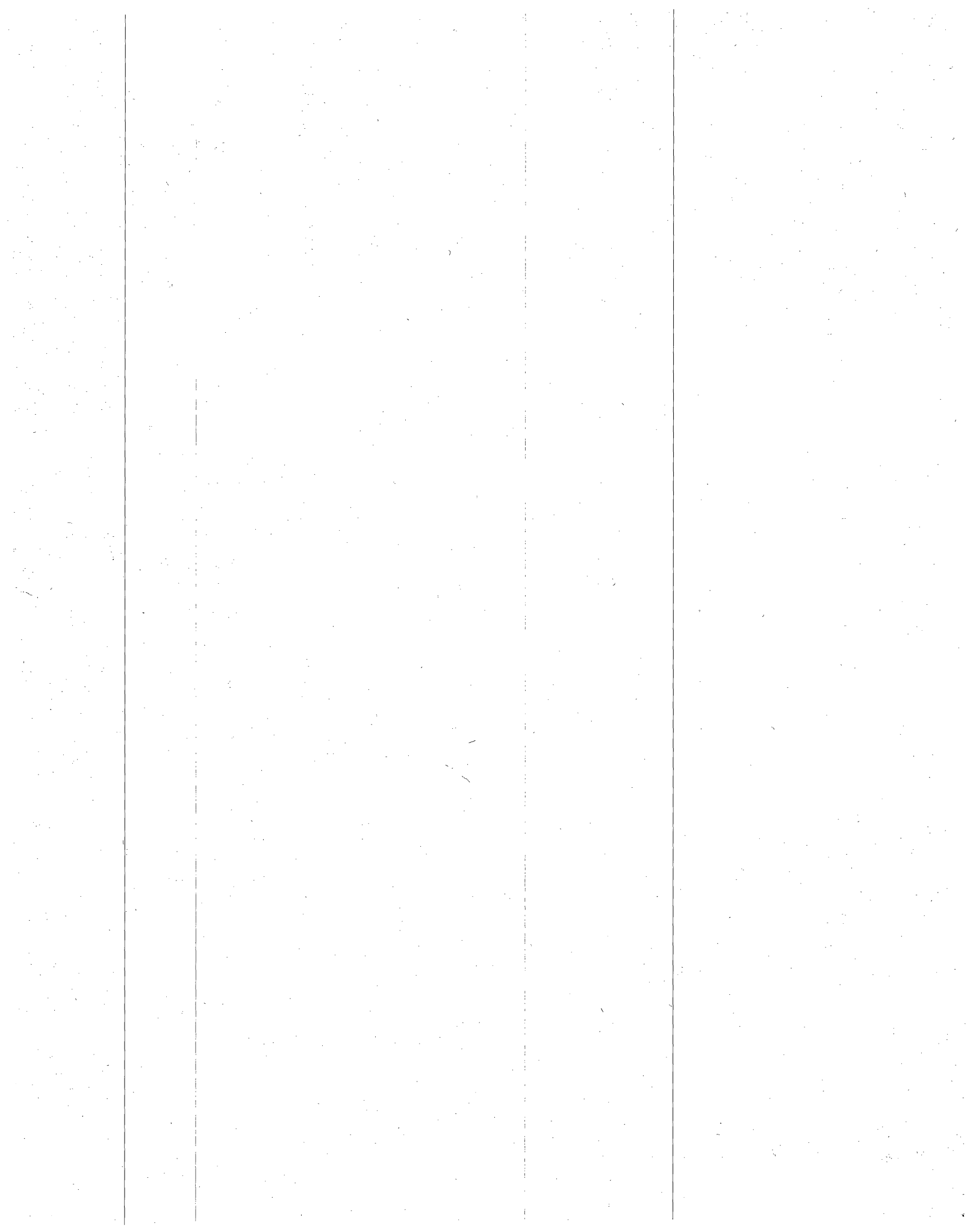
$$\text{wait plus ride time} = 12.89 + (2.83 \times \text{vehicle productivity})$$

Thus, it can be estimated that if the vehicle productivity is 4.0, then the average wait and ride time will be 24.21 minutes and indeed with actual vehicle productivities averaging about 4.0, the actual wait and ride times are about 24 minutes.

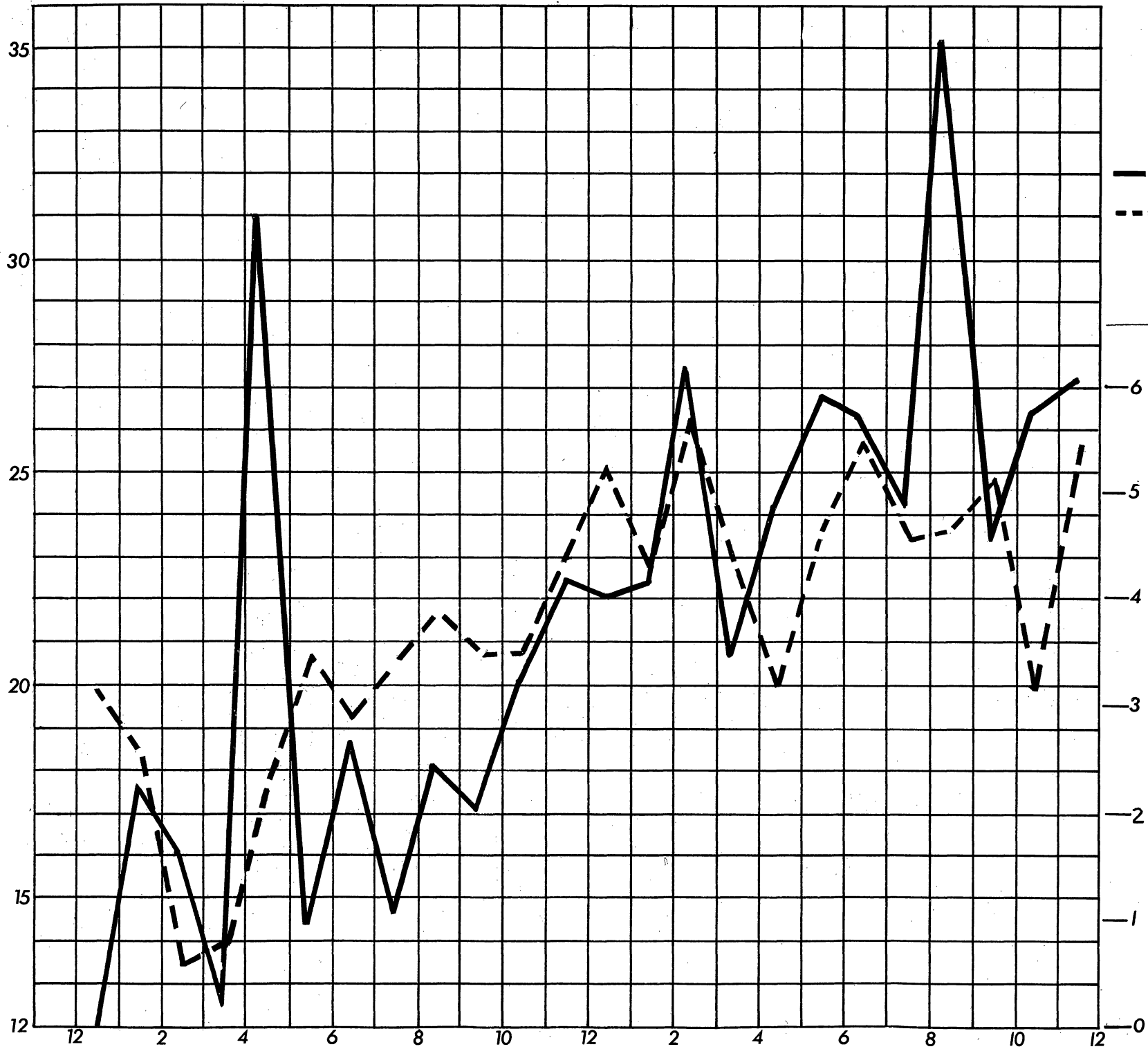


MEASURES OF QUALITY OF SERVICE



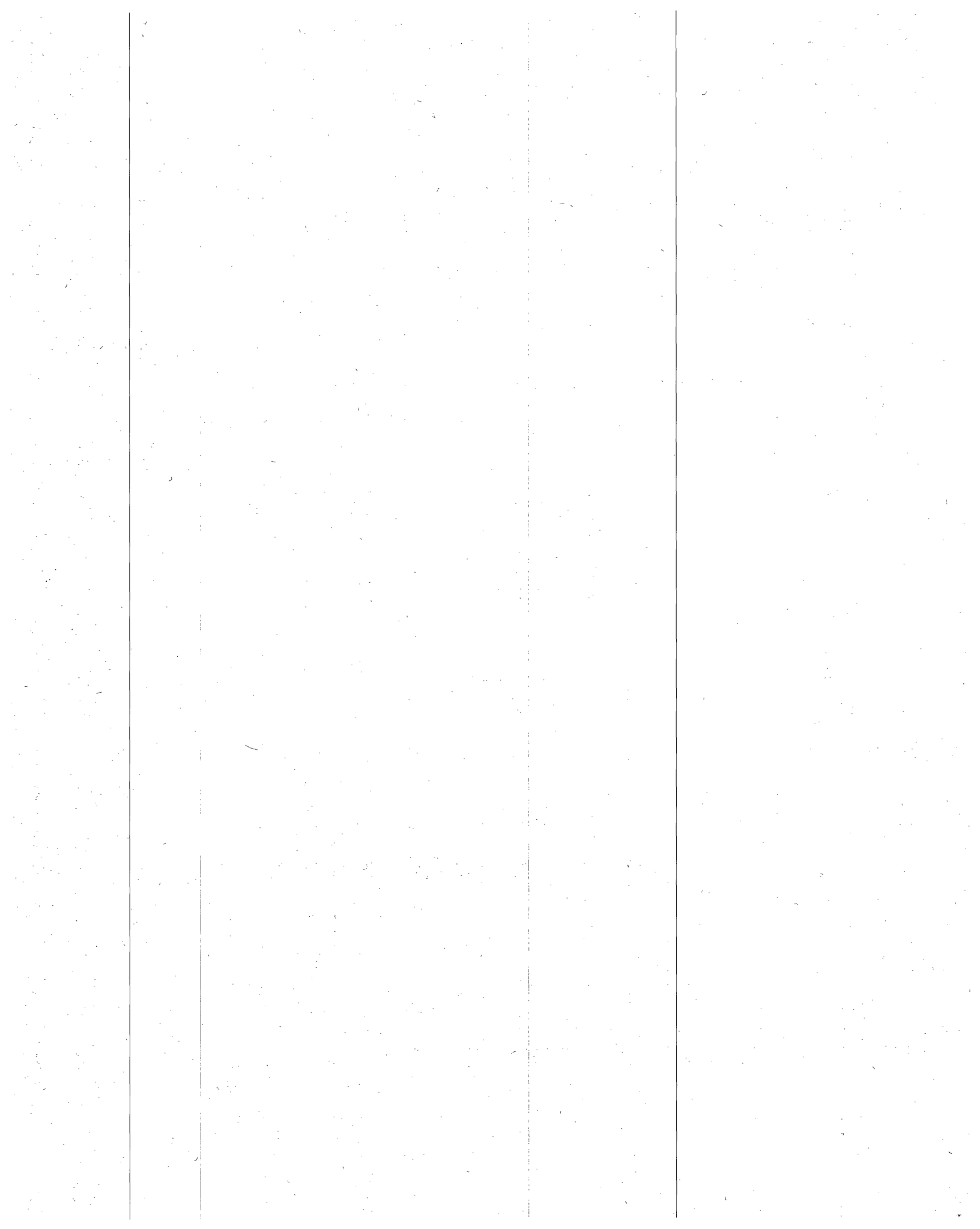


WAIT and RIDE TIME



— = wait & ride time
- - = productivity

PRODUCTIVITY

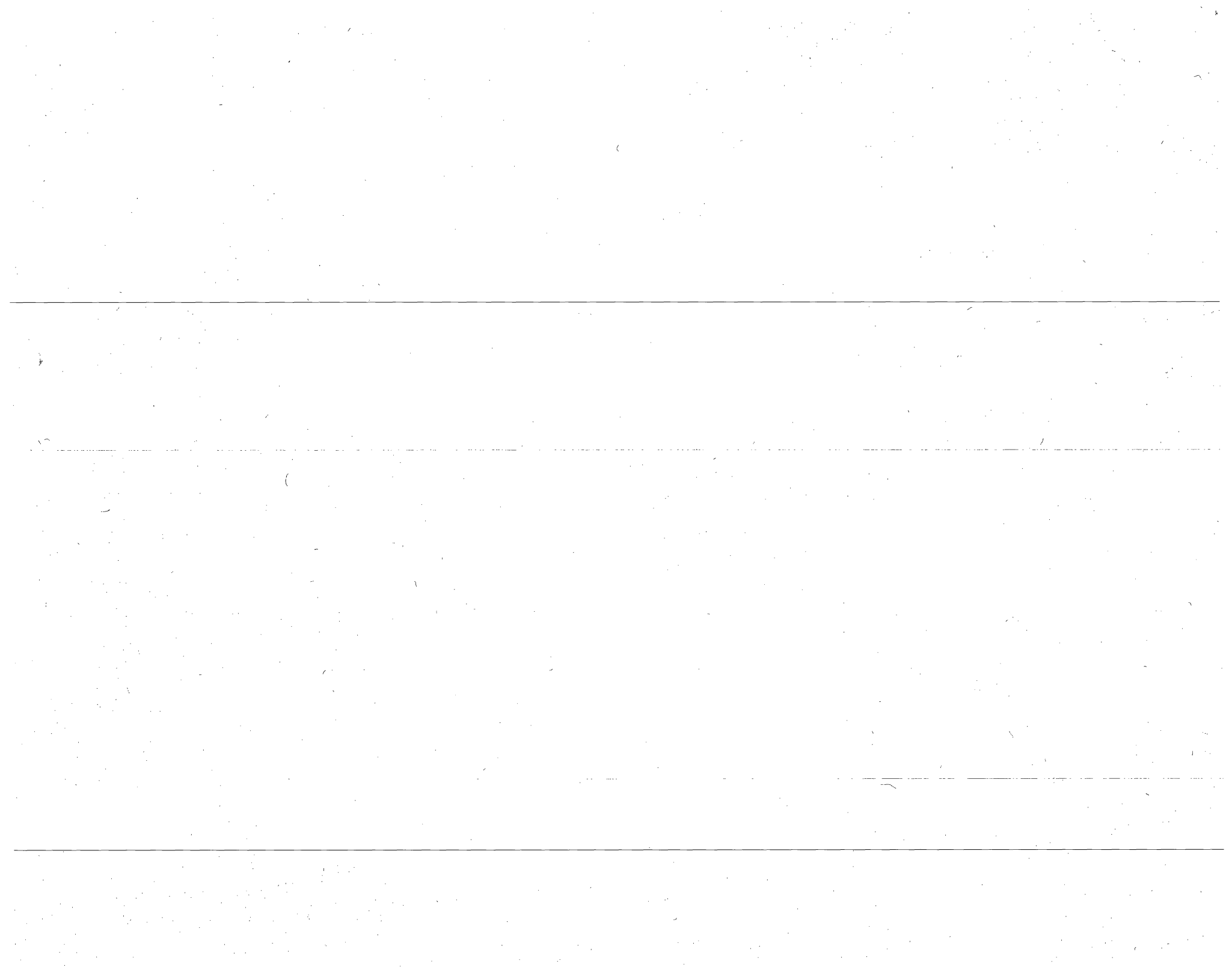


X. REACTIONS TO DIAL-A-RIDE

DIAL-A-RIDE IS HERE

The Honorable John A. Volpe, Secretary of Transportation, inaugurated the Dial-A-Ride Demonstration by placing the first telephone call for service on February 19, 1972. The *Philadelphia Inquirer*, *The Evening Bulletin*, *The Courier-Post* and the *Haddon Gazette* headlined the start of Dial-A-Ride service.

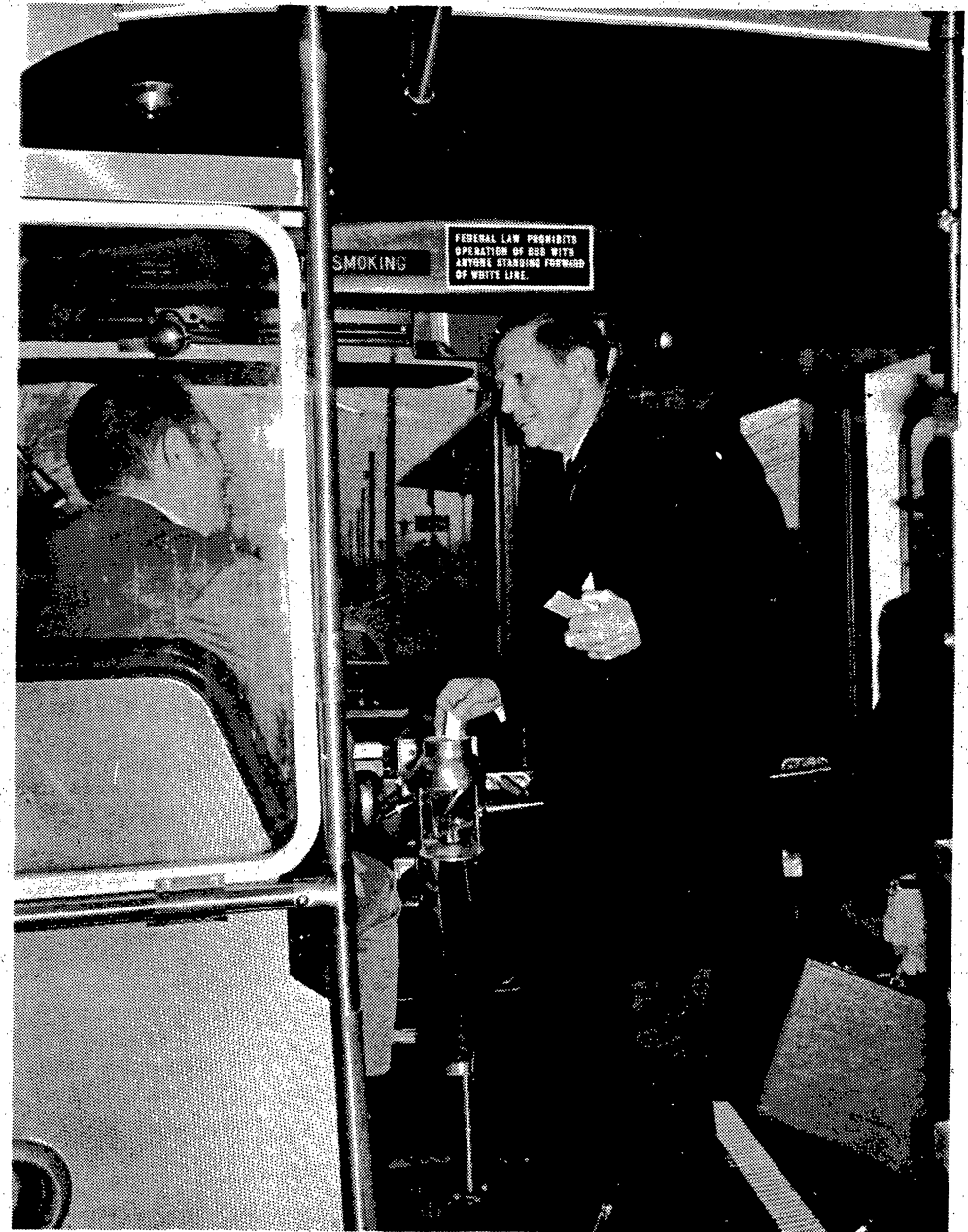
The initial reaction to Dial-A-Ride by a *Courier-Post* reporter appeared as a feature article.

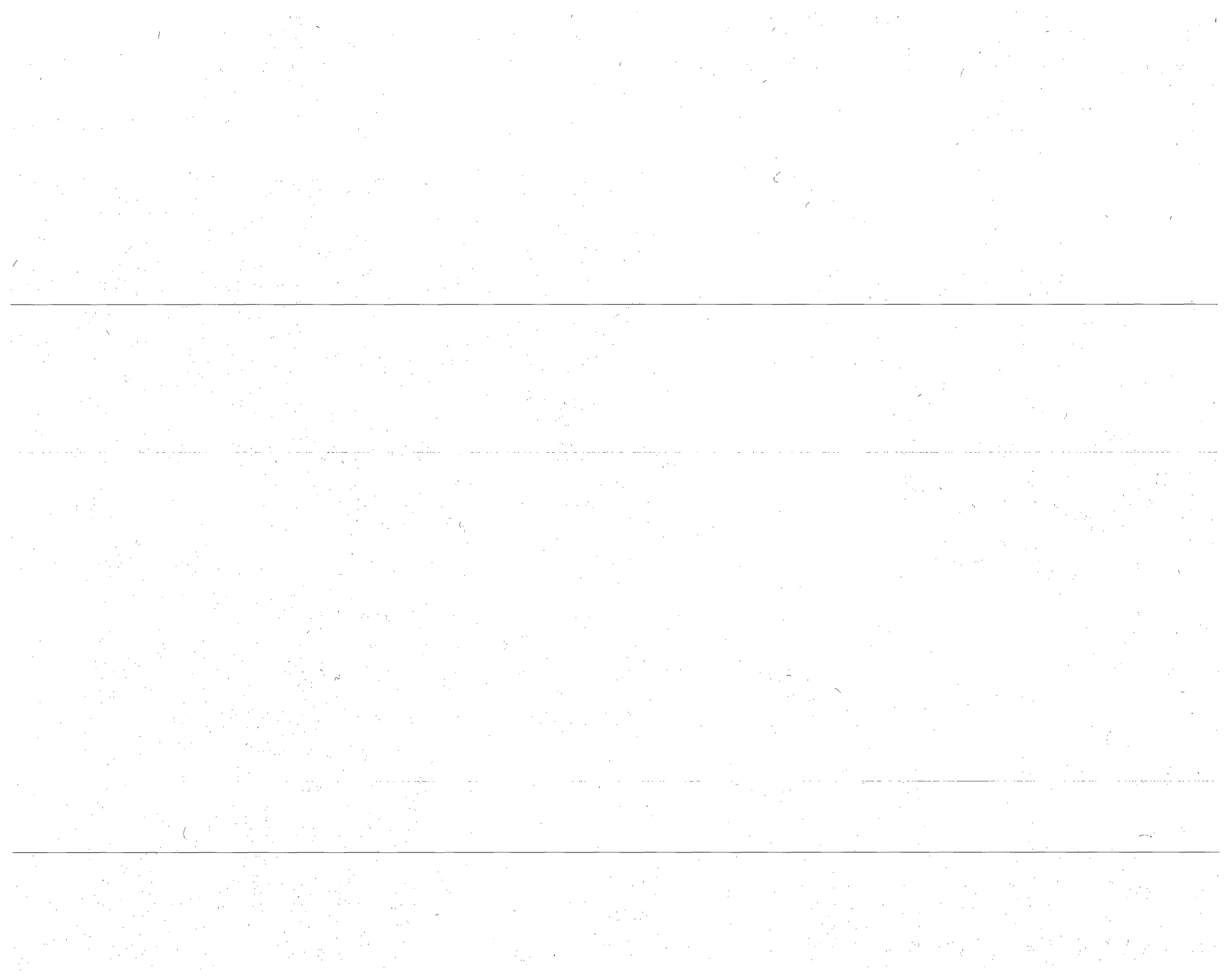


On New Bus System:



The U. S. Secretary of Transportation was one of the first customers on the new Dial-A-Ride system which went into operation in Haddonfield last week. As he demonstrates, a phone call, a bus ticket and you're on your way. The fleet of moderate size buses could not have picked a better time to win local friends, considering the bad weather we've had.

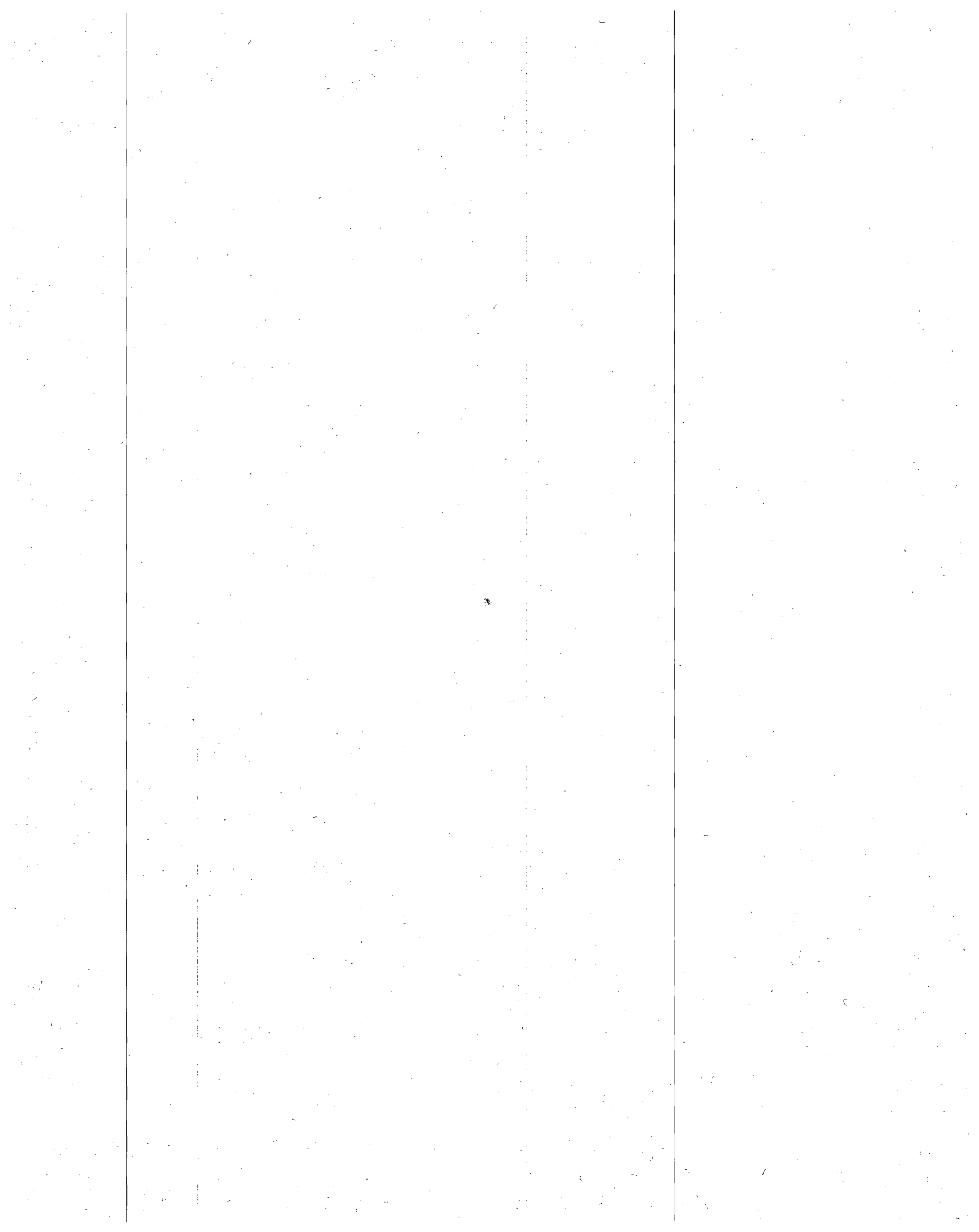




EDITORIALS

Editorial comment on Dial-A-Ride has ranged from explanations of the service to a few lines.

Overall editorial comment has been favorable.



The Evening Bulletin

Haddonfield ramble

By DAN LANG
Courier-Post Staff

Dial-A-Ride, thy middle name is patience.

The new experimental bus service, which opened last week in Haddonfield, will require more than a simple phone call from commuters who were looking to it to solve the narcotic dependence in suburbia on the automobile.

Like any new system, and especially one that employs a control center that looks like a radar plot in a super-secret defense command post, it has its imperfections. But the considerate commuter will see this as a golden period for Dial-A-Ride. It will be full of forgivable goofs, amusing regimentation, and surprising efficiency.

Consider the experiences of one commuter who went in search of a Dial-A-Ride bus just to see what it was like:

The icy winter wind jabbed

How many people will be interested in door-to-door bus service, available via a telephone call from their homes, and with only a short wait?

These are the elements of the new Dial-A-Ride bus system being tried on a demonstration basis in the Haddonfield, N.J., area.

The roving, jitney-type buses will take passengers anywhere within their service area, which includes Cherry Hill shopping mall and the station of the Lindenwold Line.

The U.S. Department of Transportation, which has spent \$1.6 million on the experimental Dial-A-Ride system, will use pint-sized buses as a way to provide public transportation in an urban area without enough money to maintain service on fixed bus lines. The Haddonfield system is the

first of its kind in the nation.

U.S. DOT was attracted to Haddonfield by the ridership potential of the Lindenwold high-speed line. Some 60 percent of the Dial-A-Ride's users are expected to be commuters on the high-speed line. The pilot service, if successful, could go far toward solving the Lindenwold line's need for feeder bus connections.

What needs to be shown is whether suburbanites can be enticed from heavy reliance on automobiles. Dial-A-Ride's accent is on personalized service, with a 60-cent fare, 40 cents for elderly riders.

The New Jersey Department of Transportation, cosponsor of Dial-A-Ride, is hopeful the service will catch on. Its door-to-door feature certainly beats waiting on a chilly street corner for route-bound buses to come along.

The Philadelphia Inquirer

a central office to request a bus to pick them up at a certain time for delivery to a specific place. A dispatcher then will radio the pickup information to the nearest bus which will go to the waiting passenger's home.

The demonstration project is being financed by the U. S. Department of Transportation, Urban Mass Transportation Administration and the New Jersey Department of Transportation which is sponsoring the program and providing overall direction.

COURIER-POST

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Front Page

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DIAL-A-RIDE IS HERE

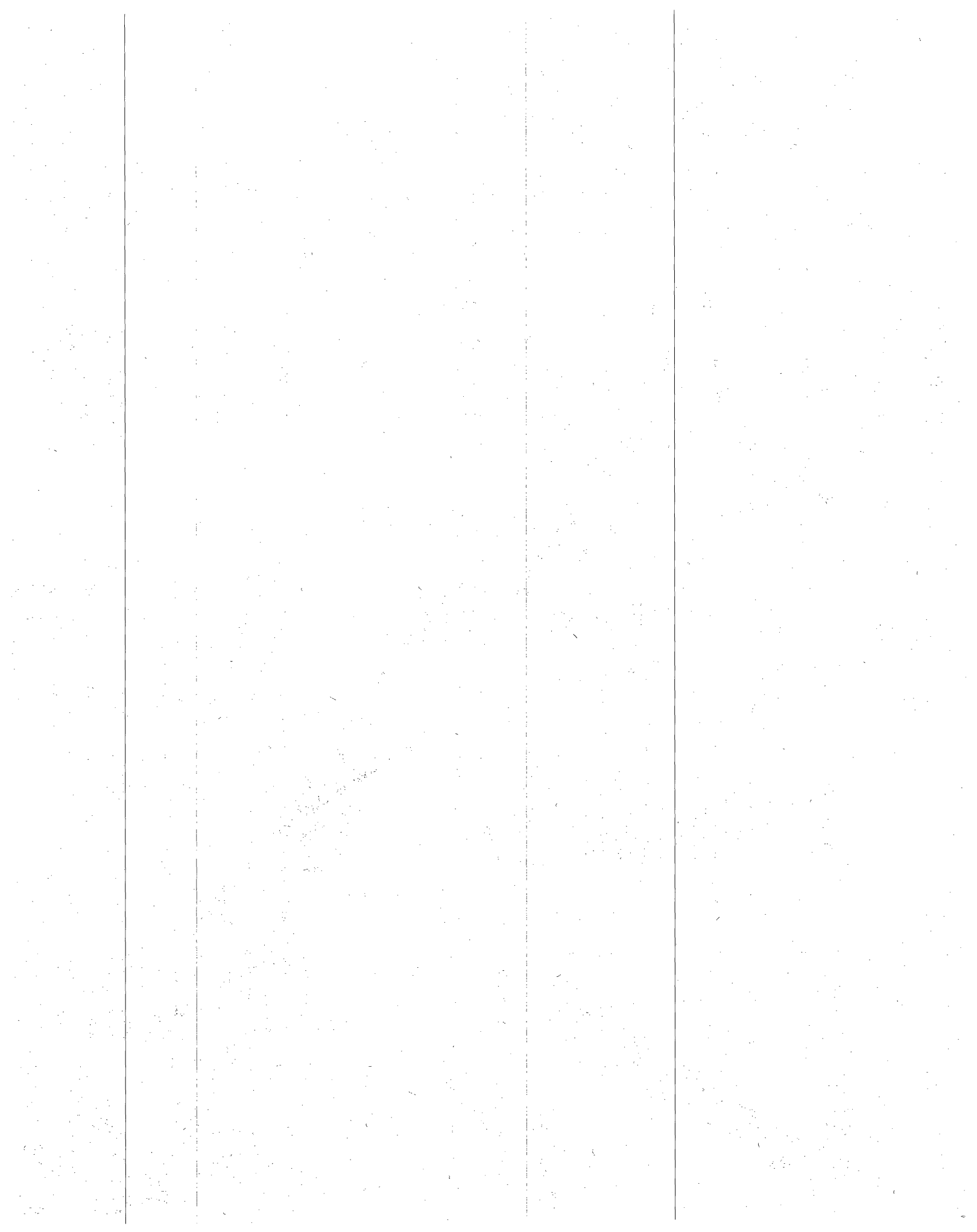
U. S. Secretary of Transportation John A. Volpe was the first to inaugurate revenue service of the Dial-A-Ride bus demonstration project in the Haddonfield area last Saturday.

Secretary Volpe, accompanied by other Federal officials, arrived at the Haddonfield station of the Lindenwold Line and telephoned for one of the new Dial-A-Ride buses. He was greeted at the station by Mayor Eugene V. Hinski of Haddonfield and then traveled by bus to the control center of the project for a brief-

in the operations.

Mayors of the other municipalities participating in the project, Samuel E. Fulton of Tavistock, John T. Holden of Cherry Hill, Hilliard T. Moore, Sr., of Lawnside, and Ernest F. Schuck of Barrington, and other State officials met him there.

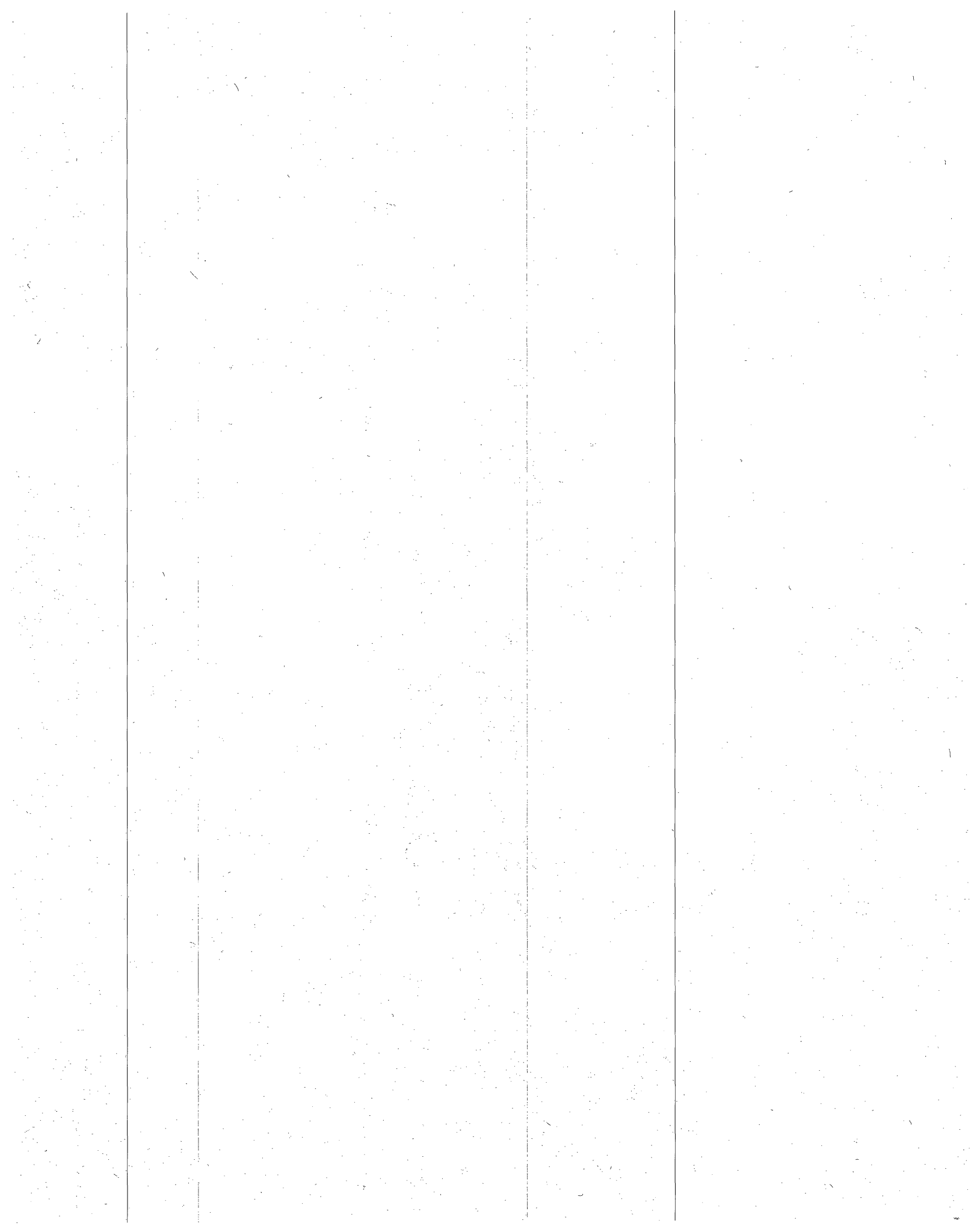
Dial-A-Ride is a system which combines features of a taxi with the relative economy of a bus. Residents in the five municipalities included in the test area to be served by the system can dial



DIAL-A-RIDE CONTEST

A transportation contest between public mass transportation and a private automobile was held by the *Philadelphia Inquirer*. Although the automobile won, by three minutes, the results and cost proved interesting.

Dial-A-Ride provided the bus phase of the bus-rail mass transit system that was used by one of the newsman "contestants". The route of the contest was between suburban Haddonfield and center-city Philadelphia.



Car Beats Bus, Train by Only 2 Minutes

By **BILL COLLINS**
Of The Inquirer Staff

"Your bus will be there in 15 minutes," the cheery voice on the other end of the line said.

The phone call was over and the race — matching a car with the speed and service of an experimental Dial-a-Ride bus and a PATCO subway-surface train — was on.

The starting point was the Parkway Apartments, a comfortable residential complex on the grassy corner of Kings Highway and Park blvd. in northern Haddonfield, N. J. The finish line was 10 miles away, the corner of 16th and Locust sts. in center city, Philadelphia.

SPEED WAS ONLY one element in the contest. Inquirer reporters were testing the comparative convenience, comfort and cost of commuting to Philadelphia by auto and South Jersey's newest mass transit systems.

Even in midafternoon, with traffic comparatively light and train service less frequent than in rush hours, the car made it in 37 minutes and the bus and train in 39:40.

The car by winning fared considerably better than another auto in a recent Inquirer transportation test which pitted a bicycle, pedestrian and car against center city traffic.



Dial-A-Ride Bus Pickups Passenger
Bus stops at Haddonfield during transit time contest

★ ★ ★ Time, Cost Comparisons

In a 10-mile one-way trip from Haddonfield to 16th and Locust sts., here is how the automobile compared with use of mass transit:

Car	37 minutes	\$2.10 (one-way cost)
Bus-Train	40 minutes	\$1.20 (one-way cost)

the Benjamin Franklin bridge when the bus pulled up at the apartment complex 10 minutes and 40 seconds after the car. There were no other passengers.

One stop, to pick up riders

downtown, and five minutes later the bus pulled up at the Haddonfield train station. The car had just cleared the bridge toll booth after being held up in a short line that included two drivers who had to

get change.

Both the bridge toll and bus fare were 60 cents one way. The Delaware River Port Authority offers commuter tolls books that cost 35 cents a crossing. Dial-a-Ride customers can buy 10-trip books at 50 cents a ride.

The bus was spotless. The angled, single seats were upholstered in brown vinyl and comfortable. The driver, Lee Dzanowicz of Woodbury, was

DIAL-A-RIDE is a Federally-sponsored experiment in door-to-door bus service. The

fleet of twelve 17-seat buses covers five square miles that include all of Haddonfield and some of neighboring Cherry Hill.

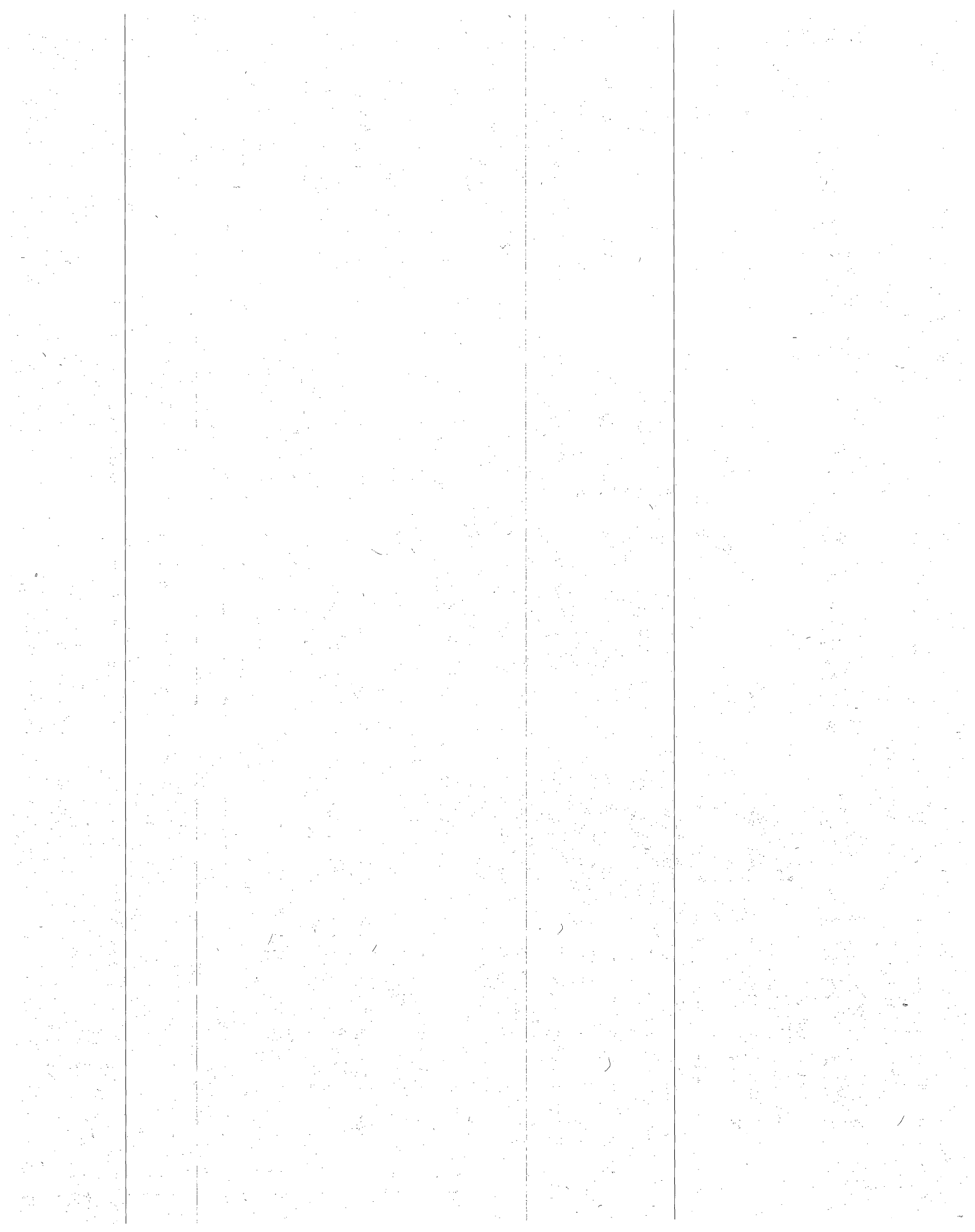
Transportation officials all over the world are watching it, because if it works it could be a major answer to some of the problems of mass transit.

The buses have just completed their second full week of operation. The experiment was launched in late February, but had been operating only two days when it was closed by the same strike that paralyzed the Transport of New Jersey bus company for 72 days.

Seventeen minutes after the start, the car was in Philadelphia, heading west on Vine st. I had boarded a PATCO train after a six-minute wait and was rolling toward Camden.

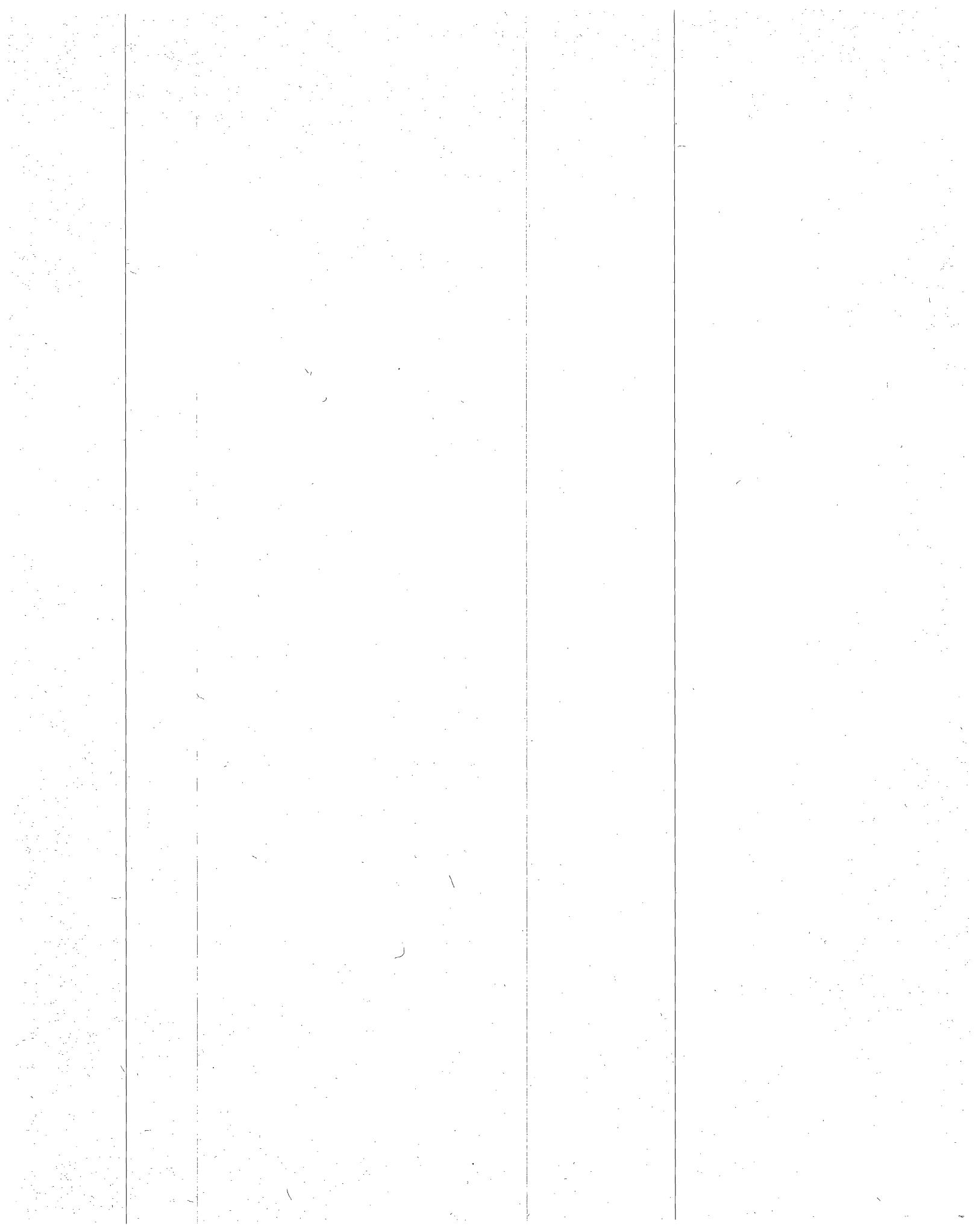
THE LINDENWOLD line trains are probably the cleanest in the country, certainly the cleanest public transportation carriers in the Philadelphia area. Their hospital green and sick yellow decor is tasteless, but the seats are comfortable and can be sat in without fear of soiling clothing, which can't be done on other trains in the area.

I used the train ride to organize my notes and read a newspaper while the man in the car battled traffic and traffic lights.



INTERNATIONAL PRESS COVERAGE

Articles covering the Haddonfield Dial-A-Ride Demonstration have not been limited to local and national newspapers but have appeared as far away as London, England.



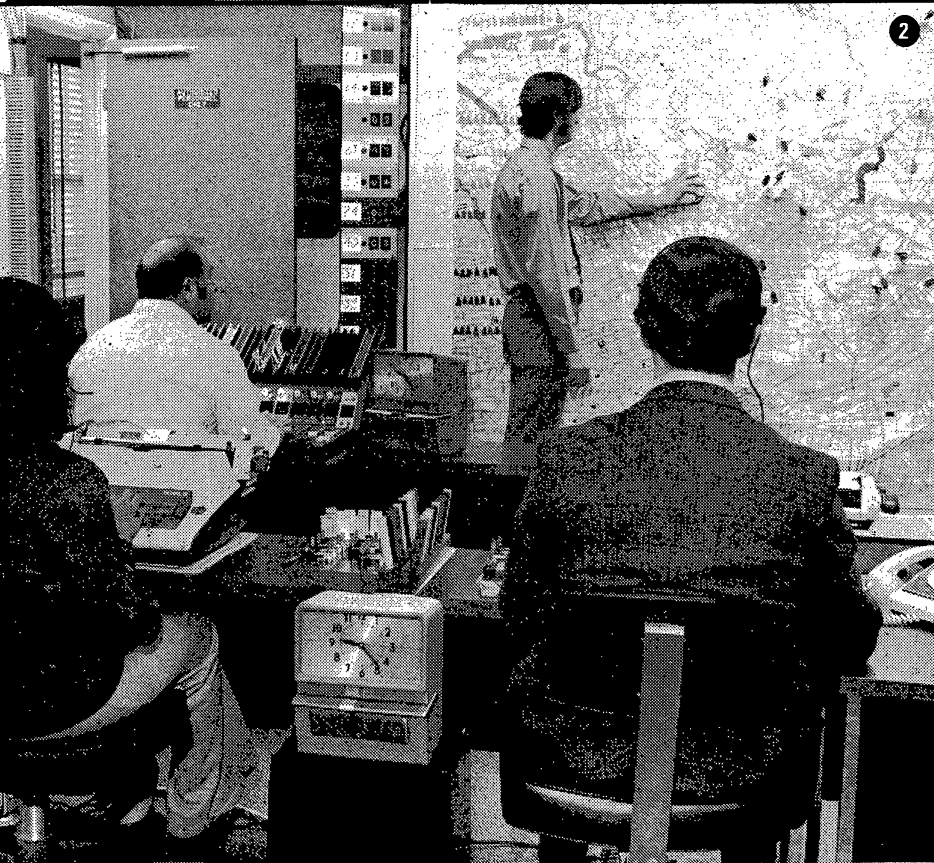
To Dial-A-Ride success—by hitting the happy medium

by Derek Moses

The early lessons from the USA should be to take a closer look at the "midi"



1



2



1: A Haddonfield, New Jersey, housewife, requiring transport, dials the control centre of the Dial-A-Ride service.
2: Interior of the control room, showing the telephone operators (foreground), route scheduler alongside the large-scale map, and dispatcher (left background).

3: The driver of the nearest bus receives instructions from the dispatcher, and notes the details of the required pick-up point and destination. Note the fare box and sealed container beneath it.

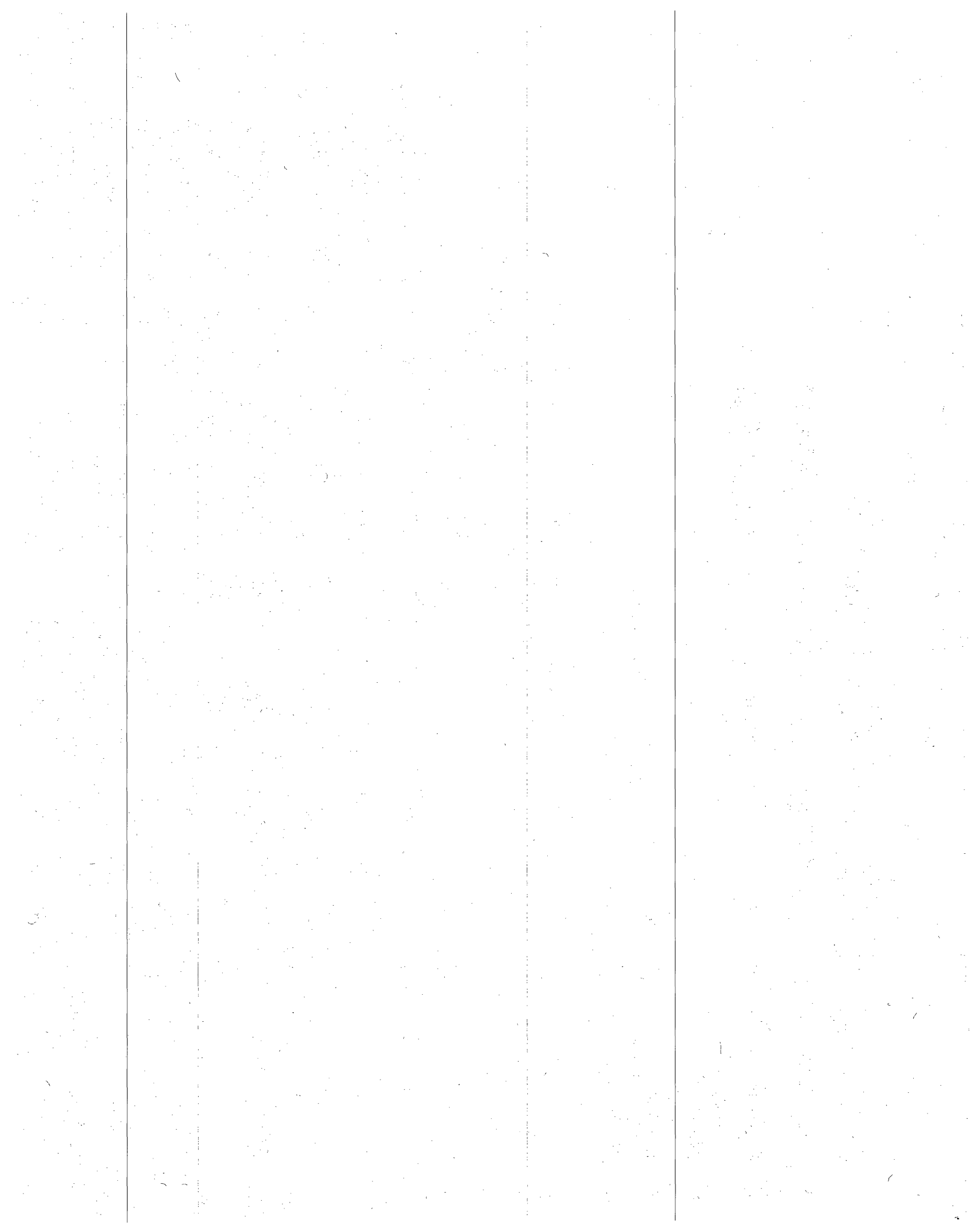
5: Interior of one of the buses showing the special contoured seats, large sliding windows, and adequate headroom for 10 standing passengers. Full air-conditioning is incorporated in the vehicle, and individual reading lights.

4: The buses are TC-25 models which were supplied by Twin Coach, Highway Products Inc, Kent, Ohio. Of a total of 12, 11 buses seat 17 passengers, and carry 10 standing passengers, while the remaining vehicle is specially adapted to carry handicapped people, and has fittings to secure wheelchairs.

6: Between 3.15 and 5.30 pm, Dial-A-Ride buses wait outside the Lindenwold Line rapid transit station to meet commuter trains.

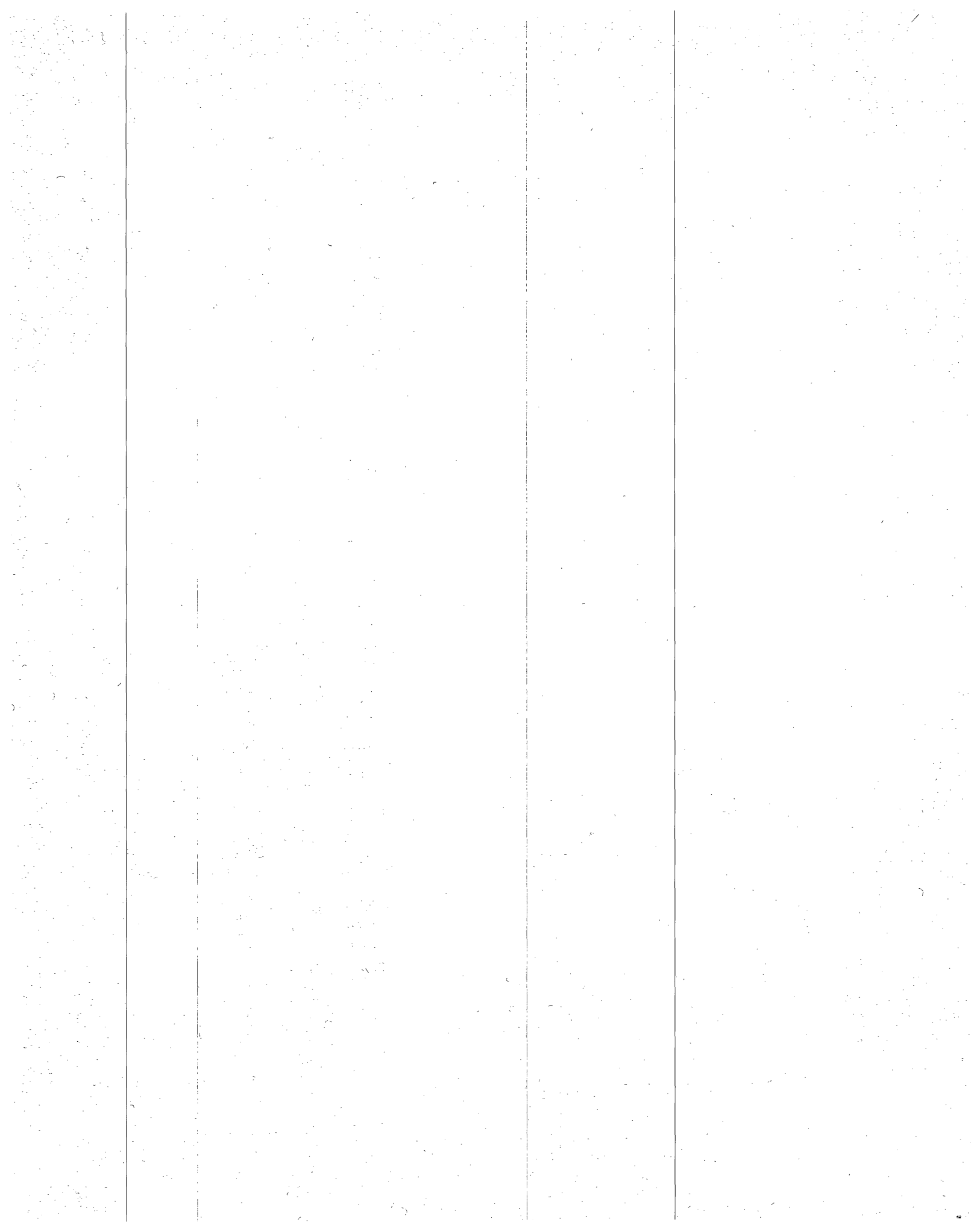
Haddonfield is divided into four zones for the purpose of the demonstration, and there is a stand for each zone.

7: People arriving outside peak hours, when buses are not waiting, can phone the control centre from the station. There is a direct line to the telephone operator, and no charge is made for this service.



LOCAL TAXICAB INDUSTRY REACTION TO DIAL-A-RIDE

Local taxicab companies have been understandably critical of the Demonstration and their voice has appeared in the form of letters to the editor.



Editor's Mail Bag

Dial-A-Ride and Hear Death Rattle of Taxi

To the Editor:

Over the roar of hurrahs and acclaim for the newly instituted Dial-A-Ride service, one may hear, if he listens closely, the moan of a dying industry which is succumbing to a long series of heavy blows of which Dial-A-Ride may well be the coup de grace.

That which I speak of is the regular taxi cab company, particularly the small companies who have served suburban towns since time in memoriam.

The independent operator and small companies have bitterly experienced, and co-existed with ever-sagging revenues through the years, caused by various factors, including inflated insurance premiums, a drooping economy and now, what appears

to be the final straw to break the beast's back; a competitive service which in all reality cannot be competed with.

Here in Dial-A-Ride we see a service which claims to have all the versatility of an individual taxi cab at a mere fraction of the cost of a cab and funded by the government to boot.

An unbeatable combination to be sure. It would seem to have all the advantages the public could ask for.

But does it? Mr. and Mrs. Public may be surprised to find that the bus driver cannot load and unload 10 or 12 grocery bags at the supermarket and at home for 50 or 60 cents.

Or that he just cannot keep a bus load of people waiting in front of a house because the children haven't got their boots and leggings on yet.

Or that the cheaper service comes at the cost of compromising one's own convenience in tolerating numerous other stops and pickups, in fact going all around Ned's Barn to reach your final destination with the added factor of sharing the vehicle with any and all types of riders including drunks.

It will be a revelation for Madam when after having to tolerate the obnoxious presence of a drunk through her ride to end up showing him where she lives.

To be sure, some people will find these factors objectional and go back to the cabs and Dial-A-Ride is here win or lose. However, while it's in the process of winning or losing, many of the cab companies, good and bad, will fall by the wayside from

the loss of revenue incurred by this experiment.

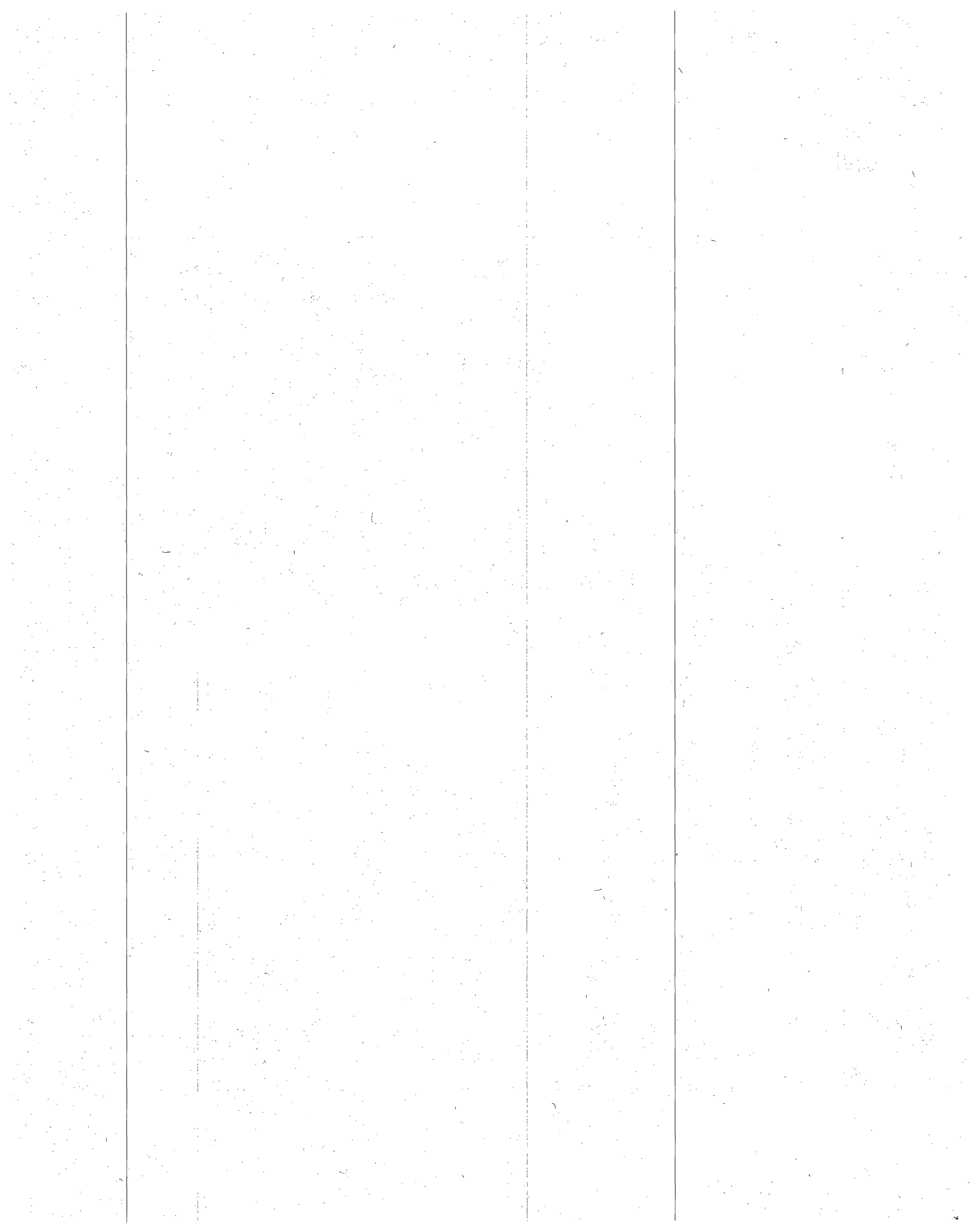
So you see, in gaining one thing the public has offered a sacrificial lamb up as payment to the great god of modernization "Public Convenience."

I speak of these things because I've lived the life of cab service and only recently closed after 13 years of service to my community, due to the problems which beset the trade.

I do not wish to unduly demean the new service for the good of the masses is what counts first. However, community government will do well to more fully evaluate the effects of radical changes before giving birth to a hybrid animal while vastly contributing to the extinction of another tried and proven breed, vital to community service.

JAMES MULLIGAN,
Cinnaminson Taxi—
Extinct Species

Palmyra

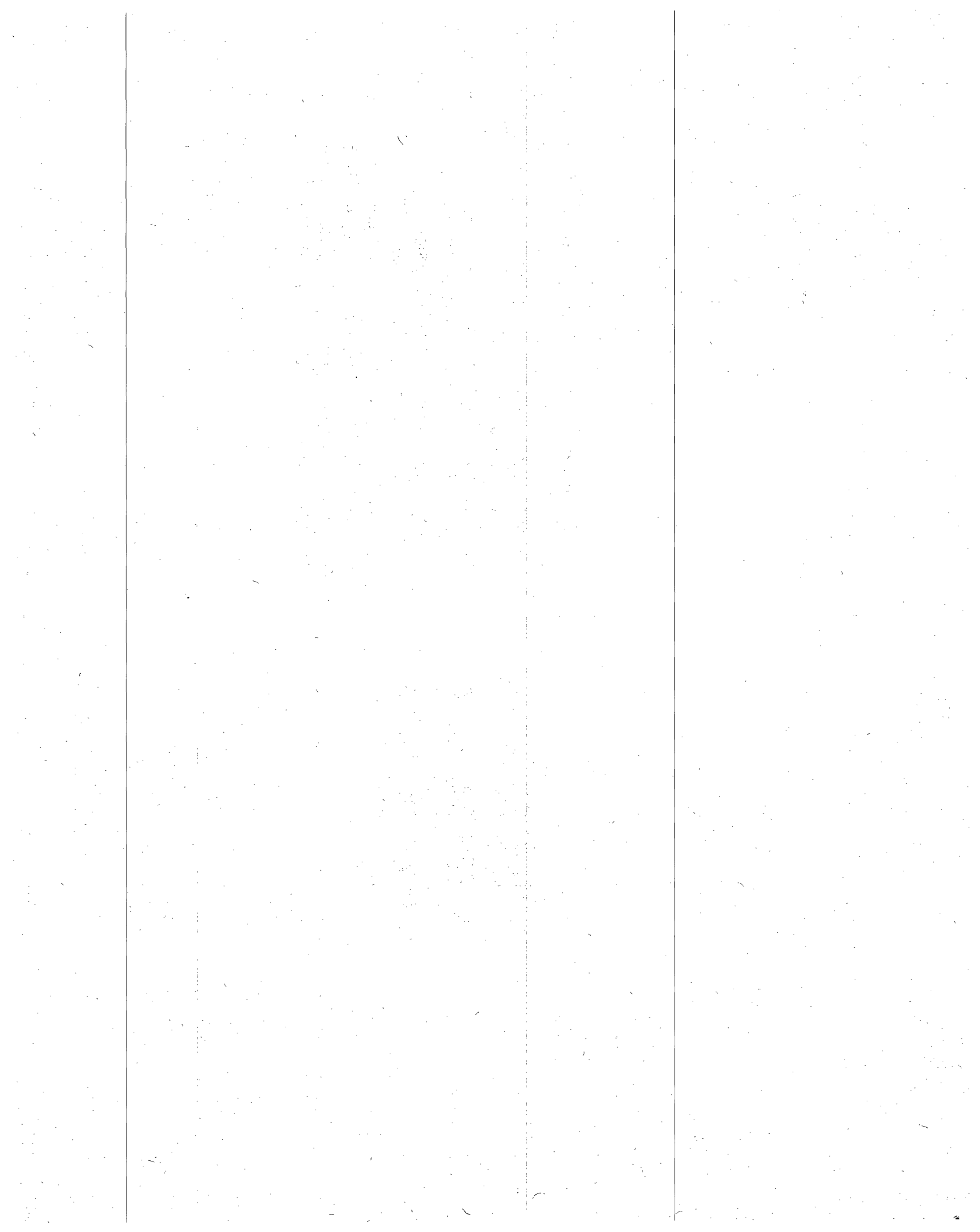


DIAL-A-RIDE EXPERIENCE WITH UNIONS

All drivers for the Dial-A-Ride Demonstration are employees of Transport of New Jersey (TNJ), the largest bus company in the State of New Jersey.

TNJ drivers are members of the Amalgamated Transit Union, AFL-CIO, Local 220, and are under contract with the New Jersey Department of Transportation (NJDOT) to provide drivers and vehicle maintenance for the Demonstration. Twenty-two drivers are currently employed in the Dial-A-Ride Demonstration.

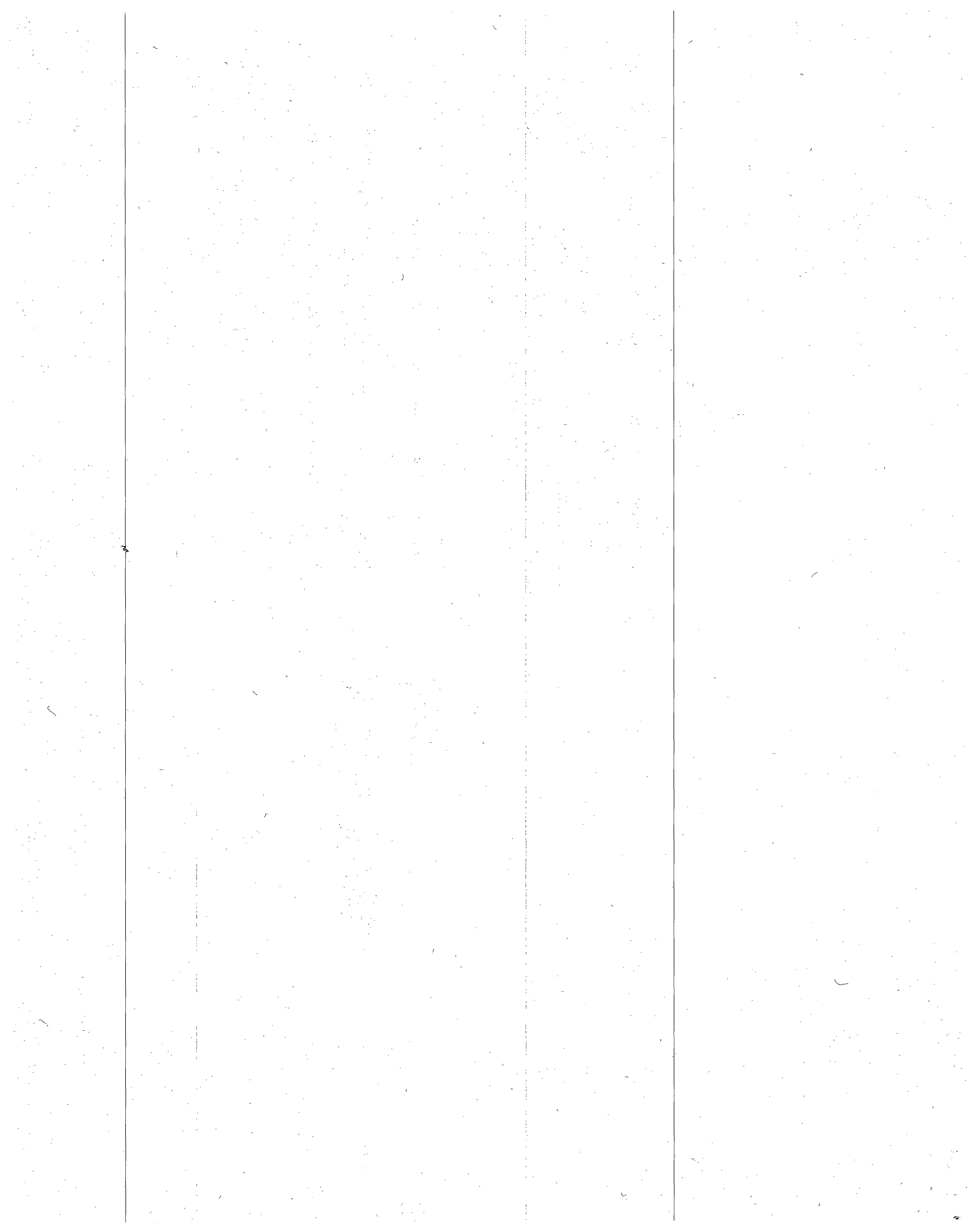
Union co-operation and driver attitude have been exceptional. Many letters and comments have been received from passengers expressing their appreciation for the courteous, personalized "VIP" treatment given by Dial-A-Ride drivers.



UNION MANAGEMENT

In a speech presented to the Third Annual Demand Responsive Transportation System Conference by Walter J. Bierwagen, Director of Public Affairs for Amalgamated Transit Union, AFL-CIO, Dial-A-Ride systems were given favorable consideration over other new modes of transportation. Mr. Bierwagen stated that, "We (the management of ATU) are firm in our conviction that re-vitalization of our industry must also include improved service through such innovations as express bus lanes and, perhaps even more importantly, demand-responsive, door-to-door service which will make public transportation available to everyone in the entire community served by the transit system. Thus, we in the ATU have looked with favor upon dial-a-bus as an attractive improvement, offering jobs and economic progress to our membership and increased ridership and productivity to the transit system."

In the conclusion of his speech, Mr. Bierwagen stressed the point that, "The transit industry has been very slow to revise its fixed route structures and to take advantage of demand-responsive concepts. We urge transit management to make a greater commitment to the earliest possible introduction of these demand-responsive services in the interests of better public transportation to the community as a whole."



COMMENTS FROM THE RIDING PUBLIC

Comments and letters received from local residents and remarks made to Dial-A-Ride employees give an idea of the degree of acceptance of Dial-A-Ride. Here are some typical comments:

. . . "I will do anything I can to promote Dial-A-Ride!"

. . . "I am 82 years old and having the bus stop at my door and knowing I have a ride back is wonderful."

. . . "I was most anxious that Dial-A-Ride make a good impression on some dinner guests going from my home to the Tavistock Country Club in Haddonfield, and it did. Dial-A-Ride made new friends and worthwhile contacts among local executives and community leaders all of whom became very enthusiastic about using Dial-A-Ride."

. . . "If Dial-A-Ride would expand its area slightly it would well pay me to sell both cars and for my wife and I to use it regularly."



SUMMARY

To date the Dial-A-Ride Demonstration has provided excellent data to evaluate the experiment. These data will be used in future cost-benefit analysis reports.

Preliminary indications are that riders are very enthusiastic about the service and ridership is constantly increasing. The manual system, however, has not been taxed to its fullest, thus there will be experiments with much higher demand, extra vehicles and an expanded service area. For these reasons, accurate cost figures are not yet ascertainable.

In the months to come, the Haddonfield Dial-A-Ride Demonstration will experiment with expanding the service area, changing the fare structure, increasing the number of vehicles, and installing a computer with a manual backup to gain additional data on demand-activated transportation. The results and effects of these changes will be documented in future reports.

