The Impact of Bus Deregulation on Small Towns

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ABSTRACT

The impact of bus deregulation on small towns is discussed. Because much of the discussion before the passage of the Bus Regulatory and Reform Act of 1982 focused on potential impacts on small communities, the purpose of this paper is to consider the initial impacts on residents of communities for which bus service was discontinued. A survey of former ticket agents in Iowa generated information regarding several key aspects of those impacts: the age and number of former riders, the type of service for which they relied on intercity transit, the amount of package service performed, the level and persistence of protest regarding discontinuance, and the availability of alternative forms of service.

Discussion before the passage of the Bus Regulatory and Reform Act (BRRA) of 1982 frequently focused on the potential impacts on small communities. Opponents of deregulation anticipated that bus companies would quickly take advantage of the opportunity to streamline routes by dropping service to large numbers of small towns that were admittedly unprofitable stops. The Missouri Public Services Commission argued that this "could prove to be devastating not only to individual bus riders who depend on the service but to communities at large who are finding themselves increasingly isolated particularly in light of diminishing airline and Amtrak availability" (1,p.197).

Supporters of deregulation countered by citing the experience afforded by the Florida Deregulation Act of 1980 and the deregulation of the trucking industry. In both cases, as stated by James C. Miller of the Federal Trade Commission, "experience has shown that service to small communities has either held steady or improved under deregulation" (1,p. 96). In Florida, no formal complaints (about loss of service) were received from small towns. Only one newspaper story appeared, highlighting the loss of a one-bus-a-week service from Apalachicola to Tallahassee. Four riders were inconvenienced. Although Trailways dropped service to eight small towns in northern Florida, it increased its total mileage by 7.5 percent. Greyhound similarly dropped service to towns in central Florida but increased its mileage by 8 percent. Of the total of 15 towns losing this service, half were picked up by other carriers (1, pp.118-119).

An objective study commissioned by the U.S. Senate noted that in the bus industry, unlike in other modes of transport, there is no economy of scale. Small communities can compete with large ones. Therefore, according to the director of the Transportation Consumer Action Project (1,p.206), "in the near term service to small towns seems to be no more threatened than to larger cities." In fact, on the basis of available financial data, the bus industry is "healthier in rural areas than in highly urbanized areas" (1,p.206). Other studies were less certain of positive impacts. "Bus patrons can look forward to any number of results--numerous schedule changes, fare increases and decreases, loss of service to some markets while other more attractive service corridors see increased service" (2,p.3). The potential loss of service should be counted as a significant cost in that it would lead to "further concentration of the industry which would lead to higher fares and in turn less service" (3,pp.10-21).

Nevertheless, most commenters subscribed to the view that bus deregulation would have at most a minimum effect on the residents of small communities. Deregulation would naturally mean that unprofitable routes could be discontinued and schedules streamlined. Nevertheless, because so few rural riders depended on bus transportation, the expectation was that those who were inconvenienced by reduced bus schedules would either find alternative forms of transportation or travel to the closest remaining bus stop to board a through bus (4,p.423).

Now, 2 years after deregulation, it is appropriate to look back at the initial impacts on the residents of small towns. Presumably if bus companies were constrained from streamlining service only by the regulations imposed by the BRRA, removal of those barriers would stimulate a sizable number of notices of service cancellation. Additional changes would come more gradually, but after 2 years the pattern of a deregulated bus industry would emerge. This study is therefore intended to discern this pattern and to assess the level of impacts on rural residents.

The focus of this paper is the state of Iowa; it is part of a larger study that will examine the relative levels of impacts on residents of small communities in other parts of the country as well. Unlike other studies [notably, the Motor Carrier Ratemaking Study Commission report to the President (4) and a report by the Secretary of Transportation, Neil Goldschmidt (5)], which have provided aggregate analyses based primarily on changes in printed schedules and reports of bus companies, the current study will take a more focused approach: the impacts identified at the rural community level.

The expectation is that impacts may vary among communities relative to availability of alternative forms of transportation and the characteristics and persistence of riders. For purposes of this paper, persistence will be noted both in the number of riders boarding at a stop and in the level of protest accompanying discontinuance of service.

Iowa was chosen as the pilot state for this analysis for several reasons, both substantive and procedural. First, Iowa is well known for its rural-small-town orientation. Of the 3 million residents of Iowa, 41 percent live in towns with less than 2,500 population. The state has only one city of 200,000 and eight cities with population levels of more than 50,000 (6). Second, the intercity bus has traditionally been the primary form of transportation for rural Iowa. More than 300 communities are still served by at least one intercity bus a day,

whereas air service is only provided to 20 Iowa cities and is directed outside the state. Rail service is limited to the extreme southern part of the state and is provided at undesirable times of day (2,p.7). Third, the state has a well-coordinated regional transit system that is being used to organize alternative forms of transit.

Within Iowa, therefore, it should be possible to observe not only impacts of deregulation in small towns, but also the potential for alternative transit modes in small communities. Procedurally, Iowa was selected because of its proximity to the researcher and the fine cooperation afforded by the Iowa Department of Transportation.

The approach taken in this paper will be, first, to describe briefly the state of intercity transit and ridership in Iowa; second, to describe the procedure used to generate community-level data; third, to assess the findings; and fourth, to place the study in a broader perspective and to offer conclusions.

INTERCITY TRANSIT IN IOWA

Through the 1940s and 1950s in Iowa, much as in other parts of the United States, the intercity bus industry enjoyed considerable prominence in the area of public transportation. In fact, five out of every six intercity trips provided by public carriers were by bus in the years 1946-1948. Within Iowa ridership reached a peak of 27 million in 1946 (2,p.10). Since the 1950s intercity buses have continued to carry more passengers than either trains or airplanes, but the automobile has been clearly established as the dominant form of intercity travel. Demand for intercity bus service has continued to fall and as a result, the bus network has diminished and service to a number of communities has been cut. The graph in Figure 1 shows the dramatic decline in bus ridership in recent years (2,p.8).

Since the 1940s, when the bus network reached its most extensive level, the route system has contracted slowly but noticeably, although the basic route structure has remained the same. As the maps in Figure 2 indicate, Iowa's transit service has been along a set of dedicated east-west and north-south corridors. Less-profitable routes have been dropped gradually throughout the period; the major elimination was before 1972 (2,p.16).

Three areas of the state have been most affected by route elimination: the two tiers of counties in southern and southwestern Iowa, eastern Iowa along the Mississippi north from Davenport, and central Iowa west of Des Moines. The first two of these areas lost service before 1972, whereas service to central western Iowa was greatly curtailed in 1972-1982. Routes were added primarily in response to the completion of the Interstate system. I-80 traverses the state east and west, and I-35 runs north and south through the middle of the state connecting Minneapolis with Kansas City. I-29 runs along the western border of the state through Sioux City and Council Bluffs and into Missouri.

A significant number of certificate authority transfers occurred during the 40-year period 1942-1982. For example, five carriers left the state or went out of business between 1942 and 1962, but nine new carriers entered the state. Within the last 20 years, six additional carriers left the state and were replaced by eight new ones. Only six carriers have provided consistent service throughout the period--Greyhound Lines, Jefferson Lines, Missouri Transit Lines, River Trails Transit Lines, Scenic Hawkeye Stages, and Trailways Lines. Nevertheless, all these changes have led primarily to route modifications rather than to wholesale changes in the network (2,pp.10-17).

Bus deregulation has not ushered in any major changes in these established trends. There was an expected flurry of announced cancellations soon after the BRRA became effective in January 1982. Greyhound announced plans to cancel stops in 28 communities, 17 of which had had regularly scheduled service; the rest had been flag stops, highway stops, or passenger-discharge-only stops. Stagecoach Lines planned to eliminate 7 stops; Iowa Coaches, 10 stops; Trailways, 2 stops; Missouri Transit, 1 flag stop; and Scenic Hawkeye Stages, 1 scheduled stop. Midwest Coaches had planned to eliminate three stops but subsequently declared bankruptcy. All together, 57 stops were identified for discontinuance by May 1983 (4,pp.B-37 to B-41). The bulk of Greyhound's changes were in response to a decision to stop services to the towns along IA-6, because parallel service was being provided along I-80, about 4 to 6 miles to the south. Appeals from communities and the substitution of Jack Rabbit Lines for Midwest Coaches reduced the number of stops discontinued to 37. Twenty-five were dropped in December 1982 and a

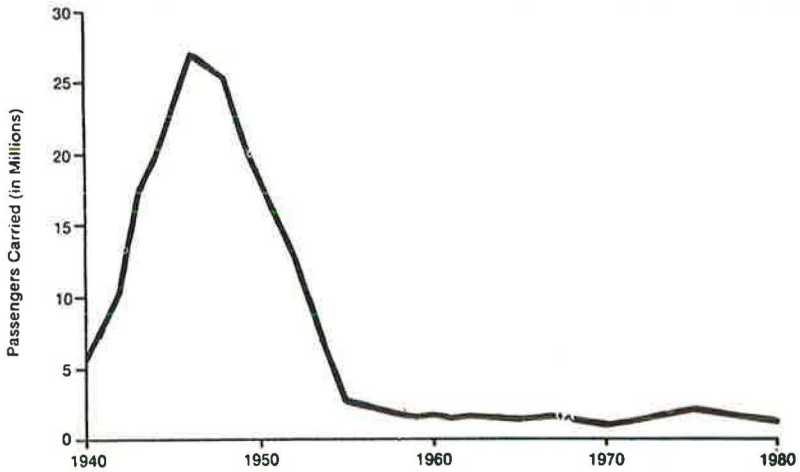

FIGURE 1 Ridership trends in Iowa intercity passenger buses: 1940-1980.

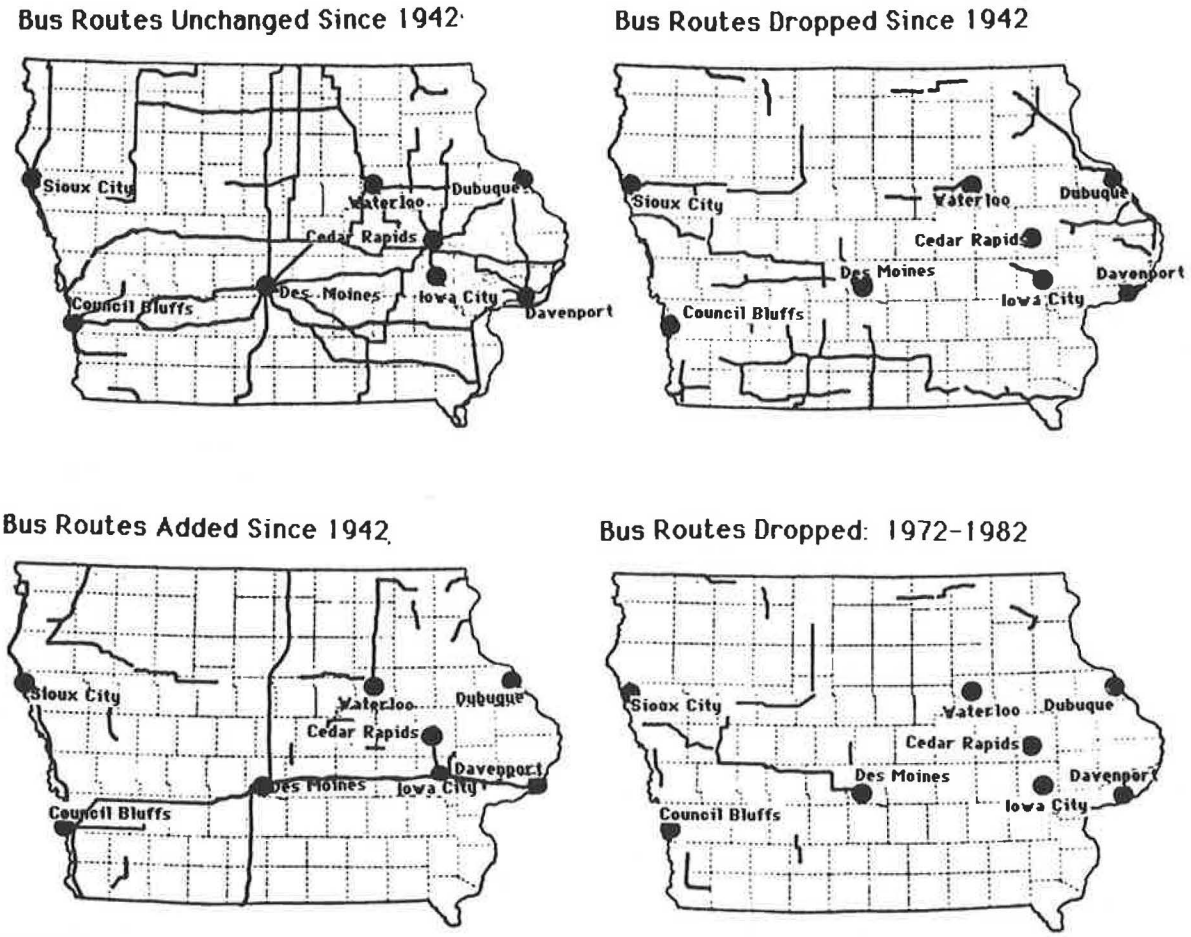

FIGURE 2 Iowa transit service: 1942-1982.

smaller group of 12 was dropped in January 1983. No further formal requests for discontinuance have been received, although informally service has been halted along a Trailways route in southwestern Iowa (Iowa Department of Transportation and Iowa Transportation Regulatory Authority, unpublished data). The Iowa Transportation Regulatory Authority also reports that no formal protests have been received from any affected community since January 1982.

PROCEDURE

Because most communities where service was discontinued were small and lacked formal leadership, the shortage of formally registered complaints is not surprising. This study intended to probe more closely into concerns expressed in affected communities. All sources agree that ridership from small towns is relatively low. Yet accurate data on ridership by stop are not available. Neither the bus companies nor the state regulatory agencies kept such data, even before deregulation. Since deregulation, record keeping is solely at the discretion of the private companies. Consequently, information on ridership before deregulation and information regarding alternative travel modes must be obtained on a stop-by-stop basis from former ticket agents. Community-wide surveys would have potentially gained information on a broader base of impacts but the manageability of such an investigation plus the complexity in isolating impacts associated with changes in bus travel militated against such an effort. For purposes of this study, therefore, former ticket agents were regarded as surrogate spokespersons for the affected communities. Variation in accuracy and interest in reporting was taken as a given constraint much as it is with any attitudinal research.

The target population of ticket agents was identified from among the 37 regularly scheduled stops listed for discontinuance in the May 15, 1984, report submitted by the Motor Carrier Ratemaking Study Commission (4). For 34 of these stops, addresses and telephone numbers of former ticket agents were found in the back issues of the (Iowa) Transit Atlas. A review of these stops in conjunction with Russell's guide (7) indicated that not all had actually been eliminated. Nevertheless, they were retained in the sample for comparative purposes. It was also felt that responses of riders to a temporary reprieve from discontinuance would provide further insight into the potential ridership from small communities, which had been initially deemed marginal by the bus industry.

Brief survey instruments were then mailed to each of the ticket agents for which an address was obtained. Because there was some confusion regarding the continued availability of service in several towns, all agents were sent a survey form with two sets of questions, one directed toward those towns with continued service and one for those for which service had been discontinued. The agents were then directed to answer the appropriate set of questions. Information solicited in both sets of questions was very similar--average monthly ridership, number of packages collected, percentage of senior citizens among riders, the length of trip of riders. Those without service were asked about available travel

alternatives and distance to the nearest operating stop, whereas those with service were asked about changes in ridership and package service since deregulation took effect in 1982. Nine questionnaires were returned, but follow-up telephone interviews generated a total of 24 responses, or a response rate of 73 percent. A higher return rate was not possible given the number of telephones disconnected and the closing of businesses that had sold tickets and served as bus stops. As is typical of bus service in small communities, all of the agents contacted had handled bus tickets and packages as an extra feature at their regular place of business (5). Locations included gas stations, cafes, motels, hardware stores, and convenience stores.

THE FINDINGS

A review of the findings from the survey indicated that 8 of the responding locations still had bus service and 16 had lost service as a result of deregulation. None of the stops had or served large numbers of passengers. The numbers ranged from about 8 a month to about 60 a month. As might be expected, larger numbers of passengers had used those stops with continuing service. Although 68.8 percent of the stops where service had been discontinued handled less than 10 passengers a month, all those with continuing service handled more than 10 passengers a month. Thirty-seven percent of these handled more than 50 passengers a month. All these figures are well below the median of 50 departures per week for an average small town as identified in the U.S. Department of Transportation study of bus service in small towns (5,p.30). Package handling differed similarly between stops with continuing service and stops at which service had been cancelled. Of the stops at which service had been discontinued, 43.8 percent had handled 10 or less packages a month and 81.3 percent had handled 50 or less packages a month. Among those stops with continuing service, 62.5 percent had handled more than 50 packages a month. Nevertheless, there were some surprises. One cancelled stop had handled more than 100 packages a month. There were also two cancelled stops that had sold more than 50 tickets a month. Hence if impacts are measured only in terms of numbers of people inconvenienced, reports from these Iowa towns would clearly indicate minimum impact. However, assessment must also consider the type of riders inconvenienced.

The literature generally indicates that bus passengers differ from passengers on other modes of transportation in that a larger proportion are senior citizens and have lower incomes than either train or air passengers. Across the country college-age students also form a large percentage of bus riders. The implication is that bus passengers include more who are disadvantaged and far more who are captive riders than do other modes of public transportation. Among various states that have conducted analyses of the characteristics of bus riders, the proportion of seniors and youthful riders differs as do reports of income level. For example, a Tennessee study presented a series of passenger profiles for different cities that indicated that the age of the typical passenger was 20 in Chattanooga, Memphis, and Nashville, whereas the average passenger was between 56 and 65 years old in Cookville. The average income of Tennessee bus riders was between $7,501 and $15,000 in 1981 (8). In the state of Washington, 30 percent of bus riders were under the age of 25 and 30 percent were more than 60 years old, whereas 40 percent of the riders had family incomes of less than $10,000 (9).

Among the former ticket agents responding to the survey in Iowa, half reported that more than 75 percent of the former riders were senior citizens. This proportion differed considerably for those Iowa towns that still had bus service. Among those towns with bus service, 62 percent reported that less than half of their riders were seniors. Few ticket agents indicated any sizable number of young riders. An income-related question was not possible on a survey directed toward ticket agents.

Another general observation regarding bus passengers is that they travel shorter distances than do train or air passengers. For example, one report noted that the average distance of a bus trip was only about 125 miles (10,p.3). The reports from the Iowa ticket agents appeared to confirm this finding. Among the former ticket agents 62 percent noted that more than three-quarters of the passengers traveled less than 100 miles and within Iowa. That proportion was somewhat less for stops with continuing service. In three-quarters of those communities, 50 to 74 percent of the passengers bought tickets for trips of less than 100 miles. Except for towns near the state borders, only a small proportion of stops had riders traveling out of state. Among those locations with discontinued service only 25 percent reported that a substantial number of passengers had purchased out-of-state tickets. Of the stops with continuing service 62 percent indicated substantial interstate travel; most trips were to neighboring Omaha, Nebraska, or to Sioux Falls, South Dakota. Jack Rabbit Lines, now serving towns in the extreme northwestern part of Iowa, is based in South Dakota and runs shuttles to Omaha. Only one location, which is near a large lake with boating and camping facilities, indicated substantial long-distance interstate travel.

The primary trip purpose for those riding the bus is generally noted as to visit friends and relatives or for social or recreational use. This was true for by far the largest proportion of riders in surveys conducted in Oregon, Georgia, Texas, Michigan, Wisconsin, Idaho, Indiana, and Tennessee and recorded in a study by the Motor Carrier Ratemaking Study Commission (4,p.309). In a 1978 report of the American Bus Association, it was noted that 88 percent of bus trips were for personal visits or recreation. Although no quantifiable data on trip purpose could be acquired from former ticket agents, anecdotal reports obtained at the conclusion of the follow-up telephone interviews confirmed that Iowa's bus riders also travel for family visits or recreation. Trips to school by college-age youth appear to be highly seasonal and not a substantial factor in the towns surveyed.

Since 1976 senior citizens and other transportation-disadvantaged persons in Iowa have been provided an increasing amount of short-distance public transit service for trips to the doctor, social service agencies, personal business locations, congregate meal sites, shopping, and handicapped training programs (2,p.7). However, only two ticket agents were aware of a rural public transit service. Except for the automobile, only intercity bus service can provide for independent recreational travel and visits to family and relatives outside of town. Reports supplied by ticket agents underscored the former riders' reliance on the intercity bus for this service and the lack of adequate replacement service to fill this need. For example, one agent cited a former passenger who had to cancel her annual vacation trip because there was now no way to get to a city about 60 miles away where the tour group assembled. Other agents commented that former passengers just do not have the opportunity to

travel outside town any longer. They underscored the traditional independence of older Iowans, which prevented them from asking friends or relatives to drive them to other towns or cities. Quantifiable information on whether former riders had drivers' licenses or access to automobiles could not be obtained from ticket agents. Nevertheless, anecdotal information gained in the telephone interviews appeared to confirm the findings of the Motor Carrier Ratemaking Study Commission in assessing impacts of deregulation on older Americans. Their report noted that on the basis of rider surveys in Georgia, North Carolina, Texas, Washington, and Wisconsin, approximately one-third of the intercity bus passengers had either no driver's license or no vehicle available for the trip (4,pp.274,310,311). The majority of the ticket agents who noted a high proportion of senior citizen riders also noted that these individuals had no other means of travel.

The distance to the nearest continuing bus stop is, of course, another measure of relative impact, given the availability of means to get there. The Motor Carrier Ratemaking Study Commission reported that surveys of riders and households in North Carolina found that 68 percent of the respondents lived within 9 miles of the nearest bus stop. In Tennessee 63.4 percent of the bus passengers lived within 10 miles of a bus stop (4,pp.383-384). Among the small towns losing service in Florida, all were within 9 to 21 miles of continuing service (1,p. 118). The findings in Iowa suggested an average distance that was considerably farther than that in the other states. The range reported was from 1 to 36 miles; 69 percent of the former agents noted that the next stop was more than 11 miles away; and 37 percent stated that the next stop was more than 20 miles away. For only two locations did discontinuance have a minor impact. In these cases streamlining service had moved the stop from a downtown location to the highway 1 mile away. For those towns with the nearest bus stop more than 20 miles away, the impact of discontinuance was effectively to eliminate intercity bus travel for the residents unless they had personal access to an automobile.

As indicated in the foregoing discussion, persistence of the ridership can be determined in part by the number of passengers who board the bus at a specific stop. Another important measure in determining salience of demand for service, however, is the level and regularity of protest generated by the discontinuance. In Iowa as in Florida little formal protest has been noted. There have, however, been two exceptions. In one town slated for discontinuance of service, a local church leader mobilized citizens to protest the loss of transportation by the residents in the town's senior citizens' home. The effort was most successful. One of the hearings relating to the BRRA was held in that small town, and Greyhound Bus Lines dropped their plans to bypass the town. Unfortunately since then ridership from that town has fallen off considerably. Only about 20 people a month now buy tickets compared with about 80 a month in 1982. Package shipments used to gross about $400 a month, and now the figure has fallen to about $200 a month. The ticket agent believed that the publicity surrounding the initial plan to drop the stop has continued to affect its use. People regularly call in and are surprised that the stop is still functioning (Iowa Department of Transportation, unpublished data).

In one other town the ticket agent urged disappointed riders to write to the company complaining about discontinuance. They did, but received no response. There was then no effort to follow up with the Iowa Department of Transportation or the Iowa Transportation Regulatory Authority. In the case of at least one community, service was withdrawn so abruptly that even the ticket agent was not informed; consequently no formal protest was initiated. With deregulation, bus companies have not always believed it necessary to announce discontinuance, although that is specified in the BRRA. Consequently an unprofitable route in west central Iowa was informally abandoned (Iowa Department of Transportation and Iowa Transportation Regulatory Authority, unpublished data). The ticket agent from another town appeared to sum up the feelings of many: "It's too late. We were talked out of railroads on a national level [and now we are losing our buses too]."

A number of ticket agents, however, reported informal protests. Former riders came in and complained about service cancellation. Two years after service discontinuance some agents are still receiving calls requesting information about bus service and expressing concern that there is no longer a bus stop nearby. Former passengers at 62 percent of the discontinued stops had registered informal protests. All stops that had handled more than 10 passengers a month noted informal protests as did half of those that had had less than 10 a month. The amount of protest was not significantly related to either the proportion of riders traveling out of state or to the distance they generally traveled within the state. The percentage of former riders over age 60 also was insignificantly related to the amount of informal protest received. Concern over elimination of specific stops is therefore not linked to any segment of the transit-oriented public. Despite the small numbers of actual riders involved, the effect on the quality of life of individual Iowans living in small towns is substantial.

Dissatisfaction regarding discontinuance of bus service generated comments regarding the increased cost of package shipment as well as greater restrictions on the type of packages that could be shipped. All ticket agent respondents indicated that without bus service, shipments are generally made by the United Parcel Service (UPS). Yet Iowans, much like others affected by the discontinuance of bus service, quickly discovered that UPS does not offer weekend delivery and does not handle irregularly shaped packages or packages weighing more than 50 lbs. One former agent indicated that a major firm in his town had to make arrangements to transport materials to the nearest bus stop 17 miles away because UPS could not handle the size and shape of its products.

The impacts of deregulation have not, however, been totally negative. Among several of the stops still operating, the number of passengers has increased because dedicated bus riders have made the effort to travel from discontinued stops to the closest available stop. After a number of stops on IA-6 had been closed, Greyhound Lines initiated a new stop at an exit on I-80. This stop was also designated as the rest stop for Greyhound buses traveling along the Interstate. Six to eight buses stop a day and riders get off and make purchases at the restaurant while the buses refuel. The income generated by this change has been considerable and additional employees have been hired to handle the rush periods. The relative benefits of this change need to be weighed against the inconvenience to residents of the small towns who travel to this highway stop.

In general the impact of the discontinuance of stops on the economy of the towns involved has been minimal. Few of the main businesses of the ticket agents were adversely affected. Three agents indicated a loss in revenue from package service, but

the others indicated that there was so little financial return associated with package shipping that it was not worth the paperwork involved. The majority indicated that so few people were passengers or shippers that the economy of the towns was relatively unaffected.

BROADER PERSPECTIVES AND CONCLUSIONS

The costs involved in continuing regular bus service to towns generating as few as 10 passengers a month are no doubt prohibitive, and if bus service is to continue at all, companies must have the right to streamline service as has been advocated by Greyhound and other bus companies (1,11). Nevertheless, the costs of deregulation to affected residents of small communities are not minimal. When numbers are aggregated, the interests of small towns can and are often overlooked. The ease of entry into as well as exit from service was underscored by those maintaining that deregulation could benefit small towns (1,p.125). Within Iowa, Jack Rabbit Lines has indeed assumed service to some of the towns abandoned by Midwest Coaches when it went bankrupt, but this process was also possible under earlier legislation. Routes of Ottumwa Trailways have also been adjusted to include some different towns in southeast Iowa. However, on the whole, deregulation has not stimulated smaller companies to enter the market to serve more small towns, unlike the situation in Florida (1). A concept that potentially could have far greater positive impact on small towns was suggested by the Iowa Department of Transportation. With the aid of a grant from UMTA, a demonstration project featuring interaction between a variety of public and private transit services and Jefferson Bus Lines, an affiliate of Greyhound, was initiated in fall 1984.

Five of Iowa's public transit regions that are traversed by Jefferson Lines have developed individual plans for feeder service to the Jefferson Lines through stops at several key transfer points. The types of feeder service range from a demand-responsive taxi to a regularly scheduled connecting bus (Iowa Department of Transportation, unpublished data). A telephone number with an 800 area code provides information on connecting service to travelers who can potentially connect with Jefferson Lines. The hope is that through such a feeder service, small towns that are not directly served by a line-haul bus can have access to transit facilities.

No needs studies have been conducted but the expectation is that there is sufficient latent demand in small Iowa towns to generate ridership. Most of the towns specifically targeted for feeder service were not among those to which intercity bus service had been discontinued. However, one of the towns now connected by a feeder bus was included in the survey. That town, which manufactured recreational vehicles, had lost service 2 years ago and had a unique need for return transportation for individuals who had delivered recreational vehicles to nearby towns. Intercity bus service had not been heavily used in the town before, but the specific needs of these individuals warranted some type of service. In another substate transit region a town had earlier requested service from the Jefferson Lines, thereby indirectly suggesting a need. In still another substate region residents of a town that has never had service are being mobilized for participation by a volunteer transit advocate. The town should have a potential base for ridership because it houses a community college and is located in an area of the state that has a fairly sizable low-income population.

These various experimental projects are unified only in that they all are intended to deliver passengers to transfer points on the Jefferson Lines through bus. Should they be successful in providing a needed outlet for potential riders in these towns, the experiment might well be replicated for other small towns. As such, the interlining project suggests a potential benefit to small towns that would not have been possible without deregulation.

In conclusion, it is apparent that the impacts of bus deregulation on the residents of small communities of Iowa have held few surprises. The changes in the bus schedules and discontinuance of stops have affected relatively few individuals, but those affected represent an important element of the population in a state like Iowa, which is dominated by small towns and rural areas and which has the third highest population of elderly citizens in the nation (12). Because there are no alternative forms of travel available to individuals living in isolated communities, the impact on their quality of life is substantial. The automobile, the preferred means of transportation for most Iowans, is not available to small-town residents who cannot drive. Public transit, which is well developed in Iowa, is an answer to a number of travel needs but cannot provide for individual visits to relatives and friends and cannot answer the need of older Iowans for independent travel. Changes in package shipments, although again not critical to large segments of the population, affect small shippers in isolated towns, and this group is again an important portion of the population of a state with numerous, scattered small businesses.

The public-private feeder system may have the potential of meeting the needs of residents of a number of small towns and even in its initiation responds to the needs expressed in many states for public assistance in mitigating the impacts of bus deregulation on small towns (9,13,14). It is hoped that the program can proceed with a minimum expenditure of federal funds in concert with local public and private initiatives.

The impacts of bus deregulation on residents of small towns cannot be disregarded because of the small numbers of people involved. Instead imaginative ways must be found to respond to the needs of those people, given the environment created by deregulation.

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The Domestic Demand for Airmail Service by the U.S. Postal Service

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ABSTRACT

The domestic demand for air freight service (i.e., the domestic air transportation of U.S. mail by the U.S. Postal Service) is investigated. Two types of air freight service are considered--loose sack and containerized. Input share equations derived from minimizing the translog cost function for the U.S. Postal Service are estimated. It is concluded that the own-price elasticity of demand for airmail service by the U.S. Postal Service is responsive and that the elasticity for containerized service is generally more responsive than that for loose-sack service. Consequently, air freight carriers can increase airmail revenue by decreasing rates for containerized service relative to those for loose-sack service.

Given the availability of data from the U.S. Postal Service (USPS), the purpose of this paper is to investigate the domestic demand for air freight service by USPS (i.e., in the air transportation of U.S. mail). Even if data were available for other types of air freight service, it would still be desirable to investigate separately the air freight demand for U.S. mail. Because freight transportation is an input into the firm's production process, an explicit freight demand equation can be derived from the cost function of the firm (or shipper). A similar approach was adopted by Friedlaender and Spady (1) for rail and truck freight transportation. Alternatively, studies that do not consider an explicit freight demand equation but rather simply regress transportation volume against rates, shipment characteristics, and other variables that are intuitively appealing make evaluation of the results difficult because of the uncertainty of the biases introduced by the specification error.

AIR FREIGHT DEMAND FUNCTION

In providing mail service, USPS hires designated air carriers to transport mail to destination cities or distribution centers. Air carriers, in turn, provide two general types of air service: loose sack and containerized. Containerized service involves the transportation of mail in containers supplied by the designated carriers; loose-sack (noncontainerized) service involves the transit of mail by means of the conventional canvas bags. For a sufficiently large volume of mail destined for a given location, air carriers are in a position to charge a lower rate for containerized service, because it reduces the handling costs of large mail shipments at air terminals. Therefore, the advantage of containerized versus loose-sack service to USPS is that the container rate per pound mile for a sufficiently large volume of mail (to a given destination) is lower than the corresponding loose-sack rate. Alternatively, if the