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Comprehensive Study of Intercity Bus Service in Nebraska

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Comprehensive Study of Intercity Bus Service in Nebraska

Final Report
March 1988

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EXECUTIVE SUMMARY

INTRODUCTION AND STATEMENT OF THE PROBLEM

This study is prompted by the proposed abandonment of regular-route intercity bus service across northern Nebraska. The current route, which is operated by Black Hills Stage Lines, provides service from Omaha through Norfolk and Chadron to Rapid City, South Dakota, on a schedule providing a single round-trip per day, five days per week. The request by the carrier to discontinue service between Norfolk, Nebraska and Rapid City, South Dakota, led the Nebraska Department of Roads to request funding from the Urban Mass Transportation Administration (UMTA) of the U.S. Department of Transportation (U.S.DOT) to continue service on the route while a study was completed to address the future of the route. This study describes the existing service, discusses the need for and use of the service, and outlines several alternatives to meet these needs along with funding options.

The experience of Nebraska with regard to the actual or proposed abandonment of rural intercity bus service is not unique, though concerns may be greater due to the lack of alternative routes or modes in much of the state. Although the privately-owned and operated intercity bus industry was slowly abandoning rural services throughout the 1970s, states could utilize their state utility regulations to require firms to maintain these services as a condition of operating more profitable routes or charters. However, since the

passage of the federal Bus Regulatory Reform Act of 1982 (BRRA), the carriers have been able to abandon service by appealing to the Interstate Commerce Commission, and demonstrating that the variable costs of the service exceed the revenues. Declining ridership and the loss of cross-subsidies from other types of service have forced many firms to discontinue many or all regular-route services. Nebraska's services have not been immune from these trends. The application by Black Hills Stage Lines to reduce its service has caused a particular concern in the region and the state and is the focal point of this study.

Intercity Services in Nebraska

Although the purpose of the study is to examine the service operated by Black Hills Stage Lines between Omaha and Rapid City, South Dakota, it is important to understand the context of the other intercity services. Black Hills Stage Lines also operates Omaha to Denver across the bottom of the state, a second daily frequency from Norfolk to Omaha, and a three-day a week schedule from Norfolk to Sioux Falls, and a single Lincoln to Omaha frequency. Star Bus Lines of Scotts Bluff operates three daily round-trips from there to Kimball, where it connects to the east-west Greyhound service on I-80. One of the Star Bus schedules also serves to connect Chadron with Kimball. Central Greyhound Lines operates the most frequent services, with six schedules each way in the I-80 corridor from Omaha to Cheyenne, Wyoming. Eppley Express operates airport limousine service from Kearney to Lincoln and Omaha; and Denver Coaches operates from Scotts Bluff to the Denver airport. Amtrak is the only other ground transportation in the state, with its daily east-west runs from Omaha to Denver. As can be seen, the region served by the Omaha--Rapid City route does not have any nearby parallel alternative service.

As for local public transportation, the state has 49 demand-responsive systems funded by a combination of state, local, and federal funding, plus fixed-route systems in five other cities. Very few of the local transportation services are provided in the area served by the Omaha--Rapid City route, with a total of eight vans scattered in four systems.

Financial and Operating Trends

The Omaha--Rapid City route uses two buses and three drivers to operate a single schedule each way, five days per week. The westbound schedule operates by day, with the return schedule at night. Ridership on this route averaged about 21,000 persons per year up until 1983, when it began declining. In Fiscal Year 1986 it had fallen to 13,375, and with the end of weekend service it has dropped to 9,984 in Fiscal Year 1987. Daily ridership increased slightly in 1987, but fewer days of service were operated. About 55 percent of these riders are on the portion west of Norfolk.

Package express usage has also declined as UPS has taken much of the market for packages in the region. The bus has a major advantage for time-sensitive shipments, such as newspapers, whole blood, veterinary products, flowers and other perishables, but much of its other markets has been lost to other carriers.

The route is 564 miles long, a fact which results in high operating expenses. It is also through a thinly populated region, which results in lower ridership. Company losses on scheduled service (all routes) have increased from $71,822 in FY1985, to $114,263 in FY1986, and $223,135 in FY1987. Estimated losses on the Omaha--Rapid City run in FY1987 are $169,340. Clearly these are losses that no private firm can continue to bear on its own.

Current Actions to Preserve the Service

Currently the route is being operated under a contract between the Nebraska Department of Roads and the bus company, funded by UMTA of the U.S.DOT. This agreement is part of a $220,000 demonstration grant provided by the federal government, of which $40,000 is being used for this study, and the remainder to operate service. At the current rate of usage, the service will end in May or June of this year, unless other sources of funding are found.

THE NEED FOR SERVICE

The results presented in this report document a continuing need for intercity bus service in this region. The need for the service was examined in several ways. Analysis of 1980 Census data revealed no pattern among the counties along the route with regard to the location of population with higher needs for public transportation, such as the young, elderly, low-income and autoless households. However, the population analysis provides evidence that the specific areas with the greatest transportation needs remain clustered along the bus line. This suggests that the elimination of the current route would impose hardships on many persons without alternative means of travel. This conclusion was confirmed by the on-board survey which revealed that half of the riders had no vehicle available for their trip and two-thirds would not have been able to make the trip without the bus. The passengers' median income is significantly below overall figures for the study area; over one-third had household incomes under $10,000 per year. One in five passengers uses the bus to get to work, school or Job Corps; for many more, it is the only way to visit family members living in other parts of the state.

The bus is also an important resource for overnight deliveries west of Ainsworth and for emergency blood shipments to area hospitals. Other package express services do not give next day service to or will not deliver at all to areas west of Ainsworth. Several social service agencies also rely on the bus service for client transportation, including the Department of Social Services and the Cherry County office of the Nebraska Department of Veterans' Affairs. In contrast to studies performed in other states, the Black Hills line serves a significant proportion of passengers transferring from other bus routes or airlines (19%). This shows the additional importance of maintaining convenient schedule connections on this route.

SERVICE OPTIONS FOR OMAHA--RAPID CITY BUS SERVICE

The service options examined are briefly described in the following section. Several of the alternatives call for the same service pattern, but using different size vehicles, and for the sake of simplicity these variations are designated as sub-options, since only the cost per mile is affected by the

use of the different vehicles. For comparison, the first option is the existing service, and the last option is discontinuation of the service west of Norfolk, as requested by Black Hills Stage Lines.

Option 1: Continue Existing Service Pattern: This option calls for continued operation of service from Omaha to Rapid City five days per week, with westbound service during the day and eastbound by night, permitting residents of western Nebraska to arrive in Omaha in the late morning. It has two sub-options:

a) Existing Service Using Intercity Coaches: This is the service as currently provided, using 40 foot intercity coaches seating 43-47 passengers, restroom equipped, with large baggage and express bins located below the passenger level.

b) Existing Service Using Smaller Vehicles: Use smaller vehicles to reduce costs, perhaps 16-seat vans, or 25-seat diesel body-on-chassis conversions equipped for intercity type usage (large baggage compartment, reclining seats, tag axle, air-conditioning).

Option 2: Reduce Frequency: Reduce the bus-miles operated west of Norfolk by reducing frequency to three times per week, as the carrier has already done for its Sioux City route, which operates on Mondays, Wednesdays and Fridays only. This also could have two sub-options, depending on the size of the vehicle:

a) Use Intercity Coaches on Reduced Frequency Schedules: This involves using the current large buses on a three day per week schedule over the entire route.

b) Smaller Vehicles and Reduced Frequency: This combines two options in an attempt to take advantage of all possible cost savings.

Option 3: Turnback Service at Valentine: This option would reduce bus-miles by changing the end of the route to Valentine, where there is currently a driver change. There are several sub-options for this service alternative. If the bus were to return from Valentine to Omaha at night, arriving early in the morning,it would require only one bus and two drivers to operate a round-trip. If the bus were to return the next day, two drivers and two buses could provide the service, which would all be in daylight hours. Both options could be operated with smaller vehicles as well, resulting in additional cost savings.

a) Turnback at Valentine with Night Return to Omaha: This includes alternatives:
   1) Using Coaches, and
   2) Using Vans.

b) Turnback at Valentine with Daylight Return to Omaha: This sub-option includes alternatives:
   1) Using Coaches, and
   2) Using Vans.

Option 4: Add Weekend Schedules to Serve University/College Students: This would involve shifting some of the weekly bus miles to a weekend schedule leaving Lincoln on Friday afternoons and going no further west than Chadron. A Sunday afternoon/evening return trip to Lincoln would need to be operated as well.

Option 5: Change Service Type/Provider to Airport Limousine-Type: This option calls for a complete change in the service type to one that is more like airport limousine service. It would operate without agencies, on an advance reservation basis, using conventional vans, connecting to both bus stations and airports on either end. Examples in Nebraska include Eppley Express between Kearny and Omaha, and Denver Coaches between Scotts Bluff and Denver.

Option 6: Permit Discontinuance of Service West of Norfolk: Use the remainder of UMTA 4(i) money to continue running service until funds are exhausted. During this period current users can find alternatives, if possible, such as other package delivery services, carpools, etc. After the funding ends, Black Hills Stage Lines would be allowed to discontinue the service.

Recommendations

After reviewing the information about each of the alternatives, the Advisory Committee to this study decided to support Option 1, continuation of the existing service, as the option that provides the most benefits to the region without reducing services to any part of the route. Although it has the second highest annual operating subsidy requirement, the Committee felt that was justified in view of the continuation of both the passenger and freight services. This justification is tested in a more analytical fashion by a cost and benefit analysis, which revealed that the benefits of the service exceed the total costs of providing it at current ridership levels.

The recommendation to continue providing the current type of service carries two major implications with it. One is that continued outside operating subsidies will have to be found. The possible sources of such funding are discussed in the next chapter. The second is that the communities along the route will have to show their commitment to the service by taking on

activities that will increase awareness and usage, or else the service will not long continue to justify public subsidies. For that reason, a related recommendation is that the bus company, the Department of Roads, and the local communities take on an active role to market the service, improve stops, and provide secure decent waiting areas.

FUNDING OPTIONS AND RECOMMENDATIONS

Given that the recommended service option is the continuation of the existing service pattern, the critical question becomes the amount of funding assistance required, and who should provide it.

The Amount of Funding Required to Maintain Service

Analysis of the costs and revenues being experienced during the demonstration project indicates that expected annual losses are about $169,515 per year, not including any profit for the operator of the service. Under the current agreement, a separate profit fee of $0.135 per mile was negotiated between the Department of Roads and the carrier. If this is included, and the entire Omaha--Rapid City route is funded, the estimated annual cost is $209,108, depending on revenue. It is suggested that $210,000 per year be obtained. While this seems like a large amount for the ridership, it should be remembered that the average trip length is 209 miles, and that users are paying 57 percent of the total cost, compared to typical percentages of 30 percent for urban public transit systems.

Funding Sources

Other than users, funding sources are federal and state. Each of these was investigated. The only categorical federal program that can be used to fund intercity bus service in rural areas is UMTA's Section 18 program of operating and capital assistance for rural and small urban systems.

Nebraska participates in this program to fund 49 systems around the state, and it has state legislation regarding the administration of this program which make it very difficult to use for the Omaha--Rapid City route. The program

cannot provide funding directly to private for-profit carriers, such as Black Hills Stage Lines, so a regional body would have to be created to be the funding recipient and contract for the service. The state allocates the federal money, and the state match, to existing systems on the basis of mileage operated and population of the service area -- a formula which would not provide enough funding to operate this service. A local match of 25 percent of the net operating deficit is required, which would be difficult if not impossible to obtain from all the counties along the route. Finally, the level of Section 18 funding is not adequate to meet the needs of the existing 49 systems, much less add a new project that would use 20 percent of the available federal funding.

This leaves demonstration grants, such as the one funding this study, and the current operations, as the only remaining categorical grant programs that could fund this service. These are usually a one-time grant, so additional federal funding would require a special appropriation or use of discretionary funds. The Advisory Committee recommends pursuing such special funding, because it is an interstate route, and because it meets many of the same mobility objectives served by the other transit programs, which do not address rural intercity service.

State Funding in Nebraska

State funding for public transportation in Nebraska is quite limited already, consisting of $1,000,000 per year from the State Highway Trust Fund. Of that amount, $440,000 is allocated to the rural areas for the state match for Section 18 and Section 16(b)(2), and the remainder goes to Omaha and Lincoln. Up to two years ago the state also provided an additional $1.8 million per year in general funds for transit, but that was discontinued due to financial stringency measures. Occasionally, other special transit funding is provided by the state, such as a special $800,000 allocation for Omaha to match federal funds for new buses. Thus, there is currently no state funding available for intercity bus service, but the precedent of additional general fund transit assistance, and special assistance does exist. Because of the limited time available to find funding for the Black Hills route, and the uncertainty regarding future federal funding, a recommended strategy is to seek

special funding for continuation of the existing service in this session of the legislature. Such a program could be structured like the current operating contract, and administered in the same way by the Department of Roads, to maintain service for a year or two while efforts are made to secure on-going federal funding and boost ridership. During that time the Department of Roads could more fully examine whether or not the state should develop a broader program that would be open to other intercity routes in the state that may not be financially viable for private operators without some assistance. Some suggested guidelines for such a program have been provided to the Department of Roads as part of this study, but because there has been no assessment of the ridership or financial condition of other routes, it is not recommended that they be used as the basis for any legislation at this time.

CONCLUSION AND RECOMMENDATION

Based on this assessment of the amount of funding needed and the availability of funding sources, it is recommended that the state continue to seek federal funding of at least $210,000 per year in on-going operating assistance for this route. Currently such levels are not available from Section 18, the only categorical federal grant program available for rural public transportation such as this. Therefore, special appropriations or discretionary funding for this project will have to be obtained. This may well take some time, and in the interim, it is recommended that a one-time state appropriation be sought in order to maintain the service, while efforts to obtain federal funding and increase ridership continue.

1

INTRODUCTION AND STATEMENT OF THE PROBLEM

INTRODUCTION

This study is prompted by the proposed abandonment of regular-route intercity bus service across northern Nebraska. The current route, which is operated by Black Hills Stage Lines, provides service from Omaha through Norfolk and Chadron to Rapid City, South Dakota, on a schedule providing a single round-trip per day, five days per week. The request by the carrier to discontinue service between Norfolk, Nebraska and Rapid City, South Dakota, led the Nebraska Department of Roads to request funding from UMTA of the U.S.DOT to continue service on the route, while a study was completed to address the future of the route. This study describes the existing service, discusses the need for and use of the service, and outlines several alternatives to meet these needs along with funding options.

The experience of Nebraska with regard to the actual or proposed abandonment of rural intercity bus service is not unique, though concern may be greater due to the lack of alternative routes or modes in much of the state. Although the privately-owned and operated intercity bus industry was slowly abandoning rural services throughout the 1970s, states could utilize their state utility regulations to require firms to maintain these services as a condition of operating more profitable routes or charters. However, since the passage of the federal Bus Regulatory Reform Act of 1982 (BRRA), the carriers

have been able to abandon service by appealing to the Interstate Commerce Commission (ICC), and demonstrating that the variable costs of the service exceed the revenues. Declining ridership and the loss of cross-subsidies from other types of service have forced many firms to discontinue many or all regular-route services. Nebraska's services have not been immune from these trends. The application by Black Hills Stage Lines to reduce its service has caused a particular concern in the region and the state and is the focal point of this study.

OVERVIEW OF THE INTERCITY BUS INDUSTRY

The intercity bus industry in the United States in 1988 bears only a partial resemblance to the industry as it existed in 1978. A continuing decline in the demand for regular-route service, coupled with airline deregulation in 1978, created major problems in the long-haul regular-route business base of the industry. At the same time, the demand for charter, tour and other specialized services such as casino buses and airport service has been growing, leading to some major shifts in the focus of much of the industry. The BRRA of 1982 provided flexibility to the industry to deal with these trends by eliminating or reducing much of the federal and state regulation that had governed the industry over the previous 50 years, setting the stage for the tremendous changes in the last six years.

Many people who are not familiar with the industry and its services look back to its role in World War II, when demand for all public transportation in this country was at its peak due to gas rationing, the lack of new autos, tires and parts, and the need to move masses of people as part of the war effort. Naturally, after the war demand fell, and the number of persons carried on schedules has been falling ever since, with some short term increases during the oil crises of 1973-74 and 1978-79. In 1981, the decline in ridership accelerated, and has continued to fall until recently. There are several reasons for the decline.

One is the general long-term trend toward increased auto ownership and usage. During the decade from 1975 to 1986, for example, the number of vehicle miles travelled in Nebraska increased by 12.7 percent. Nationally, the number of vehicles in use increased 22 percent, and the amount of vehicular usage

increased 19 percent during the period from 1975-1984. The average number of vehicles per household in the United States increased from 1.05 to 1.61 between 1960-1980, and the majority of households in this country now have two or more vehicles available. The number of households without any auto declined from 22 percent of all households to 13 percent. Of the households without any auto, 20 percent live in New York City, and 55 percent live in center cities (including New York). The number of households with only one vehicle declined during this period, while the number of households with two vehicles grew 172 percent, and the number with three vehicles grew almost 1,000 percent. During this same 20-year period the total number of vehicles increased from 54.8 million to 128.7 million and the number of users increased from 43 million to 83 million. This type of increase is bound to have an effect on bus ridership, and it appears as a major part of the long-term exogenous decline in regular-route bus ridership.

A second factor affecting regular-route bus ridership in recent years has been increased competition from other modes. In 1971, Amtrak took over the national passenger rail system from the private railroads and set about creating a single national system. Initially one would have expected this development to aid the bus industry, because at its inception Amtrak operated only about half the number of trains the industry had run previously, and the system has grown very little. However, the improvements in rail service, and aggressive pricing backed by federal subsidies have resulted in increases in rail ridership. Some of these passengers would have taken intercity buses had the passenger rail system disappeared, and bus fares in some corridors would probably be higher without the Amtrak price competition, a situation leading the bus industry to become a major foe of Amtrak funding.

Another aspect of modal competition which affected the bus industry was the increased competition in the package express business. Bus package express is provided on the regular-route services as an incidental service, but one that has played an important role in providing additional revenue with very little increase in costs. However, the growth of UPS, Federal Express, Purolator and Airborne, offering next-day service combined with pick-up and delivery, has also had an impact on bus package express. In the early 1980s many restrictions on intrastate carriage of packages by UPS were lifted, and many bus shippers began to take advantage of UPS. The bus industry has

responded by arranging local pickup and delivery in some cities, but again modal competition resulted in a revenue loss for the bus industry.

However, the major impact on the bus industry came from airline competition in wake of the Airline Deregulation Act of 1978. This act freed airlines to operate routes and schedules limited only by airport capacity, and to compete heavily on price. Coupled with the advanced computerized reservations systems installed by the airlines, which permit price discrimination to fill all available seats, discounted fares became available on almost all airlines. Low-fare service was also instituted by several new airlines, which used non-union labor and used aircraft to operate with seat-mile costs as low as those in the unionized, regulated bus industry. Carriers such as People Express invaded longer-haul bus markets, targeting bus riders in their advertising, and offering comparable fares. Other carriers were forced to respond, and soon discount fares were available in many city-pair markets which formerly had provided good bus ridership. The loss of many long-haul passengers to the airlines forced the bus carriers to be especially concerned about reducing any losses in their systems, and they sought the freedom to respond to Amtrak and airline competition by having their own deregulation bill.

In November 1982 the BRRA became law, and it was widely viewed as a necessity if the industry was to continue to be a viable part of the private sector. The BRRA provided for increased flexibility in fares, greatly reduced control over entry to and exit from the business, and perhaps most importantly, it provided for pre-emption of state regulation under a number of circumstances. Carriers who were denied permission to abandon routes at the state level could apply to the ICC for authority to abandon as long as their variable costs exceeded the revenues. Similarly, if denied intrastate rate increases, the carrier could appeal to the ICC for the increase, as long as the proposed rates did not exceed interstate rate levels. The industry moved rapidly to take advantage of these reforms, dropping service to 2,500 points in the first year alone. Intrastate rates were increased substantially, sometimes by up to 40 percent, using the pre-emption clauses in the Act.

These actions caused additional losses in ridership, as the rural areas losing service no longer fed the trunk network, and as the shorter-haul intrastate ridership dropped in response to the fare increases. These losses,

coupled with the loss of long-haul riders to the airlines, created a precipitous decline in regular-route ridership, and doubts were heard about the continued viability of the industry. At the same time, the relaxation of entry controls over charters and tours resulted in a wholesale shift to the charter and tour markets, with many new low-cost firms providing only charter service. Casino and airport service also were growth markets, but carriers providing regular route service were hurt by the increased charter competition which eliminated their ability to cross-subsidize unprofitable regular-route service. Many smaller regional carriers dropped regular-route services altogether, while some others with substantial short-haul traffic were able to focus on the short-haul customer and make money. The two major national firms, Greyhound and Trailways, providing the bulk of the regular-route service, were in trouble.

The last two years have seen some major changes in the structure of the industry as a result of these difficulties. Greyhound Corporation began an effort to increase the profitability of the bus line by reducing its labor costs and its assets. This effort culminated in the rejection of a proposed national labor agreement in late 1986, which led Greyhound Corporation to sell the bus line to a group of individuals headed by Fred Currey of BusLease, Inc. The new firm negotiated a new contract, and began to focus on reviving the bus line, which operates under the name Greyhound Lines. Meanwhile, Trailways Lines, Inc., the largest Trailways system carrier and the number two firm in the industry, began withdrawing service from entire states (rather than on a line-by-line basis) in an effort to shrink to a viable regional core. However, the firm appeared to be on the brink of bankruptcy, and was purchased by Greyhound Lines in an effort to retain the national intercity bus network.

Following the purchase, Greyhound instituted a moritorium on additional route abandonments, and began a program to interline with local rural public transit systems to allow its passengers to reach many of the same places previously abandoned. Pricing strategies were revised in an attempt to attract back many passengers lost to airlines and autos. These firms have also begun efforts to improve the quality and image of the services as well.

INTERCITY SERVICES IN NEBRASKA

As indicated earlier, the major focus of this study is the Black Hills Stage Lines service between Norfolk, Nebraska and Rapid City, South Dakota. However, to understand the role of this route it is important to review the overall situation of intercity bus service in the state as well as the availability of other modes.

Intercity Bus Services

Black Hills Stage Lines

Figure 1-1 presents a map of Nebraska showing the routes of the intercity ground carriers, including Black Hills. Black Hills Stage Lines is entirely owned by Arrow Stage Lines of Norfolk, Nebraska, and operates as the regular-route arm of the firm, with Arrow as the charter and tour operator. Arrow also has a charter and tour operation based in Phoenix, Arizona, and also owns Allied Tour and Travel. The buses used by Black Hills say Arrow on the side, and are operated by Arrow on behalf of Black Hills. The carrier is independently-owned, and is based in Norfolk, Nebraska. As can be seen on the map, its routes include the five-day a week Omaha to Rapid City run, with a second daily frequency from Norfolk to Omaha and back over a different routing; a three-day-a-week run from Norfolk to Sioux City; a run between Lincoln and Norfolk, and a run between Lincoln and Omaha. Recently, Black Hills took over the former Trailways route across the state from Omaha to Lincoln, and then across the southern part of the state to Denver. Figure 1-2 presents the schedule of the Omaha-Rapid City services that are the focus of this study.

Other Intercity Bus Services

Central Greyhound Lines operates on a route using Interstate 80 across the state from Omaha to Cheyenne, Wyoming, through Lincoln. It is part of the major east-west trunk route for the carrier, and has six trips a day in each direction, each with different stops (two are locals, and the rest are

FIGURE 1-1

INTERCITY ROUTES IN NEBRASKA

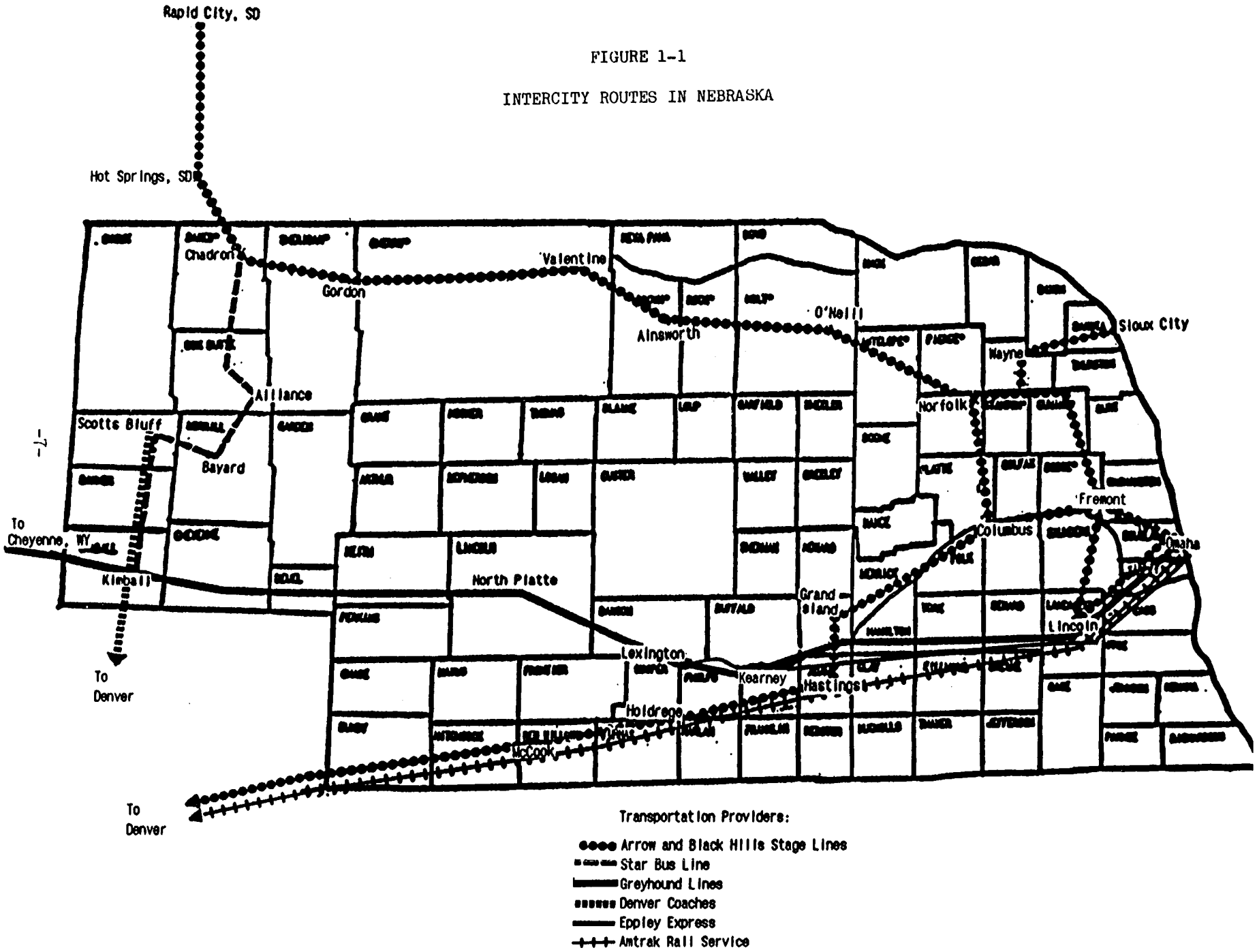


Figure 1-2: Omaha-Norfolk-Rapid City Timetable

ARROW-BLACK HILLS STAGE LINES
OMAHA - NORFOLK - RAPID CITY

Effective: 05/25/87

READ DOWN X67N	READ DOWN X67		"843"		READ UP X71	READ UP X67N
2:45 PM		LV	OMAHA Eppley Airport			
5:00 PM	8:30 AM	LV	OMAHA Greyhound	AR	11:50 AM	3:00 PM
			OMAHA Eppley Airport	AR	11:40 AM	2:40 PM
6:00 PM	9:05 AM		VALLEY			
6:20 PM	9:24 AM	AR	FREMONT	LV	10:55 AM	1:55 PM
	8:10 AM	LV	Lincoln X671N	AR	11:59 AM	
	9:15 AM	AR	Fremont	LV	10:55 AM	
6:25 PM	9:30 AM	LV	FREMONT	AR	10:50 AM	1:50 PM
6:40 PM			NORTH BEND		10:30 AM	
7:00 PM			SCHUYLER		10:10 AM	
7:25 PM			COLUMBUS		9:45 AM	
f			HUMPHREY COR.		9:15 AM	
d			MADISON		BC	
	9:52 AM		HOOPER			1:33 PM
	10:02 AM		SCRIBNER			1:20 PM
	10:17 AM		BEST POINT			1:05 PM
	10:29 AM		BEEMER			12:50 PM
	10:39 AM		WISNER			12:40 PM
	10:49 AM		PILGER			12:25 PM
	d		STANTON			BC
8:25 PM	11:15 AM	AR	NORFOLK	LV	8:45 AM	12:05 PM
	11:45 AM	LV	NORFOLK	AR	8:05 AM	
	11:55 AM		BATTLE CREEK		BS	
	12:05 PM		MEADOW GROVE		7:45 AM	
	12:10 PM		TILDEN		7:40 AM	
	12:20 PM		OAKDALE		7:30 AM	
	12:30 PM		NELIGH		7:20 AM	
	12:40 PM		CLEARWATER		7:10 AM	
	12:55 PM		EWING		6:55 AM	
	1:10 PM		INMAN			
	1:25 PM	AR	O'NEILL	LV	6:25 AM	
	1:30 PM	LV	O'NEILL	AR	6:20 AM	
	1:55 PM		ATKINSON		5:55 AM	
	2:05 PM		STUART		5:45 AM	
	2:15 PM		NEWPORT	BS	5:35 AM	
	2:30 PM		BASSETT		5:25 AM	
	2:35 PM		BASSETT		5:20 AM	
	2:50 PM		LONG PINE		5:05 AM	
	3:00 PM	AR	AINSWORTH	LV	4:55 AM	
	3:05 PM	LV	AINSWORTH	AR	4:50 AM	
			JOHNSTOWN			
	3:30 PM		WOODLAKE		4:25 AM	
	4:00 PM	AR	VALENTINE	LV	3:55 AM	
	4:10 PM	LV	VALENTINE	AR	3:45 AM	
	4:20 PM		CROOKSTON		3:25 AM	
	3:30 PM		KILGORE		2:15 AM	
	3:40 PM		NEWZEL		2:05 AM	
	3:50 PM		CODY		1:55 AM	
	4:15 PM		MERRIMAN Supper		1:30 AM	
	4:40 PM		MERRIMAN Stop		1:25 AM	
	5:10 PM		GORDON		12:55 AM	
	5:25 PM	AR	RUSHVILLE	LV	12:40 AM	
	5:40 PM	LV	RUSHVILLE	AR	12:35 AM	
	5:55 PM		HAY SPRINGS		12:20 AM	
	6:15 PM	AR	CHADRON	LV	11:59 PM	
	6:20 PM	LV	CHADRON	AR	11:55 PM	
	6:50 PM		DELRICH'S		11:25 PM	
	7:15 PM	AR	HOT SPRINGS, SD	LV	11:00 PM	
	7:20 PM	LV	HOT SPRINGS, SD	AR	10:55 PM	
	8:00 PM		HERMOSA		10:15 PM	
	8:30 PM	AR	RAPID CITY, SD	LV	9:45 PM	

express). Greyhound connects with Black Hills Stage Lines in Omaha and Lincoln.

Star Bus Line is based in Scotts Bluff, and operates on a route connecting Chadron and Kimball, via Hemingford, Alliance, Bayard, Minatare, Scotts Bluff and Gering. There are three round-trips per day between Scotts Bluff and Kimball, one of which continues on to Chadron and returns. At Kimball, Star connects with the east-west Greyhound schedules, allowing patrons to go west to Cheyenne where they can transfer to Denver-bound buses, or east to Lincoln and Omaha. The bus arrives in Chadron at 11:30 p.m., after the northbound Black Hills bus has departed for Rapid City, and it leaves Chadron at 3:15 p.m. for the run to Kimball, which is 15 hours after the eastbound Black Hills schedule has left Chadron. Star also operates airport limousine service from Scotts Bluff to the Denver Airport (about 200 miles).

Republican Valley Bus Lines schedules are listed in the Russell's Official Bus Guide, with daily round-trip service between Hastings and Superior, Stamford, and a Red Cloud to Smith Center run. The carrier is registered with the state Public Service Commission as a bus operator, but has no active passenger tariff on file. The firm is owned by the Hastings Tribune newspaper, and apparently delivers newspapers as its major function.

Two other firms operate long-distance airport limousine service in the state. Eppley Express operates from Kearney to the airports in Lincoln and Omaha (Eppley Field), a route of 185 miles. Luxury vans are used, and the four hour trip is made three times per day with some exceptions. All seats are reserved, baggage is limited, and pickups are made at hotels along the interstate. The firm has authority from the Nebraska Public Service Commission for intrastate passenger service. It does not connect in any way with the intercity bus system, as it does not serve any intercity bus stations and does not have interline tickets or baggage. Fares per mile are slightly higher than Black Hills fares for the same distance. Denver Coaches is the other long-distance airport limousine operator. Based in Scotts Bluff, the firm uses two regular vans to provide service to the Denver airport 200 miles away. It also operates on a reservation basis, with home pick-up in the Scotts Bluff-Gering area. Stops at Denver medical facilities are occasionally made to facilitate medical trips as well as air travel. The firm does not have authority for intrastate Nebraska traffic. Its vehicles make one round-trip per day to the

airport, and with an estimated operating cost per mile of about $0.70 it is apparently profitable. The low costs are in part a result of owner operation of some trips, low or nonexistent overhead, and use of the drivers for vehicle cleaning and reservation confirmation.

Other Intercity Modes

The other intercity modes in Nebraska include Amtrak, whose California Zephyr traverses the southern part of the state, and air service, including commuter service provided under the Essential Air Service program.

The California Zephyr serves Omaha, Lincoln, Hastings, Holdrege, and McCook, Nebraska on its run from Chicago to the west coast via Denver. In both directions the service in Nebraska takes place between midnight and the early morning hours. The route parallels the Omaha-Denver run operated by Black Hills Stage Lines, but no Amtrak service exists anywhere near the Omaha-Rapid City route facing abandonment.

Omaha is the smallest medium air hub in the region, with 1,130,349 boardings in 1986, and Lincoln is a small hub, with 264,533 boardings. In 1986 Nebraska also received service under the Essential Air Service program at Alliance, Chadron, Sidney, Columbus, Norfolk, Hastings, Kearney, and McCook. A total of $1,722,880 in federal subsidies was involved in providing services at those airports in 1986, with the subsidy per passenger varying from $171 at Columbus to $36 at Kearney. Chadron and Norfolk both are served by the endangered Black Hills Stage Lines route. At Chadron, the subsidy per passenger was $58 (or 55.2% of the fare), and at Norfolk the subsidy per passenger was $61 (or 105.2% of the fare). The total subsidy at Chadron was $125,536, and the subsidy at Norfolk was $230,774, according to a study of the program performed by the U.S.DOT. None of the other towns on the endangered Black Hills route has commercial air service, except the endpoints at Rapid City and Omaha.

Local Public Transportation

Nebraska has been active in the development of local rural public transportation systems in many parts of the state, as well as in the

development of urban systems in Omaha and Lincoln. Figure 1-3 presents a map of the state showing the counties where some form of local public transportation is available. There are 49 demand-responsive systems funded by a combination of state, local, and federal UMTA Section 18 funding. Fifteen of these serve small towns, and the remainder are county-wide systems. Most operate one or two vehicles. As can be seen on the map, few local services are available in the northern and western part of the state served by the Black Hills route. The City of Chadron operates one vehicle, the City of Neligh operates two, Sheridan County operates three, and the Northeast Nebraska Area Agency on Aging in Norfolk operates two vehicles.

FINANCIAL AND OPERATING TRENDS ON THE OMAHA-RAPID CITY ROUTE

As described earlier, the particular concern of this study is the Omaha-Rapid City route operated by Black Hills Stage Lines. Although the firm has applied to discontinue only the Norfolk to Rapid City portion of the route, it is operated as a single schedule, using through buses and drivers, and ridership and financial data is available only at the route level.

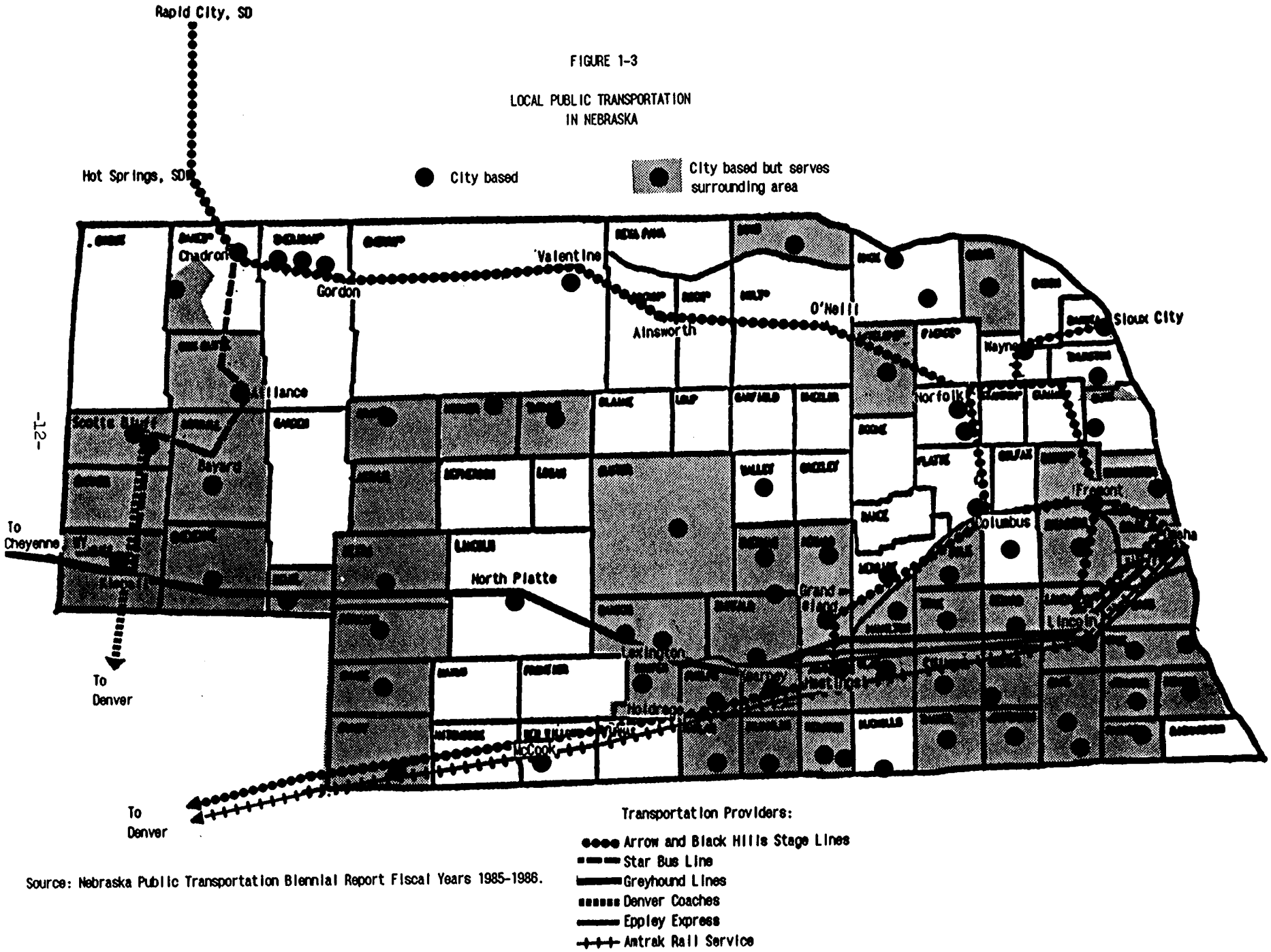
Service Description

The service is operated using two buses and three drivers. The westbound bus leaves Omaha at 8:30 in the morning, and its driver takes it as far west as Valentine, where a relief driver takes over at 4:30 p.m. The relief driver goes on to Rapid City and then brings the bus back to Valentine, where the original driver takes the schedule back to Omaha, arriving at 11:30 a.m. At that time the second bus and third driver have already left, and are arriving in Norfolk on their westward run. Until October of 1986 the schedule was run seven days per week, but at that time it was reduced to a Monday through Friday schedule in an effort to reduce losses.

The history of the route actually begins in 1962, when the Chicago and Northwestern Railroad (which still operates freight service paralleling much of the route) abandoned its passenger service. A local committee of concerned citizens that had tried to save the train was instrumental in persuading Arrow Stage Lines to file with the state PSC for authority to operate Omaha-Rapid

FIGURE 1-3

LOCAL PUBLIC TRANSPORTATION
IN NEBRASKA



Source: Nebraska Public Transportation Biennial Report Fiscal Years 1985-1986.

City as a replacement for the train. The service was granted over the protests of a number of local operators who provided service on portions of the route. Ridership and particularly the package express business along the route were good for many years, supporting an additional eastbound frequency which offered daylight schedules to the Nebraska residents along the route. However, in the early 1980s ridership began to decline.

Ridership and Package Express Usage

As can be seen in Figure 1-4, total Black Hills ridership remained constant at about 32,000-33,000 through Fiscal Year 1984 (October 1-September 30), while the Rapid City route was at a level of about 21,000 passengers per year through 1983. In 1984 both the systemwide ridership and the Rapid City route began to decline, not unlike the national trends discussed earlier. As indicated above, at the end of FY1986 the weekend schedules were discontinued, and for FY1987 ridership fell by 27 percent from 13,375 to 9,984. Daily ridership went up slightly, indicating that virtually all the loss was due to the loss of those persons who had been travelling on the weekend schedules.

Another factor affecting the financial viability of the route is the expansion of United Parcel Service, and the entry of the local courier Pony Express, and the national courier Federal Express to the next-day package market along the route. UPS obtained intrastate authority in the early part of the decade, and offers second-day service along most of the route (this is discussed in additional detail in the next chapter). Except for shipments to points west of Atkinson, urgent next-day shipments and those that exceed recently expanded UPS weight and size restrictions, the bus has lost its competitive advantage, and package express revenues have fallen.

While it is extremely unlikely that air service competition or Amtrak had anything to do with the decline of this route's ridership, falling fuel prices and a recession in the farm economy of the region may have played a role. The region served by the bus route has not enjoyed population growth, as indicated in Table 1-1, with two counties losing population between 1980 and 1986, and another six counties gaining less than the state average of a 2.3 percent population increase during this period. Table 1-2 presents employment trends by county over the same period. The unemployment rate increased during the

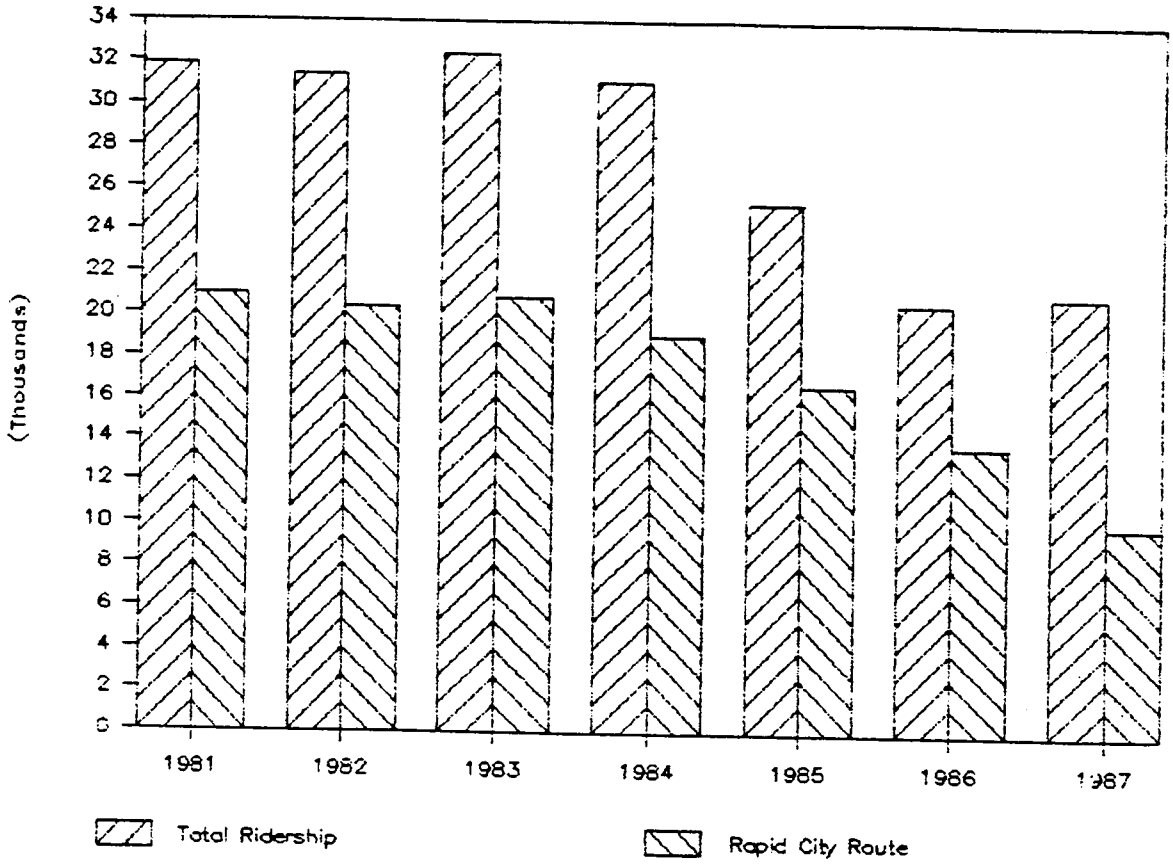


Figure 4-1: ANNUAL RIDERSHIP FY1981-1987
OF BLACK HILLS STAGE LINE

Table 1-1

POPULATION TRENDS FOR COUNTIES ALONG THE BUS ROUTE

Counties on Route	Population Change 1980-1984 1	Projected To Gain Population 2
Antelope	**	No
Brown	***	Yes
Cherry	**	No
Dawes	***	No
Holt	**	No
Madison	**	Yes
Rock	**	Yes
Sheridan	**	No
State	2.3%	

* Above State Average of 2.3%
** Increase between 0 to 2.3%
*** Lost Population

1 Summary of "County Population 1980-1984" of Nebraska Economic Trends.

2 Summary of "Counties Which are Projected to Grow Between 1980 and 1990" Nebraska Economic Trends.

Table 1-2

EMPLOYMENT TRENDS BY COUNTY: 1980-1986*

Annual Averages 1980	Antelope	Brown	Cherry	Dawes	Holt	Madison	Rock	Sheridan	Totals Bus Route Counties	State Totals	Bus Route Totals as Percent of State Totals
Labor Force	4032	1883	3020	3986	5417	17577	1178	3175	40268	763000	5.3%
Unemployment	133	44	108	125	223	640	21	85	1379	31000	4.4%
Unemployment Rate	3.3%	2.3%	3.6%	3.1%	4.1%	3.6%	1.8%	2.7%	3.4%	4.1%	
Employment	3899	1839	2912	3861	5194	16937	1157	3090	38889	732000	5.3%
Farm	1129	429	1146	414	1555	1220	297	765	6955	71724	9.7%
Nonfarm	2224	1208	1324	2875	2661	13854	658	1797	26601	584261	4.6%
All other nonfarm	545	202	442	572	978	1862	202	529	5332	76010	7.0%
Annual Averages 1986											
Labor Force	3057	1786	3289	5317	5999	15491	1129	3697	39765	803000	5.0%
Unemployment	163	110	148	177	417	851	51	152	2069	40000	5.2%
Unemployment Rate	4.7%	6.2%	4.5%	3.3%	7.0%	5.5%	4.5%	4.1%	5.2%	5.0%	
Employment	3344	1676	3141	5140	5582	14640	1078	3545	38146	763000	5.0%
Farm	1196	493	1107	625	1824	1334	428	1028	8035	76632	10.5%
Nonfarm	1726	969	1606	4135	3041	11867	528	2006	25878	619917	4.2%
All other nonfarm	422	214	428	380	717	1439	122	511	4233	66451	6.4%
Change in Unemployment Rate (%)	1.4%	3.9%	0.9%	0.2%	2.9%	1.9%	2.7%	1.4%	1.8%	0.9%	
Change in Employment	-555	-163	229	1279	388	-2297	-79	455	-743	31000	-2.4%
Percent Change in Employment	-14.2%	-8.9%	7.9%	33.1%	7.5%	-13.6%	-6.8%	14.7%	-1.9%	4.2%	

* Statistics Compiled from Nebraska Department of Labor, Labor Market Information Data.

period from 4.1 percent to 5.0 percent, and there was a net loss of 743 jobs, a reduction of 1.9 percent. These trends do not appear to have been nearly as severe as the 36 percent decline in ridership on this route during the 1980-1986 period. The decline in bus ridership during this period is similar to the national experience, but it has had a greater impact on a marginal route such as this one than on the main trunk routes operated by the national carriers.

Costs, Revenues, and Losses

At the same time that ridership and package express usage have declined, costs have been increasing. Black Hills is charged a per-mile cost for operation of the buses, and that fee includes all depreciation, labor, overheads, maintenance, and operating costs. It does not include the commission on ticket sales and package express which must be paid to the agents along the routes. In 1985 and 1986 Black Hills also had some small expenses for directly attributable depreciation, maintenance, and taxes and licenses. In FY1985 Arrow charged Black Hills $1.00 per mile, and these other expenses added $0.28 per mile to that for a total cost per mile of $1.28. In FY1986 the charges by Arrow remained the same, and a slight decline in commission expense resulted in a per mile cost of $1.27. However, for FY1987, the arrangement was changed, and the per mile cost to Black Hills increased to $1.35. Commission expenses of $0.171 per mile (unaudited) need to be added to that figure for a total cost of $1.521 per mile, not including any profit margin.

Systemwide, Black Hills expenses have exceeded revenues for some time. Figure 1-5 illustrates the discrepancy between revenues and expenses over the last three fiscal years. The before tax loss on systemwide operations was $71,822 in FY1985, increasing to $114,263 in FY1986, and it appears to be $223,135 in FY1987 (unaudited), despite the inclusion of $88,483 in subsidy revenue. A major reason for the systemwide increase in FY1987 has been the start of Omaha-Denver operations over the former Trailways route in April of 1987. The Rapid City route had been about 65 percent of total system ridership up until the inauguration of Omaha-Denver service, and it now represents about 45 percent of the system ridership.

Examining the Omaha-Rapid City route by itself is complicated by the fact that revenues are normally not segregated by route or schedule by the carrier.

Figure 1-5: SYSTEMWIDE REVENUES AND EXPENSES
OF BLACK HILLS STAGE LINES

Because this route is now receiving UMTA operating assistance, however, a special traffic study has been performed by the company over different periods between January and October of 1987. These samples indicate that the actual revenue per mile on this route, after netting out reclaims and commissions, was $0.7726 for both package express and passengers combined. This compares to about $0.8344 per mile for the system as a whole in FY1987. The Norfolk-Rapid City portion of the route has not been analyzed separately by the company. Since Black Hills costs are strictly on a per-mile basis, allocating costs to the Omaha-Rapid City route is a straightforward exercise of multiplying the miles operated on the route by the per-mile costs. The route is a long one, 564 miles one-way, or 293,280 miles per year, and using the $1.35 cost per-mile figure (since the commissions and reclaims are already netted out of the revenue figure), the total operating cost is $395,928. The resulting net loss on that route in FY1987 is $169,340, or about 54 percent of the total system losses.

Clearly these are losses that no private firm can bear indefinitely. In pre-regulation years profits from protected charter authorities might have been used to offset losses, but such cross-subsidies are no longer available as Arrow competes in a freely-competitive, price-conscious market for charters and tours. It is not difficult to understand why the company would attempt to reduce its losses by discontinuing service, or working with local and state groups to obtain operating subsidies if service is to be maintained.

CURRENT ACTIONS TO PRESERVE THE SERVICE

In the face of these losses, and the proposal by the firm to discontinue the route unless subsidies are available, a "Save the Bus" committee became active in the region. This group initially applied to the Nebraska Department of Roads for Section 18 operating assistance, and during FY1987 about $40,000 was available for operating assistance, including local and state match. The local group raised the local match of approximately $10,000 required under the Nebraska state program by contributions, bake sales, Christmas tree sales, etc. The state program provided $10,000, and Section 18 $20,000. The grant was made to the Northeast Nebraska Area Agency on Aging, as the only regional organization including most of the affected areas. It in turn contracted with

Black Hills Stage Lines to continue operating the service. This funding provided for about four months of operations.

During this period the committee worked with Congresswoman Virginia Smith, the State Department of Roads, UMTA and the U.S. Department of Agriculture Office of Transportation to try to continue the operation. An UMTA Section 4(i) demonstration grant of $220,000 was obtained to fund this study and to continue operating the service while the study was completed and actions taken to continue the service. The grant was made to the Department of Roads, which is contracting directly with Black Hills Stage Lines to operate the service during this interim period. The "Save the Bus" Committee, plus carrier and state representatives, has been formalized as the study Advisory Committee to take an active role in directing the study.

The operating agreement is based on the operating cost of $1.35 per mile, plus $0.135 per mile in profit for the firm. Revenues are to be determined based on the analysis of revenue on this particular route, net of reclaims and commissions. At the current rate the service is requiring about $16,000 per month in operating assistance, and the funding will run out in May of 1988.

For that reason, it is urgent that a full consideration of the need for the service, its role in the region, and the possible alternatives be made so that any necessary actions can be accomplished before service ends. Once the service stops, it is unlikely that the current ridership could be attracted back to ride if it were reconstituted, and the service would be permanently eliminated. The next chapter presents a complete description of the riders of the service, and information about the role it plays in the region. Chapter 3 presents service options intended to reduce the losses on the route. Chapter 4 discusses funding sources and options, and presents recommendations regarding continuing assistance.

2

THE NEED FOR SERVICE

The need for intercity bus service in the study area can be analyzed by reviewing the area's demographic characteristics, current patterns of bus use (both passenger and freight) and any estimates of unmet or latent demand. This chapter considers each of these elements in turn.

REGIONAL POPULATION CHARACTERISTICS

An area's need for and ability to support intercity bus service depends partly on its total population and partly on the composition of that population. When dealing with public transportation, there are six distinct segments of the population which need to be examined. The categories are those persons most likely to depend on public transportation:

- youth (those under 18)
- elderly (those over 65)
- low income (below the poverty level)
- zero car households (households with no car available), and
- transportation handicapped (non-institutionalized persons with a self-identified transportation handicap), with a further division into those under 65 and those 65 and over.

Census information has been compiled on each of these categories to determine which Nebraska counties have the highest relative need for public

transportation. Table 2-1 shows the number of county residents in each category. In comparing county needs, it is important to avoid summing the persons in each category, because many people are counted in more than one category. For instance, a low income person with no car would be counted twice. It is also generally more useful to compare counties according to the percentage of residents displaying these characteristics, rather than the absolute numbers shown in Table 2-1. Accordingly, a ranking process was applied to the Census data to form a composite, percentage-based measure of relative transportation needs. The ranking method relies on standard comparison scores (Z statistics), which account for county variation better than other available statistical tools. This method, which is described in Appendix A, resulted in the county ranking shown in Table 2-2. The counties with the smallest rank have the highest percentage of population with a likely need for public transportation.

This analysis yielded some surprising results. One would expect the rural counties to rank high, but in fact only four of the 11 counties in the study area ranked in the top third, and five of them ranked in the bottom third. Further:

- six of the counties are below the state average in the percentage of zero car households,
- ten of the counties are below average in the percentage of elderly persons,
- eight are below average in the percentage of low income persons, and
- seven are below the overall state average.

This result does not mean the study area is without a need for public transportation. What it does suggest is that such needs, if they are present, are clustered in specific geographic areas or "pockets".

To clarify the situation, additional Census information was analyzed at the precinct level. A detailed analysis was made of the precincts in the 13 counties along the bus line or within a reasonable driving distance to it. The following counties were included: Antelope, Brown, Cherry, Cuming, Dawes, Dodge, Holt, Madison, Pierce, Rock County, Sheridan, and Stanton.

The precinct data was analyzed in the same manner as the county data: first, the number of people in each precinct displaying public transportation

Table 2-1

NEBRASKA COUNTIES - POPULATION BY COMMON
TRANSIT DEPENDENCE INDICATORS

COUNTY	Population	Transportation Handicapped Under 65	65 and over	Zero Car Households	Low Income Persons	Youth (under age 18)	Elderly (age 65+)
ADAMS	30656	170	566	1215	2862	8286	6464
ANTELOPE*	8675	68	231	234	1986	2744	2193
ARTHUR	513	0	0	9	83	150	114
BANNER	918	14	2	4	183	266	193
BLAINE	867	3	26	18	244	252	203
BOONE	7391	42	84	171	1443	2193	1806
BOX BUTTE	13696	49	167	359	963	4239	2994
BOYD	3331	29	123	103	777	889	836
BROWN*	4377	43	70	155	837	1330	1092
BUFFALO	34797	175	378	733	3509	9884	7111
BURT	8813	69	169	326	1355	2439	2188
BUTLER	9330	68	134	269	1140	2749	2358
CASS	20297	122	273	479	1441	6685	4743
CEDAR	11375	61	112	324	2198	3935	3050
CHASE	4758	30	29	92	789	1543	1161
CHERRY*	6758	68	93	173	906	2149	1592
CHEYENNE	10057	64	95	262	1215	2989	2256
CLAY	8106	36	88	221	960	2353	1980
COLFAX	9890	22	218	327	1323	2998	2569
CUMING*	11664	55	145	278	1530	3768	2891
CUSTER	13877	66	194	416	2066	3957	3406
DAKOTA	16573	110	213	323	1576	5632	3736
DAWES*	9609	52	102	318	1350	2644	2011
DAWSON	22304	131	306	482	1895	7158	5209
DEUEL	2462	14	23	43	267	764	664
DIXON	7137	243	212	213	1338	2217	1818
DODGE*	35847	241	360	1113	3042	10480	8103
DOUGLAS	397038	4033	5681	18162	38486	121752	81212
DUNDY	2861	35	134	76	484	721	681
FILLMORE	7920	42	95	261	842	2237	1961
FRANKLIN	4377	13	59	129	680	1130	1089
FRONTIER	3647	10	19	69	555	1006	828
FURNAS	6486	45	111	197	1102	1693	1710
GAGE	24456	169	324	849	2411	6565	5501
GARDEN	2802	22	11	48	301	699	680
GARFIELD	2363	13	62	68	413	670	596
GOSPER	2140	7	31	19	321	649	524
GRANT	877	0	2	7	132	295	210
GREELEY	3462	22	91	113	977	1134	932
HALL	47690	338	437	1425	3151	15163	10660
HAMILTON	9301	68	86	128	947	2925	2086
HARLAN	4292	45	110	94	776	1118	1041
HAYES	1356	2	10	15	269	417	297
HITCHCOCK	4079	12	27	95	619	1275	1038
HOLT*	13552	64	168	276	2425	4627	3437
HOOKER	990	10	33	23	177	268	253
HOWARD	6773	29	75	138	744	2141	1695

Table 2-1 (continued)

COUNTY	Population	Transportation Handicapped Under 65	65 and over	Zero Car Households	Low Income Persons	Youth (under age 18)	Elderly (age 65+)
JEFFERSON	9817	45	187	405	1471	2612	2341
JOHNSON	5285	41	121	186	932	1454	1354
KEARNEY	7053	22	56	98	624	1983	1597
KEITH	9364	39	138	164	880	2799	2088
KEYA PAHA	1301	20	62	15	214	445	330
KIMBALL	4882	38	38	129	604	1489	1132
KNOX	11457	68	178	388	2266	3590	2998
LANCASTER	192884	1052	2160	6249	15453	49403	34413
LINCOLN	36455	227	381	782	2636	11846	8196
LOGAN	983	3	8	13	243	307	229
LOUP	859	5	15	11	114	243	201
MADISON*	31382	211	389	924	2823	8824	6726
MCPHERSON	593	0	11	8	117	176	148
MERRICK	8945	53	124	164	1015	2864	2166
MORRILL	6085	19	75	148	1330	1821	1495
NANCE	4740	22	73	103	968	1441	1190
NEMAHA	8367	51	139	280	1239	2172	1842
NUCKOLLS	6726	42	90	211	745	1944	1671
OTOE	15183	97	304	608	1657	4469	3760
PAWNEE	3937	56	86	158	747	934	993
PERKINS	3637	19	42	66	581	1213	963
PHELPS	9769	34	170	218	932	2765	2242
PIERCE*	8481	24	137	184	1136	2586	2052
PLATTE	28852	125	275	588	2286	9527	6576
POLK	6320	27	64	114	869	1922	1635
RED WILLOW	12615	77	139	327	1191	3595	2754
RICHARDSON	11315	93	336	494	1763	2993	2836
ROCK*	2383	13	25	34	327	740	572
SALINE	13131	51	216	479	1479	3441	3074
SARPY	86015	403	302	675	4077	32231	17997
SAUNDERS	18716	131	274	445	1780	5850	4558
SCOTTS BLUFF	38344	440	506	928	4445	12306	8735
SEWARD	15789	83	143	310	1475	4498	3366
SHERIDAN*	7544	50	80	244	992	2285	1819
SHERMAN	4226	2	33	151	831	1321	1159
SIOUX	1845	6	6	13	249	530	412
STANTON*	6549	8	37	105	960	2356	1628
THAYER	7582	36	162	241	831	1991	1851
THOMAS	973	5	5	21	101	313	217
THURSTON	7186	79	168	320	1720	2456	1785
VALLEY	5633	30	67	202	971	1614	1399
WASHINGTON	15508	69	97	307	1185	5078	3585
WAYNE*	9858	48	169	224	1449	2462	1917
WEBSTER	4858	19	38	206	725	1309	1266
WHEELER	1060	3	9	11	222	327	241
YORK	14798	91	190	355	1444	4387	3338

Table 2-2

NEBRASKA COUNTIES BY RANKS BASED ON PERCENTAGE OF POPULATION WITH POTENTIAL TRANSPORTATION NEEDS

COUNTY	Overall Rank	COUNTY	Overall Rank
DIXON	1	DAKOTA	47
THURSTON	2	SALINE	48
KEYA PAHA	3	FRANKLIN	49
GREELEY	4	MERRICK	50
BOYD	5	PIERCE	51
ANTELOPE	6	HITCHCOCK	52
DUNDY	7	GAGE	53
PAWNEE	8	KIMBALL	54
RICHARDSON	9	CASS	55
BLAINE	10	POLK	56
BROWN	11	DEUEL	57
KNOX	12	DAWES	58
HOOKER	13	CLAY	59
JOHNSON	14	HOWARD	60
CEDAR	15	DAWSON	61
BURT	16	CHEYENNE	62
GARFIELD	17	HALL	63
DOUGLAS	18	STANTON	64
HARLAN	19	ROCK	65
SHERMAN	20	DODGE	66
OTOE	21	YORK	67
FURNAS	22	LOUP	68
COLFAX	23	MADISON	69
VALLEY	24	BANNER	70
NANCE	25	GOSPER	71
HOLT	26	WAYNE	72
JEFFERSON	27	WHEELER	73
CHERRY	28	LINCOLN	74
SCOTTS BLUFF	29	PHELPS	75
BUTLER	30	RED WILLOW	76
MORRILL	31	PLATTE	77
WEBSTER	32	BOX BUTTE	78
PERKINS	33	HAMILTON	79
BOONE	34	KEITH	80
SHERIDAN	35	THOMAS	81
CUSTER	36	HAYES	82
CUMING	37	WASHINGTON	83
NUCKOLLS	38	GARDEN	84
NEMAHA	39	BUFFALO	85
THAYER	40	SEWARD	86
SAUNDERS	41	LANCASTER	87
ADAMS	42	FRONTIER	88
LOGAN	43	GRANT	89
MCPHERSON	44	SARPY	90
FILLMORE	45	KEARNEY	91
CHASE	46	ARTHUR	92
		SIOUX	93

need characteristics was tabulated and formed into a composite ranking. Then the procedure was repeated on a percentage, or per capita, need basis. The rankings were developed using standard comparison scores (Z scores), as described in Appendix A. These scores show the extent to which a precinct differs from the average of all precincts being studied.

Table 2-3 shows the three precincts in each county with the highest total population likely to need public transportation. Of the 39 precincts in the table, 26 are on the bus route. This finding supports the need for service along this route rather than alternative service designs. The percentage based scores for the 13 county region shows that the Oakdale precinct in Antelope County had the highest incidence of transportation need characteristics per capita. Table 2-4 ranks each precinct within its own county so that precincts with the highest need in each county can be identified.

CURRENT PATTERNS OF BUS USE

The second part of the needs analysis was a review of current usage patterns. Passenger travel was studied using an on-board survey and supplemental interviews with social service agencies and bus station agents. A study of freight use was also conducted to assess bus package express needs.

On-Board Survey

The on-board survey of the Black Hills Stage Line was conducted over 22 days from mid-August 1987 through the third week in September, with a break for Labor Day week. On two or three occasions the survey was interrupted due to problems on the bus. The total passenger counts used to determine the response rates have been adjusted accordingly. Overall, the response rate to the survey was 73 percent with 399 usable surveys returned. Of the survey responses, only nine percent were from passengers who had filled out the survey before. Over 95 percent of the respondents were traveling alone. Detailed results of the survey are reported in Appendix B.

The first section of the survey concerned the passengers' residence and boarding and alighting points. Of the 143 cities of residence represented, Omaha was the most frequent response (8.8%) followed by Valentine and O'Neill

Table 2-3

PRECINCTS WITH LARGEST POPULATIONS DISPLAYING
TRANSPORTATION NEED CHARACTERISTICS

COUNTY	PRECINCT	On Bus Route?	Youth (Under 18)	Elderly (Age 65+)	Transportation Under 65	Handicapped 65 and Over	Zero Car Households	Low Income	Sum of the Characteristic Scores	Rankings Within Each County
Antelope	Neligh City	Yes	0.545	1.150	-0.017	0.788	0.893	0.705	4.064	1
Antelope	Oakdale	Yes	-0.023	-0.007	1.484	1.841	-0.039	0.912	3.947	2
Antelope	Logan		0.194	0.487	0.454	1.677	0.194	0.444	3.451	3
Brown	Ainsworth City	Yes	0.678	1.331	1.398	1.250	1.243	1.622	7.520	1
Brown	Ainsworth	Yes	0.108	-0.128	-0.017	-0.030	-0.104	1.066	0.896	2
Brown	Long Pine City	Yes	-0.072	0.034	0.185	0.112	0.090	0.030	0.380	3
Cherry	Valentine City	Yes	0.914	1.495	2.137	2.352	1.334	1.474	9.707	1
Cherry	Valentine	Yes	0.120	-0.080	1.329	-0.101	-0.246	-0.094	0.928	2
Cherry	Merriam	Yes	-0.076	-0.121	-0.151	-0.314	-0.013	-0.153	-0.829	3
Cuming	West Point City	Yes	1.442	2.066	-0.286	1.819	1.334	0.302	6.677	1
Cuming	Beemer	Yes	0.271	0.456	1.800	1.072	0.298	0.083	3.980	2
Cuming	Wisner City	Yes	0.218	0.763	0.454	0.717	0.565	-0.011	2.737	3
Dawes	Chadron	Yes	2.168	2.018	1.867	2.032	2.486	3.492	14.065	1
Dawes	North Crawford		-0.036	0.224	0.118	0.504	0.518	0.166	1.494	2
Dawes	South Crawford		0.091	0.478	-0.017	-0.208	0.116	0.527	0.988	3
Dodge	Fremont City	Yes	11.102	10.765	11.558	8.112	10.898	10.422	62.656	1
Dodge	Scribner	Yes	0.045	0.757	0.320	0.824	0.621	-0.017	2.549	2
Dodge	Hooper	Yes	0.346	0.690	-0.084	0.824	0.531	0.202	2.509	3
Holt	O'Neill City	Yes	1.708	1.771	0.993	2.495	1.256	2.143	10.366	1
Holt	Atkinson	Yes	0.758	0.991	0.589	1.001	0.414	0.995	4.749	2
Holt	Stuart	Yes	0.299	0.253	0.185	0.255	0.246	1.977	3.215	3
Madison	Norfolk City	Yes	8.751	8.267	7.048	9.748	9.066	7.865	50.545	1
Madison	Madison City	Yes	0.545	1.150	0.118	0.361	0.492	-0.426	2.240	2
Madison	Tilden		-0.074	0.383	0.589	0.184	0.311	0.089	1.481	3
Pierce	Plainview City		0.211	1.077	0.118	1.570	0.919	0.936	4.831	1
Pierce	Pierce City		0.278	0.963	0.185	0.895	0.414	0.338	3.073	2
Pierce	Plum Grove		0.301	0.345	-0.017	1.357	0.220	0.083	2.289	3
Rock County	Bassett	Yes	0.339	0.503	0.320	0.184	0.026	0.415	1.786	1
Rock County	Newport	Yes	-0.244	-0.178	-0.151	-0.172	-0.130	-0.437	-1.313	2
Rock County	Blaine		-0.290	-0.321	-0.151	-0.314	-0.195	-0.319	-1.590	3
Sheridan	Gordon	Yes	0.765	1.026	0.925	0.717	1.023	1.249	5.706	1
Sheridan	Hay Springs	Yes	0.231	0.703	1.329	0.646	0.557	0.474	3.939	2
Sheridan	Rushville City	Yes	0.275	0.456	-0.151	-0.314	0.505	0.965	1.735	3
Stanton	Stanton City		0.471	0.944	0.253	0.184	0.699	0.397	2.947	1
Stanton	Spring Branch		1.041	-0.144	-0.286	-0.314	-0.169	0.255	0.383	2
Stanton	Pilger	Yes	0.019	0.069	-0.286	-0.243	0.026	0.036	-0.380	3
Wayne	Strahan		0.909	1.293	1.060	3.099	0.932	1.078	8.370	1
Wayne	Hunter		0.494	0.804	0.253	1.144	0.725	1.291	4.710	2
Wayne	Chapin		-0.048	-0.074	0.858	0.008	-0.039	0.113	0.816	3

Table 2-4
STUDY AREA PRECINCTS RANKED WITHIN COUNTY BY
PER CAPITA TRANSPORTATION NEED SCORES

(Scores above 0 indicate higher than average need;
below 0 indicates lower than average need)

Rank	Precinct	Score
Antelope County		
1	Oakdale	10.047
2	Royal	7.287
3	Elgin	6.659
4	Cedar	6.092
5	Clearwater	5.421
6	Grant	4.569
7	Logan	4.391
8	Tilden City	1.320
9	Ord	1.007
10	Lincoln	0.868
11	Neligh City	0.853
12	Stanton	0.805
13	Neligh	0.603
14	Frenchtown	-0.099
15	Sherman	-0.142
16	Custer	-0.162
17	Blaine Twnshp	-0.259
18	Garfield	-0.372
19	Ellsworth	-0.408
20	Eden	-0.412
21	Crawford	-0.669
22	Verdigris	-1.001
23	Bazille Twnshp	-1.658
24	Burnett	-1.660
25	Willow	-2.754
26	Elm	-6.294
Brown County		
1	Long Pine City	2.235
2	Ainsworth City	1.320
3	South Pine	1.255
4	Ainsworth	0.401
5	North Pine	-0.474
Cherry County		
1	Kilgore	1.257
2	Valentine City	1.143
3	Cody	0.991
4	Wood Lake	0.565
5	Valintine	0.457
6	Nenzel	-0.021
Cherry County (Cont.)		
7	King	-0.346
8	Calf Creek	-0.412
9	Goose Creek	-0.552
10	Wells	-0.874
11	Crookston	-1.528
12	Barley	-1.533
13	Loup	-1.697
14	Lackey	-1.701
15	Cleveland	-1.753
16	Russell	-1.853
17	Merriman	-2.122
18	Kennedy	-3.140
19	Gillaspie	-3.225
20	Mother Lake	-5.043
Cuming County		
1	Beemer	3.203
2	Monterey	1.609
3	Bancroft	1.197
4	Elkhorn	1.046
5	Lincoln	1.026
6	Wisner City	0.756
7	Cleveland	0.631
8	Grant	0.628
9	West Point City	0.248
10	Garfield	0.060
11	Cuming	-0.005
12	St. Charles	-0.033
13	Sherman	-0.366
14	Neligh	-0.812
15	Bismark	-1.363
16	Logan	-1.893
17	Blaine	-1.974
Dawes County		
1	Table	1.286
2	East Chadron	1.105
3	Whitney	1.021
4	North Crawford	0.885
5	South Crawford	0.676
6	Leonard	-0.695

Table 2-4 (continued)

Rank	Precinct	Score
Dawes County (Cont.)		
7	SW Chadron	-0.978
8	Chadron	-1.542
9	Antelope	-3.193
10	Craig	-3.634
11	Chadron	-4.462
12	NW Crawford	-6.032
Dodge County		
1	Pleasant Valley	3.230
2	Scribner	2.203
3	Hooper	0.706
4	Logan	0.518
5	Pebble	0.470
6	Webster	0.243
7	North Bend City	-0.003
8	Union	-0.471
9	Fremont City	-0.848
10	Maple	-1.052
11	Cuming	-1.327
12	Cotterell	-1.351
13	Elkhorn	-1.568
14	Everett	-1.573
15	Nickerson	-1.653
16	Ridgely	-1.935
17	Platte	-2.507
Holt County		
1	Antelope	3.098
2	Coleman	2.955
3	Stuart	2.533
4	Conely	2.479
5	Inman	2.309
6	Rock Falls	2.235
7	Lake	2.104
8	Shamrock	2.079
9	Deloit	1.776
10	Saratoga	1.633
11	Cleveland	1.483
12	McClure	1.251
13	Atkinson	1.131
14	Francis	0.893
15	Steel Creek	0.890
16	Iowa	0.835
17	Verdigris	0.727
18	Fairview	0.683
19	O'Neill City	0.661
20	Chambers	0.580
Holt County (Cont.)		
21	Dustin	0.379
22	Pleasant View	0.344
23	Swan	0.152
24	Scott	0.053
25	Sand Creek	0.027
26	Sheridan	-0.328
27	Green Valley	-0.792
28	Golden Town	-0.887
29	Grattan	-1.042
30	Paddock	-1.079
31	Shields	-1.097
32	Ewing	-1.259
33	Willowdale	-1.530
34	Wyoming	-1.609
35	Belle	-1.757
36	Emmet	-1.815
37	Holt Creek	-5.561
38	Josie	-10.362
Madison County		
1	Union	9.365
2	Tilden	2.521
3	Newman Grove	2.172
4	Emerick	1.130
5	Madison	1.093
6	Enola	0.713
7	Meadow Grove City	0.647
8	Battle Creek	0.501
9	Madison City	-0.192
10	Shell Creek	-0.772
11	Norfolk City	-0.918
12	Highland	-1.007
13	Norfolk	-1.312
14	Fairview	-1.433
15	Valley	-1.452
16	Kalamazoo	-1.679
17	Warnerville	-1.785
18	Schoolcraft	-2.113
19	Jefferson	-2.384
20	Green Garden	-2.793
21	Grove	-2.838
Pierce County		
1	South Dry Creek	3.190
2	Plum Grove	2.344
3	Clover Valley	2.328
4	Plainview City	2.091

Table 2-4 (continued)

Rank	Precinct	Score
Pierce County (Cont.)		
5	Mills	1.891
6	Pierce City	0.917
7	Eastern	-0.115
8	Slough	-0.205
9	Allen	-0.884
10	Logan	-0.932
11	Blaine	-1.081
12	Pierce	-1.541
13	Willow Creek	-1.677
14	Foster	-1.750
15	South Branch	-1.798
16	North Dr Creek	-1.919
17	Thompson	-2.236
18	Cleveland	-2.378
Rock County		
1	Center	6.035
2	Selden	0.890
3	Kinkaid	0.726
4	Thurman	0.680
5	Gracy	0.629
6	Bassett	0.497
7	Newport	0.322
8	Harrison	-0.441
9	Kirkwood	-1.009
10	Long Pine	-1.231
11	Lay	-1.354
12	Blaine	-1.507
13	Pewaukee	-1.866
14	Brinkeroff	-15.357
Sheridan County		
1	North Rushville	8.134
2	Hay Springs	1.332
3	Gordon	0.814
4	Ellsworth	0.404
5	Rushville City	0.173
6	East Gordon	-1.112
7	Kinkaid	-1.124
8	West Gordon	-1.594
9	South rushville	-1.926
10	Wounded Knee	-2.094
11	Mirage	-2.459
12	Reno	-3.131
13	Pine Creek	-3.357
Stanton County		
1	Ramshorn	3.174
2	Stanton	2.648
3	Stanton City	0.787
4	Haymow	0.716
5	Elkhorn	0.474
6	Dimick	-0.148
7	Spring Branch	-0.595
8	Union Creek	-0.839
9	Pilger	-0.998
10	Kingsburg	-1.090
11	Maple Creek	-1.721
12	Dewey	-1.927
13	Butterfly	-2.089
Wayne County		
1	Chapin	2.325
2	Sherman	2.122
3	Strahan	0.862
4	Hancock	0.554
5	Garfield	0.243
6	Deer Creek	0.004
7	Logan	-0.296
8	Leslie	-0.432
9	Hoskins	-0.617
10	Brenna	-1.283
11	Wilbur	-2.453
12	Plum Creek	-2.576
13	Hunter	-3.549

(each 5.5%). Approximately 60 percent of the survey respondents were Nebraska residents; about 18 percent were South Dakota residents with the rest scattered throughout the United States and seven other countries. Omaha was also the most frequent passenger terminus with 25 percent of the boarding and 30 percent of the alighting passengers. Other frequent origins and destinations include Rapid City, Chadron, Valentine and O'Neill (see Table 2-5). Approximately 80 percent boarded and alighted in Nebraska and 18 percent in South Dakota.

The next section of the survey dealt with trip purpose and the method of travel to and from the bus station. The following distribution of trip purposes was estimated from the survey:

Trip Purpose	Percent of Trips
Work	6.8 %
School/College	7.0
Job Corps	4.2
Shopping	1.0
Doctor/Dentist	6.6
Visits/Personal	45.1
Other	23.5
No response	5.7
Total	100.0 %

The largest trip purpose category is visits/personal trips. Based on answers to the open-ended section of the survey, it can be assumed that many of these trips are visits between family members who currently have no other available means of travel to overcome social isolation. Trips to attend work, school or college and the Job Corps make up another 18 percent of the responses and medical trips 6.6 percent. The rate of bus use by students appears lower than that found in other states.

The large majority of respondents (about 54 percent) were driven to the bus station (see Table 2-6). Surprisingly, the second largest number (about 19 percent) transferred from another bus or from the plane, showing the importance of maintaining convenient schedule connections on this route. Most of the passengers traveled short distances to get to the bus; 58 percent either transferred or traveled less than 10 miles. Thirty-nine percent either

Table 2-5
PRINCIPAL BOARDING AND ALIGHTING POINTS ON
BLACK HILLS PASSENGER SURVEY

City	Boarding	Alighting	Total
Omaha	101	119	220
Rapid City	64	33	97
Chadron	37	41	78
Valentine	30	27	57
O'Neill	28	18	46
Norfolk	22	23	45
Hot Springs	11	27	38
Gordon	15	17	32
Fremont	15	14	29
Lincoln	10	18	28
All Others	57	51	108
No Response	9	11	20
Total	399	399	798

Source: 22-day survey conducted by Ecosometrics, Inc., August-September 1987

Table 2-6
MEANS OF TRAVEL TO AND FROM BUS

Means of Travel	Frequency of Use	
	To Bus	From Bus to Final Destination
Dropped/Picked Up	214	229
Transfer	74	73
Taxi	25	33
Drive Self	49	9
Walk	17	30
City Bus	4	5
Other	4	6
No Response	11	13

Source: On-Board Survey, August-September 1987

transferred or traveled less than one mile. The percentages were very similar for the questions regarding travel to the final destination.

The third set of questions dealt with a number of demographic characteristics. It was revealed that about 25 percent of the passengers were not licensed drivers or were physically unable to drive but a much greater number, about 48 percent, did not have a vehicle available for this trip. Over half of the respondents had either no vehicle or only one vehicle in their household and almost 37 percent had household incomes under $10,000 per year. As is true of bus riders in other states, the passengers' ages were heavily concentrated in two groups: 18-24 and 65 or over (each at about 25 percent). Those aged 45-54 were the least represented (about 4 percent). At least 49 percent of the passengers are men and 39 percent women (12 percent gave no response).

The final two questions dealt with the availability of alternatives to the bus. The first question asked whether the trip they were now making could have been made had there been no bus today. A full two-thirds of the survey respondents reported that they could not have made the trip. The second question asked how they would make similar trips if the bus service did not exist. Almost 28 percent again replied that they could not make any trips, and another 15 percent reported that they would have to reduce the number of trips.

At the end of the survey form, there was a space for suggested changes to the service and a general comment area. A wide variety of suggestions and comments were received, ranging from requests for schedule changes to the idea of putting wings on the buses to speed them up. The open-ended comments are reported in Appendix C. Ten respondents requested weekend service and six mentioned the need for a more convenient departure time east bound from Valentine. Many of the comments indicated the value of the service in reducing social isolation in this rural region (see Table 2-7).

Several cross-tabulations have been performed on the survey data to help characterize the bus passengers. Table 2-8 shows the age breakdown by sex (with the "no response" answers distributed equally). An interesting pattern is clear. Among riders below age 55, the ridership is mostly male, with varying degrees of predominance in each age group. Among those riders over age 55, however, the ridership is overwhelmingly female. This is partially explained by women's longer life expectancy and the lower rate of auto license holding among women in this age group.

Table 2-7
SELECTED PASSENGER COMMENTS ON IMPORTANCE OF BUS SERVICE

"This bus should continue so those who can't afford a plane ticket can ride."

"I am so happy to ride the bus to see my son. He is not able to drive so he rides too."

"I am a widow and this is the only trip I can take by myself."

"Don't cut bus service - it's vital for rural Nebraska and South Dakota and Pine Ridge and Rosebud reservations."

"Have been riding to Omaha for 9 years. We desperately need this service in Northeastern Nebraska."

"Without the bus I probably wouldn't get to see my relatives in Valentine very often."

"Bus is the only means of transportation out of Valentine."

"It's a very good service so I hope you don't take it off. Car rental of $45 a day is too expensive."

"I am very independent and asking someone for a ride would impose."

"I am traveling with my mother to a doctor's appointment in Iowa."

Table 2-8

CROSS-TABULATION OF AGE BY SEX

SEX-> AGE	Count Row Pct	MALE	FEMALE	Row Total
17 AND UNDER		34 72.3	13 27.7	47 11.8
18-24		72 60.0	48 40.0	120 30.1
25-44		40 65.6	21 34.4	61 15.3
45-54		11 57.9	8 42.1	19 4.8
55-64		12 27.9	31 72.1	43 10.8
65 +		13 12.1	94 87.9	107 26.8
	Column Total	182 45.6	217 54.4	399 100.0

Table 2-9 shows the users' age by income, which again shows clearly that many of the older users of the bus have very low incomes. Over half of the riders this age had yearly household incomes below $10,000, with 25 percent of those in this age group not responding. Only 3.7 percent of those over age 65 had incomes over $20,000 per year.

The ability to make today's trip without the bus service is broken down by age in Table 2-10. The percentage of those not able to make the trip is fairly consistent (50-60 percent) up to age 54, but rises to about 75 percent from age 55 on up, despite the fact that most of the older riders have at least one car available in their household.

It is interesting to compare a couple of these demographic characteristics of the bus users with those of the residents of the study area in general. In the 13 county area from Norfolk to Chadron and on north to the South Dakota line which this bus serves, the elderly average 14.4 percent of the population, whereas the elderly make up 24.6 percent of the bus ridership. Also, on average seven percent of the households have no car, compared to 15.8 percent of the bus users' households. The median household income of bus riders responding to the income question was approximately $17,500. This is significantly lower than the median income for the counties on the bus route, which averaged $22,400.[1]

Social Service Agency Interviews

The on-board survey was supplemented with interviews of social service agencies along the Black Hills Stage Line to determine the extent of use of the bus line by agency clients. The results are detailed in Appendix D. The interviews revealed that relatively few bus tickets are purchased directly by social service agencies for their clients, although an unknown number of clients do use the bus on their own initiative. However, the Department of Social Services' North Central District relies on the bus for transportation of state wards, purchasing tickets for them to see their parents up to once a month with Family Preservation funds. The Northeast District purchases tickets

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[1]Derived from FY 1987 Median Family Income data, Nebraska Department of Economic Development. Study area county median incomes ranged from $18,700 in Antelope and Brown counties to $28,200 in Madison County.

Table 2-9
CROSSTABULATION OF AGE BY INCOME

INCOME-> / AGE	Count / Row Pct	UNDER $5,000	$5,000-9,999	$10,000 14,999	$15,000-19,999	$20,000-24,999	Row Total
17 AND UNDER		3	3	2	3	5	47
		6.4	6.4	4.3	6.4	10.6	11.8
18-24		18	14	15	13	13	120
		15.0	11.7	12.5	10.8	10.8	30.1
25-44		16	13	3	8	4	61
		26.2	21.3	4.9	13.1	6.6	15.3
45-54		3	2	1	1	1	19
		15.8	10.5	5.3	5.3	5.3	4.8
55-64		7	6	4	8	2	43
		16.3	14.0	9.3	18.6	4.7	10.8
65 +		26	34	10	8	1	107
		24.3	31.8	9.3	7.5	.9	26.8
(Continued)	Column Total	74	73	35	41	26	399
		18.5	18.3	8.8	10.3	6.5	100.0

INCOME-> / AGE	Count / Row Pct	$25,000-29,999	$30,000-34-999	NO RESPONSE	Row Total
17 AND UNDER		3	8	20	47
		6.4	17.0	42.6	11.8
18-24		5	10	32	120
		4.2	8.3	26.7	30.1
25-44		3	6	8	61
		4.9	9.8	13.1	15.3
45-54		3	5	3	19
		15.8	26.3	15.8	4.8
55-64		2	4	10	43
		4.7	9.3	23.3	10.8
65 +		2	1	25	107
		1.9	.9	23.4	26.8
	Column Total	18	34	98	399
		4.5	8.5	24.6	100.0

Table 2-10
CROSSTABULATION OF AGE BY NO BUS TODAY

NOBUSTOD-> AGE	Count / Row Pct	NOT MAKE TRIP	YES-NO MODE	NO RESPONSE	DRIVE MYSELF	Row Total
17 AND UNDER		28	1	6	1	47
		59.6	2.1	12.8	2.1	11.8
18-24		75	1	20	6	120
		62.5	.8	16.7	5.0	30.1
25-44		35	2	3	6	61
		57.4	3.3	4.9	9.8	15.3
45-54		10		2	1	19
		52.6		10.5	5.3	4.8
55-64		31		3	4	43
		72.1		7.0	9.3	10.8
65 +		83	1	9	6	107
		77.6	.9	8.4	5.6	26.8
(Continued)	Column Total	264	5	43	24	399
		66.2	1.3	10.8	6.0	100.0

NOBUSTOD-> AGE	Count / Row Pct	RIDE W/ SOMEONE	SPEC. VAN/BUS	AIRPLANE	OTHER MODE	Row Total
17 AND UNDER		8		2	1	47
		17.0		4.3	2.1	11.8
18-24		6	2	6	4	120
		5.0	1.7	5.0	3.3	30.1
25-44		6	2	5	2	61
		9.8	3.3	8.2	3.3	15.3
45-54		3	1	1	1	19
		15.8	5.3	5.3	5.3	4.8
55-64		3		1	1	43
		7.0		2.3	2.3	10.8
65 +		3	1	2	1	107
		2.8	.9	1.9	.9	26.8
	Column Total	29	6	17	10	399
		7.3	1.5	4.3	2.5	100.0

fewer than ten times per month. In the absence of the bus line, the agency could probably maintain this service but at significant inconvenience, possibly having to contract with private individuals to provide transportation.

Telephone interviews were conducted with ten county offices of the Nebraska Department of Veterans' Affairs. Only two regularly purchase bus tickets for veterans' medical travel: Cherry County, with an average of about six per month (and occasionally as many as 15) and Sheridan County with three a month. The Cherry County officer stated that they use the bus line as often as they can and consider it "an important part of their scenario." Without the bus line, they would have to hire private transportation and risk incurring insurance liabilities. However, most of the county offices had purchased tickets less than once a month in the past year, and four had no recollection of ever having purchased tickets for veterans on Arrow Stage Lines. Several veterans' officers indicated that their facilities are too far from the bus line to permit convenient access or that the bus schedule does not permit veterans to check in as early as they need to at the VA hospital.

Package Express Study

Since bus package express shipments often provide significant bus revenues and can be important to rural businesses, the needs analysis included a shipper survey and a comparison of bus package express with other express freight services. The bus package express study started with the contact of 137 shippers. Shippers were identified from

1) the list of credit account holders with the bus line, and
2) an examination of last year's shipping bills.

The survey form is included in Appendix E. Fourteen responses were received from account holders and 24 from the general shippers. The account holders use the bus package express service primarily for outgoing packages while the majority of general shippers responding to our survey had incoming shipments.

The majority of packages traveled from one location along this bus route to another. Table 2-11 shows how often each city was mentioned as a shipping or destination point. Omaha was the most frequently mentioned with Norfolk and Neligh also frequently mentioned. Since the survey did not cover all

Table 2-11

SHIPPING/DESTINATION POINTS

City	Number of Times Mentioned as a Shipping/Destination Point
Omaha, NE	26
Norfolk	9
Rapid City, SD	7
Neligh	5
O'Neill	3
Lincoln	3
Sioux City, SD	4
Valentine	3
Ainsworth	2
Stuart	1
Freemont	1
Atkinson	1
Gordon	1

Source: Survey conducted by Ecosometrics, Inc., 1987.

shipments, this list of cities is incomplete. Only three of the shippers mentioned receiving or sending items to places off the bus line. Norfolk, Neligh, O'Neill, and Valentine were mentioned most often as shipping points.

The shippers who responded to our study shipped parts, blood, flowers, newspapers, veterinary supplies, and company paperwork. The majority of shipments were to transport parts. However, large shipments that paid substantial amounts included the shipment of the Norfolk Daily News and the shipment of blood. Because of the importance of blood and medical supplies, their shipment will be discussed in a following paragraph.

Almost all shipments were between locations on the Black Hills/Arrow Stage Line between Rapid City and Norfolk. Many of the shipments were for the small communities between Atkinson and Chadron. This is because other package express services do not give next day service to or will not deliver at all to areas west of Ainsworth. The bus package express is the most consistent and speedy way to receive packages in the Chadron to Ainsworth corridor.

Neither national nor regional alternative carriers offer as speedy a shipment as the bus. The bus can get a package between two points on the route within 24 hours. Federal Express gives priority (24 hour) service only as far west as Neligh. Both Federal Express and Northern Air Freight offer second day service between Chadron and Atkinson. Other national firms such as Purolator will guarantee three or four days delivery time. Regional firms such as Pony Express and Bluff Transfer do not serve all the bus route communities. Pony Express offers overnight service from Omaha to communities as far west as Atkinson. Bluff Transfer out of Scotts Bluff covers the area west of Valentine and offers one or two day service. However, Bluff Transfer only accepts shipments on a per shipment basis depending on the amount of shipments going in the chosen direction.

UPS is the major competitor with the bus line package express. UPS offers standard ground service for the bus route counties. Most packages travel among the communities between Omaha and Chadron within 48 hours. UPS attracts many clients who want quick service but are not willing to pay the bus tariffs. UPS provides door to door service which the bus does not. Sample package express costs and delivery times are provided in Table 2-12.

Table 2-12
SAMPLE PACKAGE EXPRESS COSTS AND TIMES BY CARRIER, 1987

	Bus	UPS	Pony Express	Federal Express
Omaha to Ainsworth				
Time:	Within 24 hours	At least 2 days	Overnight	2 days
Weight:				
1 lbs	$ 8.00	$1.32	$ 6.75	$ 11.50
25 lbs	17.50	4.28	9.39	35.50
70 lbs	39.60	5.61	14.34	67.50
80 lbs	39.60	na	15.55	75.00
100 lbs	39.60	na	na	90.00
150 lbs	59.40	na	na	135.00
200 lbs	79.20	na	na	na
Omaha to Chadron				
Time:	Within 24 hours	At least 2 days	Overnight	2 days
Weight:				
1 lbs	$ 8.00	$1.32	na	$ 11.50
25 lbs	17.50	4.28	na	35.50
70 lbs	39.60	5.61	na	67.50
80 lbs	39.60	na	na	75.00
100 lbs	39.60	na	na	90.00
150 lbs	59.40	na	na	135.00
200 lbs	79.20	na	na	na
Limits Per Package				
Weight:	Discretionary	70 lbs	80 lbs	150 lbs
Girth[1]:	Bus Cargo Area	108 inches	120 inches	130 inches

[1] Girth = 2xheight + 2xlength.

Blood and Medical Shipments

Blood and medical supplies for the bus route area come from both Rapid City and Omaha. The United Blood Service (UBS) in Rapid City supplies hospitals as far east as Bassett. The UBS ships most of their blood on the intercity bus and uses the bus package express service as a regular delivery service. The Red Cross covers hospitals east of Bassett. The Red Cross has their own weekly delivery service for blood supplies but uses the bus package express service as often as four times a week to meet unexpected demand for blood. The alternative to the bus service for hospitals supplied by the Red Cross is more frequent courier service. The alternative for the hospitals who use UBS is the United States Postal Service. Only the Postal Service will deliver blood since most private carriers will not insure or carry blood. The Postal Service in most cases can get blood to the hospitals within one or two days before it spoils. However, for the Bassett Hospital to receive blood from UBS, the blood would take three or four days to travel there and will spoil. The long time for mail to reach Bassett is due to the routing of the mail. Bassett receives mail that passes through Sioux City, SD and then Norfolk, NE while areas west of Bassett receive mail directly from Rapid City. Presently, with no bus service during weekends, hospitals with emergency needs for blood must declare a state of emergency to use state troopers to deliver blood. For the blood supply Black Hills/Arrow Stage Lines Package Express delivers a valuable service.

ESTIMATES OF LATENT DEMAND

A final task in the needs assessment was to estimate the latent demand for service, or the level of unmet demand that can be inferred from experience in other locations. This was done by applying a predictive model of intercity bus service demand that has been used in several other areas of the United States. The model predicts the number of passenger boardings per month on a given route based on the number of round trips offered weekly, the fare per mile, and the total population along the route. The model and computational process are described in Appendix F. The number of passenger boardings predicted by the model is lower than actual experience (270 per month compared to an estimated

440 per month on the Rapid City to Norfolk portion of the route). Based on this result, the issue of latent demand was considered relatively insignificant for this study, with the exception of two special types of intercity trip generators: universities and Native American reservations. These special trip generators are discussed in the following section.

Colleges and Universities

In some parts of the country, college and university students form a significant bus market for weekend and vacation travel to their home towns. The size of this market is affected by several factors including the distance between homes and schools, student automobile availability and the convenience of the bus schedule for this type of trip. A study of college student travel in Michigan found a home to school distance of 150 miles to be the upper threshold for regular weekend travel.[2] In general, to attract college students to the bus mode, carriers must offer Friday afternoon departures from or near the campus in the homebound direction, and provide return trips on Sundays. Since the Black Hills schedule does not currently accommodate this trip pattern, a survey of student residences by county and school was conducted to determine whether establishing a weekend-oriented schedule would be a useful marketing strategy for the line.

Figure 2-1 shows the location of the 13 schools surveyed. The information was obtained from registration statistics and tabulated by the relevant county groupings. Table 2-13 provides student residences by county and school for those students living in the Norfolk-Chadron study area and attending schools either within the study area, elsewhere on the Black Hills system or on other intercity bus routes. Table 2-14 provides the same information for those with homes outside the immediate study area who attend schools on the Black Hills system.

As can be seen, the largest concentration of students for whom the intercity bus represents a realistic choice for weekend travel are those living in the study area and attending school in the Lincoln area. According to the

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[2]Michigan Department of Transportation, Michigan University /College Student Home Location Study, September 1986

Figure 2-1

SPECIAL TRIP GENERATORS

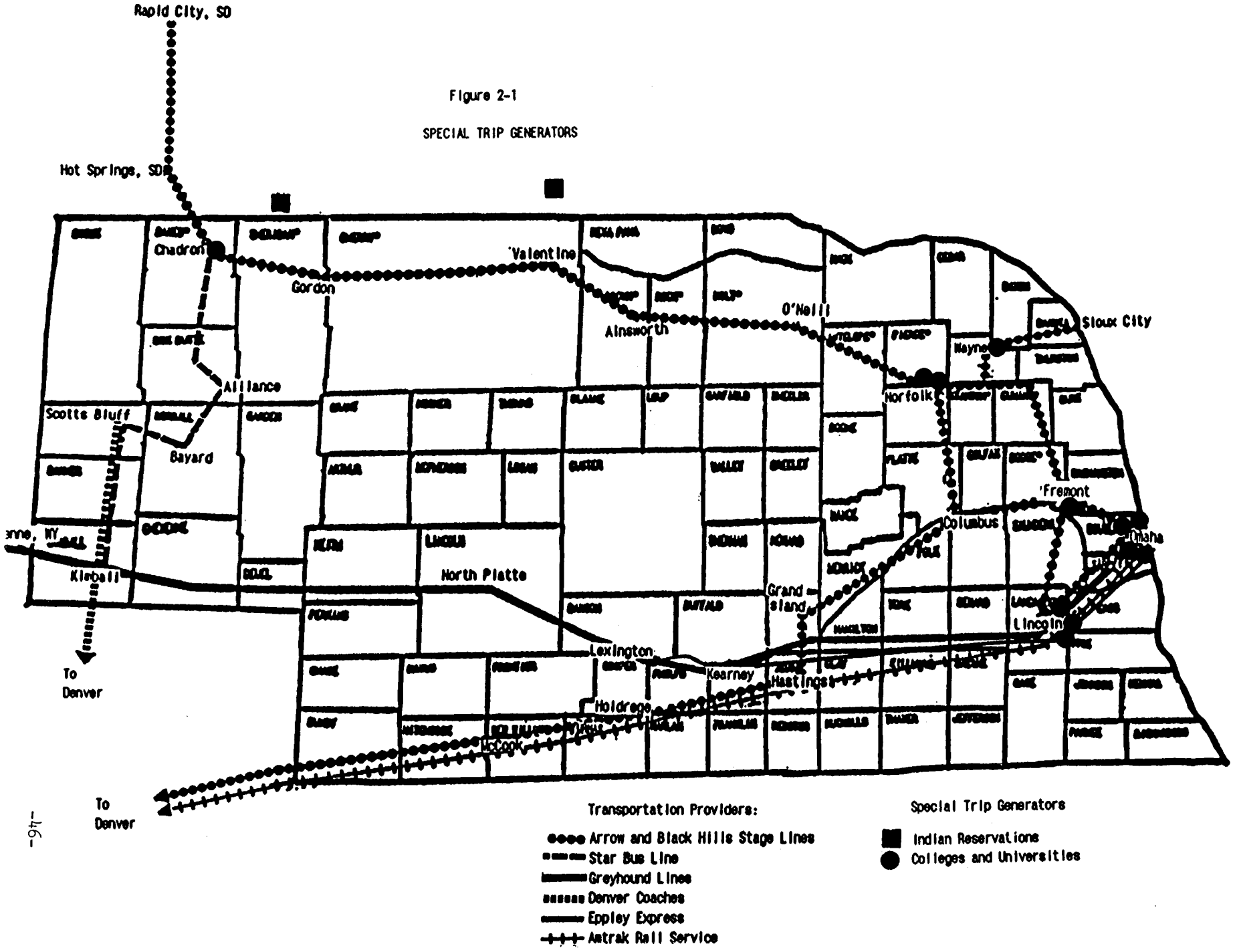

Table 2-13
STUDENT RESIDENCES BY SCHOOL, NORFOLK-CHADRON REGION

	School Location/School:									
	Dawes County	Norfolk		Wayne County	Fremont	Omaha		Lincoln		
County of Residence:	CHAD	NCC	NTCC	WAYNE	MIDL	UNO	CREI	UNL	SCCL	NWU
Dawes	505		1				12	28		3
Box Butte	198		10	1		4	4	75		1
Sheridan	172		20	2			4	40		
Cherry	46		4	4			8	40	4	5
Brown	31		32	1				45	2	2
Rock	9		19	8		4	4	24	2	
Holt	14	2	137	53	8		20	113	8	6
Antelope*	3	3	85	53	1		4	71	5	7
Madison	11	26	790	218	10	8	4	291	18	29

School Abbreviations:

CHAD Chadron State College
CREI Creighton University
MIDL Midland Lutheran College
NCC Nebraska Christian College
NTCC Northeast Nebraska Technical Community College
NWU Nebraska Wesleyan University
SCCL Southeast Community College - Lincoln
UNL University of Nebraska-Lincoln
UNO University of Nebraska-Omaha
WAYNE Wayne State College

Note: figures for University of Nebraska-Omaha and Creighton College were estimated from freshman data.

Table 2-14
STUDENT RESIDENCES BY SCHOOL, NON-REGION RESIDENTS

	School Location/School:											
	Dawes County	Norfolk		Wayne County	Fremont	Omaha				Lincoln		
Home County:	CHAD	NCC	NTCC	WAYNE	MIDL	MTCC	UNO	CSM	CREI	UNL	SCCL	NWU
Pierce			101	86	6				4	41		5
Stanton			92	22	1					35	2	2
Wayne	4		62	224	5					63	5	7
Dixon	4		54	108	4		8	4		66	1	10
Dakota			22	146	4		4			108	4	5
Platte	3	4	78	60	14		24	20	28	332	17	15
Colfax	5		16	44	10			8	12	140	6	20
Dodge	3		25	90	197	702	40	4	12	392	19	31
Butler	2		16	28	5			8	12	142	21	7
Saunders	2	2	8	16	22	124	16	36	8	316	65	18
Douglas	10	12	19	219	93	10180	9980	584	1724	3363	8	98
Lancaster*	3	2	6	16	5	48	76	80	56	6800	2969	528
Cass	2		2	19	7	186	68	24	16	239	70	16
Sarpy	3	1	4	37	8	2332	796	180	180	603	1	12

School Abbreviations:

CHAD	Chadron State College
CREI	Creighton University
CSM	College of Saint Mary
MIDL	Midland Lutheran College
MTCC	Metropolitan Technical Community College
NCC	Nebraska Christian College
NTCC	Northeast Nebraska Technical Community College
NWU	Nebraska Wesleyan University
SCCL	Southeast Community College - Lincoln
UNL	University of Nebraska-Lincoln
UNO	University of Nebraska-Omaha
WAYNE	Wayne State College

Note: figures for four schools were estimated from freshman data: Union College, University of Nebraska-Omaha, Creighton and College of Saint Mary.

*An additional 84 Lancaster County residents attend Union College in Lincoln.

survey, this group includes a total of 819 students. If we assume that each student returns home once a month, an average of 205 students would travel on any given weekend. Assuming further that with a college-oriented schedule, the bus mode could attract ten percent of these trips, this would result in approximately 20 round trips per weekend.

Native American Reservations

Native American reservations represent another type of special generator. The Santee, Winnebago, and Omaha reservations in northeast Nebraska do not appear relevant to this study since Santee is too far north of Route 20 and Winnebago and Omaha are east of Norfolk. However, there are two South Dakota reservations along the Nebraska border that are closer to the Black Hills Stage Line: Rosebud and Pine Ridge. Each reservation was contacted to determine the level of interest in intercity bus connections within Nebraska.

Rosebud Indian Reservation covers Todd County in South Dakota and borders Cherry County in Nebraska. The major population center is approximately 30 miles from Valentine. The population includes approximately 18,000 persons living in ten communities.

There is an UMTA Section 18 operation based at the reservation which provides over 200 daily trips in ten vehicles. The service sometimes crosses the state line to provide medical trips into Valentine. According to the operator, Valentine is an important shopping and service destination for Rosebud residents. The majority use their own vehicles, however. The round trip fare to Valentine is $19.00. The operator indicated that a major problem is "educating" the passengers to the necessity of fares for service as opposed to free service. The operator thinks those without personal transportation would be interested in more service to Valentine, but would not tend to travel further into Nebraska and thus few would be likely to transfer to the intercity bus.

Pine Ridge Indian Reservation is located in Shannon County, approximately 50 miles from Chadron. The overall population is approximately 18,000, of whom 6,000 live in four separate housing areas at the Pine Ridge center. The reservation maintains a transportation office which is currently completing a transportation needs study. The study, which will be available shortly,

addresses regional travel needs including the level of interest in travel to towns in the Nebraska Panhandle area. Reservation staff are now conferring with Nebraska town officials on the possibility of regional van or minibus services. In addition to Chadron and Rapid City, the transportation office indicated that residents do have an interest in travel to Scotts Bluff, now served by Star Bus Lines from Chadron. While there is no general public transportation system, the Public Health Service and several other social service providers make daily trips into Chadron. Approximately one person per day takes Star Bus from Chadron to Omaha or Lincoln (via a Greyhound connection at Kimball), primarily for medical trips. The Black Hills line is reportedly not used much due to the inconvenient departure time.

CONCLUSIONS

The results presented in this chapter document a continuing need for intercity bus service in this region. Although ridership has declined, population analysis provides evidence that the specific areas with the greatest transportation needs remain clustered along the bus line. This suggests that the elimination of the current route would impose hardships on many persons without alternative means of travel. This conclusion was confirmed by the on-board survey which revealed that half of the riders had no vehicle available for their trip and two-thirds would not have been able to make the trip without the bus. The passengers' median income is significantly below overall figures for the study area; over one-third had household incomes under $10,000 per year. One in five passengers uses the bus to get to work, school, or Job Corps; for many more, it is the only way to visit family members living in other parts of the state.

The bus is also an important resource for overnight deliveries west of Ainsworth and for emergency blood shipments to area hospitals. Other package express services do not give next day service to or will not deliver at all to areas west of Ainsworth. Several social service agencies also rely on the bus service for client transportation, including the Department of Social Services and the Cherry County office of the Nebraska Department of Veterans' Affairs.

In contrast to studies performed in other states, the Black Hills line serves a significant proportion of passengers transferring from other bus routes or airlines (19%). This shows the additional importance of maintaining convenient schedule connections on this route.

3

SERVICE OPTIONS FOR OMAHA-RAPID CITY BUS SERVICE

In developing service options for the intercity service between Omaha, Nebraska, and Rapid City, South Dakota, the study team has attempted to include all feasible service alternatives that would provide service to residents of northwestern Nebraska.

Because the needs assessment and the analysis of demand both indicate that the latent ridership is limited, most of the service options focus on reducing the costs of providing the service. Methods of reducing the cost of the service include reducing frequencies to less than daily, reducing bus-miles operated by turning the bus back short of Rapid City, and using smaller vehicles. Another option is the use of an alternative type of operation, possibly by another provider, that is more like airport limousine service--advance reservations, smaller vehicles, no agents, no interlining -- such as the service operated by Denver Coaches from Scotts Bluff to Denver. Finally, the cost savings of discontinuing the service from Norfolk to Rapid City, as proposed by Black Hills Stage Lines, are evaluated.

In terms of options that would increase ridership or package express usage, the major possibilities are to try to attract college and university student ridership, which is low compared to intercity bus services elsewhere, or to work with the state and communities in a concentrated effort to increase

usage. The best example of this latter option is the Jefferson Lines' Community Awareness Program, which will be described in additional detail in this chapter. Given the current service pattern, virtually any attempt to attract additional revenue by changing the schedule would increase expenses disproportionately to the amount of potential new revenue.

Two options not included involve the use of local rural public transportation systems. One such option would involve allowing the discontinuance of the intercity service while providing funding for local Section 18 services in the counties along the route. Four of the counties now have such services. The Advisory Committee directed that the all-local public transportation option not be a focus of the study, as it would address a different set of trip types and needs from those served by the intercity service which links the region to the major cities outside the area. It was felt that the first priority would be to preserve the intercity linkage, and if successful, fully develop the local services in counties along the route. A second option receiving much publicity around the country involves using such local human service and general public systems to link rural areas to remaining viable privately-operated intercity bus services. Greyhound and Trailways are initiating a program to create a rural feeder linkage, and Jefferson Lines has done some similar things in the recent past. This option was not considered as an alternative to intercity bus service in northern Nebraska because only four of the 13 counties currently have any local service, and because the nearest remaining intercity corridors (should Black Hills Stage discontinue service on this route) are the Greyhound service on I-80, which is 125-150 miles to the south, and the Jack Rabbit services on I-90, a similar distance to the north of the Black Hills route. A local operator would face a 250 to 300 mile round-trip to connect with the nearest intercity routes, making the cost of connecting service way out of proportion to the likely ridership from a single county. Options using vans to replace intercity coaches were included, as will be seen in this chapter.

Finally, the current service pattern is included as a service option, both for comparison purposes, and because the current level of service is regarded by the Advisory Committee as the bare minimum.

OVERVIEW OF OPTIONS

The service options to be examined are briefly described in the following section. Several of the alternatives call for the same service pattern, but using different size vehicles, and for the sake of simplicity these variations are designated as sub-options, since only the cost per mile is affected by the use of the different vehicles. For comparison, the first option is the existing service, and the last option is discontinuation of the service west of Norfolk, as requested by Black Hills Stage Lines.

Option 1: Continue Existing Service Pattern: This option calls for continued operation of service from Omaha to Rapid City five days per week, with westbound service during the day and eastbound by night, permitting residents of western Nebraska to arrive in Omaha in the late morning. It has two sub-options:

a) Existing Service Using Intercity Coaches: This is the service as currently provided, using 40 foot intercity coaches seating 43-47 passengers, restroom equipped, with large baggage and express bins located below the passenger level.

b) Existing Service Using Smaller Vehicles: Use smaller vehicles to reduce costs, perhaps 16-seat vans, or 25-seat diesel body-on-chassis conversions equipped for intercity type usage (large baggage compartment, reclining seats, tag axle, air-conditioning).

Option 2: Reduce Frequency: Reduce the bus-miles operated west of Norfolk by reducing frequency to three times per week, as the carrier has already done for its Sioux City route, which operates on Mondays, Wednesdays and Fridays only. This also could have two sub-options, depending on the size of the vehicle:

a) Use Intercity Coaches on Reduced Frequency Schedules: This involves using the current large buses on a three-day per week schedule over the entire route.

b) Smaller Vehicles and Reduced Frequency: This combines two options in an attempt to take advantage of all possible cost savings.

Option 3: Turnback Service at Valentine: This option would reduce bus-miles by changing the end of the route to Valentine, where there is currently a driver change. There are several sub-options for this service alternative. If the bus were to return from Valentine to Omaha at night, arriving early in the morning, it would require only one bus and two drivers to operate a round-trip. If the bus were to return the next day, two drivers and two buses could provide

the service, which would all be in daylight hours. Both options could be operated with smaller vehicles as well, resulting in additional cost savings.

a) Turnback at Valentine with Night Return to Omaha: This includes alternatives:
   1) Using Coaches, and
   2) Using Vans.

b) Turnback at Valentine with Daylight Return to Omaha: This sub-option includes alternatives:
   1) Using Coaches, and
   2) Using Vans.

Option 4: Add Weekend Schedules to Serve University/College Students: This would involve shifting some of the weekly bus miles to a weekend schedule leaving Lincoln on Friday afternoons and going no further west than Chadron. A Sunday afternoon/evening return trip to Lincoln would need to be operated as well.

Option 5: Change Service Type/Provider to Airport Limousine-Type: This option calls for a complete change in the service type to one that is more like airport limousine service. It would operate without agencies, on an advance reservation basis, using conventional vans, connecting to both bus stations and airports on either end. Examples in Nebraska include Eppley Express between Kearny and Omaha, and Denver Coaches between Scotts Bluff and Denver.

Option 6: Permit Discontinuance of Service West of Norfolk: Use the remainder of UMTA 4(i) money to continue running service until funds are exhausted. During this period current users can find alternatives, if possible, such as other package delivery services, carpools, etc. After the funding ends, Black Hills Stage Lines would be allowed to discontinue the service.

DESCRIPTION OF THE SERVICE OPTIONS

Table 3-1 presents a comparative overview of each of the service options, including information on the type of service, type of operation, service characteristics (schedule, frequency, etc.). Also listed are the number and type of vehicles required for the service.

Table 3-2 presents additional information about each of the service options, including the number of vehicle-miles operated per year, the estimated cost per vehicle-mile, the estimated total cost, the estimated passenger revenue per mile, the estimated package express revenue per mile, the estimated

Table 3-1: DESCRIPTION OF SERVICE OPTIONS

OPTION NAME	SCHEDULE	FREQUENCY	TICKETS/INFO.	VEHICLES
1 a)Existing Service Using Coaches	Lv. Omaha 8:30 a.m. Arr. Rapid City 8:30 p.m. Lv. Rapid City 9:45 p.m. Arr. Omaha 11:50 a.m.	Five Days/Week Monday-Friday	No Reservation, Tickets/Info. from Agents	2 Intercity Coaches 43-47 passenger w/restroom
1 b)Existing Service Using Smaller Buses or Vans	Lv. Omaha 8:30 a.m. Arr. Rapid City 8:30 p.m. Lv. Rapid City 9:45 p.m. Arr. Omaha 11:50 a.m.	Five Days/Week Monday-Friday	No Reservation, Tickets/Info. from Agents	3 Vans or Small Buses 16-25 Passenger w/restroom
2 a)Reduced Frequency Using Coaches	Lv. Omaha 8:30 a.m. Arr. Rapid City 8:30 p.m. Lv. Rapid City 9:45 p.m. Arr. Omaha 11:50 a.m.	Three Days/Week M-W-F	No Reservation, Tickets/Info. from Agents	2 Intercity Coaches 43-47 passenger w/restroom
2 b)Reduced Frequency Using Smaller Buses or Vans	Lv. Omaha 8:30 a.m. Arr. Rapid City 8:30 p.m. Lv. Rapid City 9:45 p.m. Arr. Omaha 11:50 a.m.	Three Days/Week M-W-F	No Reservation, Tickets/Info. from Agents	3 Vans or Small Buses 16-25 Passenger w/restroom
3 a)1)Turnback at Valentine-- Night Return Using Coaches	Lv. Omaha 8:30 a.m. Arr. Valentine 4:30 p.m. Lv. Valentine 10:45 p.m. Arr. Omaha 6:45 a.m.	Five Days/Week Monday-Friday	No Reservation, Tickets/Info. from Agents	1 Intercity Coach 43-47 passenger w/restroom
3 a)2)Turnback at Valentine-- Night Return Using Vans	Lv. Omaha 8:30 a.m. Arr. Valentine 4:30 p.m. Lv. Valentine 10:45 p.m. Arr. Omaha 6:45 a.m.	Five Days/Week Monday-Friday	No Reservation, Tickets/Info. from Agents	1 Van or Small Bus 16-25 Passenger w/restroom
3 b)1)Turnback at Valentine-- Daylight Return Using Coaches	Lv. Omaha 8:30 a.m. Arr. Valentine 4:30 p.m. Lv. Valentine 8:30 a.m. Arr. Omaha 4:30 p.m.	Five Days/Week Monday-Friday	No Reservation, Tickets/Info. from Agents	2 Intercity Coaches 43-47 passenger w/restroom
3 b)2)Turnback at Valentine-- Daylight Return Using Vans	Lv. Omaha 8:30 a.m. Arr. Valentine 4:30 p.m. Lv. Valentine 8:30 a.m. Arr. Omaha 4:30 p.m.	Five Days/Week Monday-Friday	No Reservation, Tickets/Info. from Agents	2 Vans or Small Buses 16-25 Passenger w/restroom
4 Weekend Service from Lincoln to Chadron	Lv. Lincoln at Noon Arr. Chadron 12:05 a.m. Lv. Chadron at Noon Arr. Lincoln 12:05 a.m.	Friday Westbd. Sunday Eastbd.	No Reservation Tickets/Info. from Agents	1 Intercity Coach 43-47 passenger w/restroom
5 Limousine-Type Service	Lv. Omaha 8:30 a.m. Arr. Rapid City 8:30 p.m. Lv. Rapid City 9:45 p.m. Arr. Omaha 11:50 a.m.	Seven Days/Week	24-Hour Advance Reservation, No Agents, Driver Tickets/Phone Inf.	3 Vans or Small Buses 16-25 Passenger w/restroom
5 Discontinue Service West of Norfolk	Lv. Norfolk 8:30 a.m. Arrive Omaha 11:45 a.m. Lv. Omaha 1:15 p.m. Arrive Norfolk 4:30 p.m.	Five Days/Week	No Reservation Tickets/Info. from Agents	1 Intercity Coach 43-47 Passenger w/restroom

Table 3-2: Service Option Revenue and Cost Estimates

Option Name	Annual Vehicle Miles	Cost Per Vehicle Mile	Estimated Total Cost	Estimated Passenger Revenue Per Mile	Estimated Package Express Revenue Per Mile	Estimated Total Revenue Per Mile	Estimated Total Revenue Formula: ((d+e)*b)	Annual Operating Profit
	a	b	a*b=c	d	e	d+e=f	=g	g-c
1 a)Existing Service Using Coaches	293280	1.521	446078.8	0.803	0.14	0.943	276563.0	-169515.
1 b)Existing Service Using Smaller Buses	293280	1.391	407952.4	0.803	0.14	0.943	276563.0	-131389.
2 a)Reduced Frequency Using Coaches	175968	1.521	267647.3	0.803	0	0.803	141302.3	-126345.
2 b)Reduced Frequency Using Smaller Buses	175968	1.391	244771.4	0.803	0	0.803	141302.3	-103469.
3 a.1)Turnback at Valentine, Night Return, Using Coaches	155480	1.521	236485.0	0.494	0.14	0.634	98574.32	-137910.
3 a.2)Turnback at Valentine, Night Return, Using Vans	155480	1.371	213163.0	0.494	0.14	0.634	98574.32	-114588.
3 b.1)Turnback at Valentine, Day Return, Using Coaches	155480	1.521	236485.0	0.55	0.14	0.69	107281.2	-129203.
3 b.2)Turnback at Valentine, Day Return, Using Vans	155480	1.371	213163.0	0.55	0.14	0.69	107281.2	-105881.
4 Weekend Service from Lincoln to Chadron	337272	1.521	512990.7	0.803	0.14	0.943	318047.4	-194943.
5 Limousine-Type Service Using Vans	293280	0.82	240489.6	0.7	0	0.7	205296	-35193.6
6 Discontinue Service West of Norfolk	62400	1.521	94910.4	0.803	0.14	0.943	58843.2	-36067.2

1 Total cost including commissions and reclaims, but no fee for profit or profit allowance. Based on Black Hills system-wide costs of $1.35/bus-mile +.171/mile reclaims and commissions expense = $1.521.

2 Passenger revenue per mile estimate from Black Hills Stage Lines study of Rapid City-Omaha Line 6/1/87-10/31/87, showing passenger revenue of $0.632/mile. After reclaims and commissions of $0.171/mile are added back in, gross revenue per mile is estimated to be $0.803.

3 Based on same revenue study as 2, but no separate reclaims or commissions are added back to Express revenue per mile of $0.14.

total revenue per mile, the estimated total revenue, and the resulting estimate of net profit or loss for that option.

The following sections discuss each service option in terms of the information contained in the tables, and present the advantages and disadvantages of each.

Option 1: The Existing Service

Sub-Option 1(a): Using Full-Size Intercity Coaches

This option would call for continuing to operate the current schedule, using large buses, on a continuing basis. The existing service is described in detail in Chapter 1, but basically it involves the use of three drivers and two buses to operate five days per week over the entire route. The bus leaves Omaha at 8:30 a.m. in the morning, travelling west. At Valentine, a second driver takes over the bus, and it continues west, arriving in Rapid City at 8:30 p.m. that night (Rocky Mountain time -- one hour earlier than Central). At 9:45 p.m. (Rocky Mountain) the bus leaves Rapid City, eastbound. Again at Valentine the original driver, now rested, takes over the bus and continues to an 11:50 a.m. (Central) arrival in Omaha. The buses are 40-foot intercity coaches, equipped with restrooms and large underfloor baggage bins (generally they are GM 4905 or MCI MC-9 intercity coaches).

This service option calls for retaining the existing schedule, for several reasons. One is the advice of the Advisory Committee, a number of whom live in the western portion of the route. They indicated that despite the inconvenient late night and early morning stops of the eastbound schedule, passengers on the western part of the route prefer the current schedule. They value the ability to board the bus, get some sleep, and arrive in Omaha at noon, with both good Greyhound connections and the opportunity to do something during the remaining afternoon business hours. This was generally supported by comments in the user survey, and in the site visits. Secondly, the current schedule accommodates newspaper delivery from Norfolk to points west all the way to Valentine. Subscribers get the current day's newspaper, which is put aboard the bus in Norfolk at 11:45 a.m. Changing the westbound schedule would force the newspaper to find other arrangements, eliminating the largest freight customer.

Finally, users along the route are accustomed to the current schedule, and a major change might result in the loss of current users, at least until they could be re-educated about the new schedule. A daytime eastbound schedule was once operated, but was discontinued years ago to reduce costs.

Advantages: The service is continued to serve current users and provide mobility options for potential users.

Disadvantages: Using current ridership, and the current operating agreement format, this could require $210,281 in annual operating subsidies for service from Omaha to Rapid City. The entire route is recommended for such funding because much of the revenue is between Omaha and Norfolk, and the cost per trip is likely to be very high if only the revenue west of Norfolk is included. In addition, the current schedule results in some passengers being forced to wait for buses at closed agencies in the early hours of the morning, and persons connecting with other services in Rapid City must spend the night awaiting the next outbound buses in the morning.

Sub-Option 1(b): Existing Schedule Using Smaller Vehicles

This is essentially a service design option intended to reflect the relatively low ridership west of Norfolk. Table 3-3 is an origin-destination matrix showing the numbers of persons travelling between major stops. Only those passengers with some portion of their trip west of Norfolk are included, and the numbers are from five weeks of on-board surveying. As can be seen, the numbers of persons boarding and alighting in Norfolk or points west is small, leading both some users and observers to suggest that perhaps the use of smaller vehicles would reduce operating costs sufficiently to permit continued private operation, or perhaps permit minimal subsidies while still accommodating existing demand.

Advantages: The use of vans, or 20-25 seat body-on-chassis conversions, would reduce the depreciation charged to the service and the direct fuel expense. These savings, however, would be limited as the high annual mileage on the route would result in frequent vehicle replacement. Currently Arrow charges Black Hills $0.24/mile in equipment depreciation for using the large buses. Because it would require the purchase of two vans per year, at about $20,000 each, use of 15-passenger vans would still require a capital cost of

Table 3-3

BLACK HILLS/ARROW STAGE LINES: CITY OF BOARDING OF ALIGHTING FOR ALL USER SURVEY RESPONDENTS
(INCLUDES ONLY PASSENGERS WHOSE RIDE WAS ENTIRELY OR PARTIALLY WEST OF NORFOLK, NEBRASKA)

To → From ↓	NEC	Ainsworth	Bassett	Chadron	Fremont	Gordon	Hot Springs (S.D.)	Lincoln	Neligh	Norfolk	O'Neill	Omaha	Rapid City (S.D.)	Rushville	Valentine	Other Places	Total
NEC	3	0	0	1	0	0	1	0	0	0	0	2	1	0	1	0	9
Ainsworth	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
Bassett	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	4
Chadron	1	0	1	0	4	0	0	3	0	1	0	16	4	0	2	6	38
Fremont	0	3	0	7	0	1	0	0	0	0	0	0	1	0	3	1	16
Gordon	1	0	0	1	2	0	0	1	0	1	0	6	2	0	0	0	14
Hot Springs (S.D.)	1	0	0	0	1	0	0	0	0	0	0	7	1	0	1	0	11
Lincoln	0	0	0	4	0	0	1	0	0	0	3	0	0	0	2	0	10
Neligh	0	0	0	1	2	0	0	0	0	2	0	2	0	0	0	0	7
Norfolk	0	2	0	2	0	1	2	0	0	0	0	0	5	4	1	5	22
O'Neill	1	1	1	4	2	0	0	0	0	3	0	11	1	1	1	1	27
Omaha	2	2	2	20	0	11	10	0	3	0	14	0	14	0	14	8	100
Rapid City (S.D.)	0	0	0	0	1	2	8	2	1	5	0	40	0	0	1	4	64
Rushville	1	0	0	0	0	0	0	1	0	4	0	5	0	0	0	0	11
Valentine	1	0	0	0	1	0	4	5	0	2	0	9	3	0	0	4	29
Other Places	0	0	0	0	1	1	1	6	0	5	0	13	1	1	0	29	
Total	11	8	4	41	14	16	27	18	4	23	17	118	33	6	26		395

$0.135 per mile. Fuel savings might amount to about $0.04 per mile, for a net savings of about $0.145 per mile. Based on current charges of $1.35 per mile, this would lower the annual operating cost about 8.7 percent.

Use of larger, heavier duty vehicles with intercity-type seating and sufficient baggage space would not change the cost savings very much, as the increased cost of the vehicles ($60,000-$70,000 each, depending on options) is partially offset by increased usable life. If that is estimated to be 400,000 miles per vehicle, the capital cost per mile would still be based on annual costs for vehicle replacement of $45,000 per year, or $0.1534 per mile, a savings of about 6.4 percent or $0.0866. With fuel savings of $0.04 per mile, the combined reduction in cost per mile would be about $0.1266. This option is included in the table, and it results in a cost savings of $38,127, which is not enough to affect the viability of the route as an unsubsidized operation.

The primary reasons savings are so low is that driver costs, overhead, and traffic expenses are unaffected by the switch to smaller vehicles. Vehicle depreciation costs are only 18 percent of the fully-allocated operating costs in this case. In many cases the use of smaller buses or vans operated by private contractors for urban transit systems results in substantial savings even though vehicle capital costs are a similar percentage of operating costs. The real savings in those cases is the lower wage and benefit rates paid to the operators of such vehicles as compared to unionized urban transit drivers in major cities. Such circumstances do not apply in this case, as the drivers on this run are paid by the mile, between $0.15 and $0.18 per mile. This translates into about $6.75 per hour. The pay rate is very reasonable, and is the same for either a small or large vehicle. The other expenses are similarly unaffected by vehicle size.

Though new intercity coaches can cost $180,000 to $200,000, such vehicles typically have a million-mile life, with engine rebuilds every 300,000-500,000 miles. This long life in many ways compensates for the much higher initial purchase price, resulting in only marginal savings from the use of the smaller vehicle if labor costs are not affected by the vehicle size.

Disadvantages: The smaller vehicles result in a loss of comfort for passengers on the long-hauls typical of the route. Arrow Stage Lines does have some vans and 25-seat minibuses already, and has occasionally pressed them into service on this route when demand would allow and larger vehicles are not

available. Passengers have complained about the use of the small vehicles over the longer distance, primarily on comfort grounds. Without restrooms, more rest stops are required, which is another comfort consideration.

Package express and baggage space is more limited, though use of the larger small vehicle would allow a sizable baggage compartment. At peak travel times, additional vehicles would have to be scheduled to carry overloads (this is most likely if 15-passenger vans are used), offsetting predicted savings to some degree. Small vehicles also do not have the "presence" or image of a large bus. Also, from the perspective of a bus operator, they do not have the flexibility for rotation in a fleet that must handle large groups of charter or tour passengers. Finally, the bus company already has the required fleet of intercity coaches with which to operate the service, but new small vehicles would require additional capital funding.

Option 2: Reduce Frequency

Sub-Option 2(a): Reduced Frequency Using Full-Size Intercity Coaches

This option would continue the larger bus, the current schedule and operating mode, but would reduce service to three days per week, as the bus company has already done for the Sioux City-Norfolk route.

Advantages: A reduction in bus-miles should lead to a reduction in costs. Running three days per week should eliminate 40 percent of the miles, though this will not translate into a 40 percent cost reduction unless other work for the drivers and buses can be found on the other days (perhaps operating the Sioux City service?) Assuming it results in the full cost cost reduction of 40 percent, this might save $194,738 per year in operating costs.

Disadvantages: In theory, most passengers would still be able to use the service, as their non-business trip purposes would seem to allow re-scheduling to fit the available service. However, when Black Hills Stage Lines dropped weekend service in October of 1986, the resulting ridership loss equaled the number of weekend riders. The number of passengers per day stayed the same after the reduction in service as it was before, suggesting that few weekend passengers continued to use the bus by shifting their trips to Monday or Friday. For that reason, it is assumed in this case that passenger revenue per

day remains roughly the same, but declines in proportion to the reduction in service. Passenger revenue for this option is therefore 40 percent less than current levels.

A second major disadvantage is the loss of daily freight service, which eliminates the one major advantage of bus package express. It should be assumed that essentially all package express revenues would disappear, resulting in a revenue loss of about $50,000, plus a loss of benefits to the community that could reduce support for any needed funding efforts. Estimated total revenue for this sub-option would drop to 60 percent of the current passenger revenue level, for a net result of a continued annual loss of at least $150,804.

Sub-Option 2(b): Reduced Frequency Using Smaller Vehicles

This option would use the 20-25 passenger vehicle on three day a week service to capture operating cost savings and a reduction in bus-miles. Its advantages and disadvantages are much the same as the previous sub-option, except that the loss of package express space in the small vehicle is no longer a concern if package express usage is likely to be eliminated by loss of daily service. On three day a week service, the annual expense would be an estimated $265,712. If passenger revenues fall by the expected amount with the reduced frequency, to a level of about $141,302, the annual deficit would be about $124,409, so the service would still require outside funding. If ridership is unduly affected by the frequency reduction, or adverse publicity surrounding such changes, the deficit could be much higher.

Option 3: Terminate Service West of Valentine

Sub-Option 3(a)(1): Night Return Schedule, Using Intercity Coaches

This option is intended to reduce costs by eliminating service in South Dakota, and in those counties with very low ridership in the western part of Nebraska. Those counties also have some local public transportation available, and Chadron has one other intercity bus schedule (operated by Star Bus -- to connect with Greyhound at Kimball, Nebraska) and air service provided under the

Essential Air Service Act. Currently the relief driver change takes place in Valentine, at 4:30 in the afternoon westbound and 3:45 a.m. eastbound. This option would retain the same westbound schedule as far as Valentine, but the relief driver would drive the bus back to Omaha during the night, arriving at about midnight. This would allow the service to be operated with one bus and two drivers for a round-trip, though because of the need for adequate rest periods a third driver would be needed for rotation.

Advantages: The reduction in bus-miles and required resources would result in a cost savings, though it would be less than proportionate to the reduction in mileage. Drivers would have to be paid for their time spent waiting in Valentine or Omaha, in addition to their operating mileage. For example, the driver taking the bus to Valentine on a Monday would not get to drive back to Omaha until 4:30 Tuesday afternoon, resulting in additional layover expenses and the need to compensate the drivers for their dead time.

This option improves service for points between Valentine and Norfolk, which would receive an evening eastbound service for the first time. It also retains the current westbound schedule which allows newspaper delivery, thus retaining the largest single package express client.

Disadvantages: The area west of Valentine and the South Dakota portion of the route would lose service, and all overhead or through passenger or freight traffic would be lost. This amounts to 70 percent of the current ridership west of Norfolk, as indicated in Table 3-3. This obviously would result in a significant loss in revenue, as well as a loss in mobility to that region. In addition, the supply of blood from Rapid City to hospitals in the region west of Valentine by bus would no longer be possible. In terms of the social utility of the service to Nebraska, the route would no longer be able to fulfill the function of connecting the northwestern part of the state to Omaha and Lincoln.

The reduction in revenue results in an estimated loss of $159,522 on an annual basis, despite the cost savings of the shorter route.

Sub-Option 3(a)(2): Terminate Service West of Valentine, Night Return, Using Vans

This sub-option is the same as the previous one, except that it calls for using vans or smaller vehicles as a means of further reducing costs, and of providing a vehicle whose size is more appropriate to the limited ridership remaining if the service no longer runs through to Rapid City.

Advantages: The cost of operating the service is reduced somewhat by the lower capital costs of the van. Since this option can be operated with one vehicle, and the annual mileage would be about 156,000 miles, the capital cost would work out to that required for annual replacement of a van at about $20,000. The lack of package express and peak passenger capacity would no longer be an issue, as ridership would be lower as would package express volume. The annual loss on the service falls to an estimated $136,200.

Disadvantages: Essentially the same as for the previous sub-option, with the addition of the loss of comfort and baggage space associated with the larger coach.

Sub-Option 3(b)(1): Terminate Service West of Valentine, Day Return Trip, Using Coaches

This version of Option 3 calls for using two buses to operate service from Omaha to Valentine and back. One would operate in each direction during the same daylight hours, providing persons from the western end of the line the opportunity to leave and arrive during daylight hours. Westbound travelers would have the same schedule as is currently operated, permitting continued use of the bus for newspaper delivery.

Advantages: This sub-option has the major advantage of offering daylight service from those points between Valentine and Norfolk that have in the past suffered from receiving their eastbound service in the dead of night. Operationally, the two drivers could exchange buses in O'Neill, permitting each to return to their starting point the same day. The garage in Norfolk is on the route near the mid-point, permitting easy exchange of buses for service or backup. The 4:30 arrival in Omaha is early enough to permit access to outbound

flights. The daylight service would also facilitate the use of local public transit to bring passengers to the bus.

If it is assumed that the eastbound daylight service would result in more ridership and revenue, it is possible that the deficit on this operation would only be $150,815 annually.

Disadvantages: The same disadvantages regarding the loss of through traffic and service to points west of Valentine apply in this sub-option as before. The only difference is that increased ridership eastbound resulting from the daylight operation might offset some of the ridership loss resulting from the truncation of the service. Again, despite the loss of social mobility for much of the route, the service would still require substantial subsidies, but for a much smaller number of passengers, perhaps as few as 1,650 persons per year west of Norfolk.

Sub-Option 3(b)(2): Turnback at Valentine, Day Return, Using Vans

This option is the same as the previous one, except that instead of using intercity coaches, vans would be used to achieve some savings in operating and capital costs.

Advantages: The primary advantage, in addition to those already mentioned in the previous sub-task, is lower costs. The use of vans would save $23,322 over the use of coaches each year, with a resulting annual deficit of $127,493.

Disadvantages: The disadvantages are the same as those for vans generally: the low lifespan of the vehicle, the loss of comfort and peak capacity, and the loss of package express space, etc., when compared to the same service pattern but using a full-size coach. The disadvantages of eliminating service west of Valentine are the same as for the other sub-options under Option 3.

Option 4: Add a Weekend Round-Trip to Serve College Students

This would involve adding service from Lincoln to Norfolk and then west as far as Chadron, leaving Friday afternoon and returning Sunday afternoon. Current schedules do not adequately serve the college market, which is under-represented as a user group compared to intercity bus services in other states.

Advantage: A new market is served. A survey of student home location at all of the schools and colleges served along the Black Hills/Arrow routes found the largest concentration in Lincoln, with 819 students from the study area. Assuming that each returns home for a weekend once a month, and ten percent of those could be persuaded to use the bus, a weekly round-trip ridership of 20 could be expected.

Disadvantages: The cost of operating a special trip outside the normal service pattern could be quite high, unless a student driver living in Chadron or nearby could be hired and trained, and trusted with the bus for the weekend. Unless such a unique situation could be found, this would add to the deficit on the service. For purposes of comparison, current per mile costs and revenues were applied to the proposed service, which would include an extra round-trip from Lincoln to Chadron. This option produces the highest annual operating deficit of any analyzed, with an annual loss of $241,824.

Option 5: Limousine-Type Service Using Vans

This service option encompasses more service changes than merely the difference in the type of vehicle used. It is intended to represent a service similar to that operated in Nebraska by Eppley Express and Denver Coaches, which operate on schedules, but without commission agents, interlining with other bus or air carriers, package express, stations, or very much in the way of overhead or administration. The two operations cited are long-haul airport limousine services. This type of service requires advance reservations, and involves some route deviation to pick up customers at homes or hotels. Fares are somewhat higher per mile than intercity bus fares. Maintenance can be accomplished at gas stations or garages, and the absence of interlining eliminates many administrative functions related to revenue account, reclaims, etc. In most localities such services operate over much shorter distances, but in Nebraska even the airport limousines must operate long distance. Eppley Express operates from Kearney to Eppley Airport in Omaha, via Lincoln's airport, a distance of about 185 miles. Denver Coaches operate from Scotts Bluff to Denver's Stapleton Airport, a distance of about 200 miles one-way, with average loads of 5-6 passengers.

Advantages: The major advantage is lower costs. Even though the $1.35 per mile rate that Black Hills Stage Lines pays Arrow for bus operations is

very low by industry standards, it does include a number of general and administrative costs that are a function of the service not being operated by owner-operators, and of the costs of being part of the intercity bus network in terms of ticket interline expenses and agent commissions. In addition to the $1.35/mile operating costs, Black Hills must net out (of revenue) $0.171 per mile in commission expenses to those that operate its agencies and sell its tickets. By avoiding those expenses, and requiring drivers to reconfirm their own reservations and routes, Denver Coaches claims to have a per-mile operating cost in the neighborhood of $0.60 per mile, though this includes some non-salary driving by the owners. In our analysis, a per-mile cost of $0.955 has been used to reflect the reductions in ticketing, commissions, maintenance, and general administrative costs, while providing for labor costs that fully reflect the resources required. Labor costs are about the same for Denver Coaches and Arrow Stage Lines, based on data supplied by the firms.

A second advantage is the ability to charge slightly higher per-mile fares, by focusing on air travellers who have a higher ability to pay. In this case, we have estimated a revenue per mile of $0.70, with no commission expenses.

The result of the lower operating costs, and the slightly higher revenue level, is that the projected deficit could be as low as $74,786.

Disadvantages: There are a number of disadvantages to this mode of service over a route of this length. One set is related to the use of the vans, which has already been discussed. In airport service the passengers tend to be more homogeneous with regard to their behavior and decorum, allowing the closer seating of the van without passenger complaint. Intercity bus passengers, on the other hand, tend to be more heterogeneous, and the additional space provided by the intercity coach permits this diversity to be more comfortably accommodated. Also, the use of vans by Eppley Express and Denver Coaches is on much shorter routes, 185-200 miles one-way, compared to the 564 mile Black Hills route. The comfort level of a van may be quite tolerable for four hours, but not for 13.

A second disadvantage is the loss of connections with the intercity bus network. Although the vans could easily drop passengers at Greyhound stations in Denver or Omaha, pickup would require some arrangement with the station.

Passengers continuing their trip on the intercity bus would face the payment of a second fare, and the sum of the two-part fares would be higher than a single through intercity bus ticket because of the distance taper and cap built into the intercity tariff. Baggage liability would also not be provided for as it is on the intercity bus. Also, it would be difficult to get the schedules included in Greyhound's telephone information system.

A third disadvantage is the loss of the local commission agent as an information source in the communities along the route. While many of the agents currently do not do much to market the service, they at least have bus information and can write tickets to points beyond the end of the line. Also, they handle inbound and outbound package express. A strong, continuing marketing effort would be required to make former intercity riders aware of the new service and the need to make reservations (and cancel them if not intending to use them).

The loss of bus package express service is another potential disadvantage. By not interlining with other intercity carriers, packages from off-line points could not be shipped to points on the route, although it is quite possible that some limited courier type service could be provided, allowing delivery of the most crucial perishables (such as the blood to the hospitals). Possibly a provider of this type could also carry the newspapers as well.

Finally, a major disadvantage is the current lack of a potential provider on the route. An enterprise of this type would require an entrepreneur with a local commitment and community support. In some other communities the void in transportation services has brought forth such individuals, and it could happen here. From a service perspective, however, to allow the current service to disappear in the hopes that such an individual would come forth is not satisfactory to those in the region who depend on the current bus service.

The availability of some level of subsidy for this service would affect the potential for finding providers. If a subsidy were available, it could be used as a carrot for attracting outside private operators or local providers. The absence of such a program will inhibit anyone from attempting to set up such a service, because it is not apparent that it would be profitable on its own.

Option 6: Permit Discontinuance West of Norfolk

This option is basically to make a conscious decision to allow the bus company to stop running the bus service between Norfolk and Rapid City at the time when the current UMTA 4(i) funding is exhausted, probably May or June of 1988. The intervening period could be used by current riders and shippers to make alternative arrangements for needed services, in those cases where alternatives are possible. This option is the default option, if efforts to implement other options are unsuccessful.

Advantages: The bus company will avoid unsustainable losses on the operation of this route. These losses amounted to $114, 263 in Fiscal Year 1986, and $71,822 in Fiscal Year 1985. FY1986 operating losses were actually $135,163, but these were partially offset by interest and rental income. The state will not be involved in funding intercity services, and intercity operations will not be competing for limited state and federal funds already committed to local urban and rural public transportation, which is a benefit to existing operators.

Disadvantages: Users and potential users of passenger service and package express lose service, and are forced to either forego trips, find more expensive alternatives, or leave the region to move to areas with needed services. Based on the on-board survey the estimated number of annual riders west of Norfolk is 5,586 in this fiscal year, or 55 percent of the total ridership on the Omaha-Rapid City route. According to the user survey, 47.6 percent of the passengers did not have a vehicle to use for the trip, and 25.2 percent are either not physically able to drive or licensed to drive. If there had been no bus service on the day of the survey, fully 66.2 percent of the passengers would not have made the trip, although only 27.6 percent felt that they could not make such trips if bus service were entirely discontinued. However, the alternatives in the region are few, and if one cannot drive long distances or does not have a car available there are not many options. Six point three percent of current riders would buy a car and drive themselves, and another 6.8 percent drive themselves in a car they already have. Five percent would have to get a ride with someone, and 6.8 percent would move to a location that has bus service. The actual number of users that would face reduced

mobility as a result of losing bus service is the 27.6 percent who are unable to make the trip, plus the 14.8 percent who would make fewer trips, a total of about 2,400 persons per year, based on estimated current year ridership. The other current users would still find alternatives, but at the increased cost of using a private vehicle or moving.

Recommendations

After reviewing the information about each of the alternatives, the Advisory Committee to this study decided to support Option 1, continuation of the existing service, as the option that provides the most benefits to the region without reducing services to any part of the route. Although it has the second highest annual operating subsidy requirement, the Committee felt that was justified in view of the continuation of both the passenger and freight services. This justification is tested in a more analytical fashion in the next section.

Benefit/Cost Analysis

A recent Department of Transportation report[1] presents a technique using the economic concept of consumer surplus to estimate the benefits of rural intercity bus service to passengers, and to compare those benefits to the cost of operation. (Consumer surplus refers to any value received above what one actually pays for a good or service. For example, the true value of a bus trip for a particular passenger may exceed the ticket price if the availability of the service allows the person to avoid the cost of an automobile.) This technique includes benefits to bus users who would switch to the private auto in the event of discontinuation of the service, as well as the benefits to users who would have to forego trips in that case. While it is only an approximation of the benefits based upon assumed values for user travel time, and a very simple notion of the demand curve for rural intercity bus service, it does at least provide some relative measure of the value of the service.

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[1] U.S. Department of Transportation, Office of the Secretary of Transportation, Planning Techniques for Intercity Transportation Services, July 1987, pp. 83-92.

Applied to the data from the Black Hills route, and using the data presented in Table 3-4, it appears that the combination of consumer surplus and revenue for the route produced a net benefit of $56,485 and a benefit/cost ratio of 1.11 to one. In Fiscal Year 1987, ridership declined by 26 percent due to the reduction in service to five days per week, and unit operating costs increased. Since in this model benefits are a function of ridership, the benefits of the service declined as well. While the reduction in operations lowered costs overall, the increase in unit costs resulted in a decline in the net benefit to $14,360, and a benefit/cost ratio of 1.03. These findings suggest that at current levels of ridership the service may be worth subsidizing, particularly if costs can be reduced to 1986 levels and/or ridership per day increased. It also suggests that continued ridership decline or cost increases would call into question whether or not the benefits of the service would outweigh the costs, and whether or not the service would be worth public subsidy. Again, it should be noted that the technique used for this assessment provides only a rough approximation of the social benefits of the service based on the economic concept of consumer surplus. It is, however, conservative in that it assumes that the value of the trip to those who would not travel if bus service were discontinued is lower than the value of the trip to those who have the auto option. In addition, it does not assume that all passengers would cease travelling if bus service were discontinued, but only those who responded in that way in the on-board user survey. Finally, this calculation also underestimates user benefits because the benefits from package express service included in the model are represented only by the revenues from package express. Obviously current package express shippers use the bus because the cost to them is less (in terms of a combination of inventory savings, shipment costs, and time value of the shipment) than the alternatives, but the model does not include any value for the savings to current bus package express shippers.

Package express shippers and receivers would also lose if the service were discontinued, though only one of those contacted indicated that jobs might be lost as a result. Primarily, bus package express is important as the only next day delivery service to points west of Atkinson, and the only non-courier service that will accept blood and lab specimens. In addition, it has an important role in delivering other perishables, such as daily newspapers (out

Table 3-4

DATA USED IN BENEFIT-COST ANALYSIS

	FY1987 (Five Days/Wk)	FY1986 (Seven Days/Wk)
Annual Ridership	9,984	13,375
Average Trip Length	209 miles	200 miles
Bus-Miles	293,280	410,592
Total Expenses	445,786	521,452
Cost/Bus-Mile	$ 1.52	$ 1.27
Regular-Route Revenue (Passenger)	$ 216,441	$ 307,944
Revenue Per Ticket	$ 21.68	$ 23.02
Package and Newspaper Revenue	$ 78,218	$ 94,436
Total Revenue	$ 294,659	$ 402,380
Net Profit	($ 151,127)	($ 119,072)
Average Travel Time	4 hrs.	4.44 hrs.
Average Speed	45 mph	45 mph
Value of Travel Time (Per Hour)	$ 2.36	$ 2.36
Value of Wait Time (Per Hour)	$ 4.72	$ 4.72
Auto Cost (For Average Trip)	$ 40.50	$ 45.00
Percent Switching to Auto	33.8	33.8
Percent Not Traveling After Abandonment	66.2	66.2
Revenue Cost Ratio (Before Profit)	.66	.77
Net Benefits	$ 14,360	$ 56,485
Benefit-Cost Ratio	1.0322/1	1.108/1

of Norfolk) and flowers. Most shippers and receivers regard it as generally too expensive if their product can use UPS second-day service, so its use is limited to parts that are needed immediately but are not stocked locally, blood and perishables.

Finally, it is obvious from talking to persons in the region that losing the service would seem to be another blow to all in the region, even those who currently do not use the service with any frequency. It would eliminate the only non-auto passenger service, except for limited commuter air service to Chadron and Norfolk. Psychologically it increases the isolation of the area. In part this is because intercity bus riders are usually infrequent riders, and although the number of passengers is few in any given year it can include a very different set of persons. Having the service available is worth something to non-users who have it as a spare, like the extra tire most persons carry in their cars.

The recommendation to continue providing the current type of service carries two major implications with it. One is that continued outside operating subsidies will have to be found. The possible sources of such funding are discussed in the next chapter. The second is that the communities along the route will have to show their commitment to the service by taking on activities that will increase awareness and usage, or else the service will not long continue to justify public subsidies. For that reason, a related recommendation is that the bus company, the Department of Roads, and the local communities take on an active role to market the service, improve stops, and provide secure decent waiting areas. Such an approach could be modeled on the "Community Awareness Program" developed by Jefferson Lines, and implemented in the small towns it serves throughout much of the midwest.

Basically the program involves contacting the mayors and town/county councils of the points served by the bus, asking them to participate in a number of activities if they wish to see their bus service continue. These range from press releases and articles in local newspapers about the service, and the importance that local officials attach to it, to free newspaper ads showing schedules and where to buy tickets, public service announcements on local radio stations, support for the local agent, use of buses in local fairs and parades, and improvements to the local bus station, such as signs, benches, and paint.

A number of the agents on the Black Hills line indicated that they did not feel that they had adequate resources or information to market on their own, and at the same time a number of the local officials indicated that they could provide waiting rooms, publicity, etc., even though hard cash local match for operating subsidies would not be possible.

The "Community Awareness Program" as an ongoing way of supporting the service should be an integral part of any funding program, as the justification for funding depends on maintaining or increasing ridership. Towns participating in the Jefferson program have produced ridership increases, some as much as 20 percent, and in one case there was a 50 percent increase in ticket sales in the town. If ridership continues to fall in the face of such efforts, or if no effort is made by the local communities, it becomes much easier to rationalize discontinuation of the service.

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FUNDING OPTIONS AND RECOMMENDATIONS

Given that the recommended service option is the continuation of the existing service pattern, the critical question becomes the amount of funding assistance that will be required, and who should provide it. In addition, it is relevant to ask what criteria should be used for continuation of the funding if ridership should decline further in the future. This chapter will address these questions.

THE AMOUNT OF FUNDING REQUIRED TO MAINTAIN SERVICE

In Chapter 3 a description of the existing service and its costs and revenues was presented, showing an annual operating deficit of $169,515. This figure is based on the costs and revenues now being experienced under the demonstration project. This includes $1.35 per mile in operating costs, and $0.171 in commissions and reclaims, which are being netted out against the revenue under the current operating contract. The current operating agreement between Black Hills Stage Lines and the Department of Roads also includes $0.135 per mile as a negotiated fee for profit, in addition to the other costs.

Based on the the annual mileage between Omaha and Rapid City[1], this adds $39,593 to the total operating cost, for a grand total of $209,108 as an estimate of the subsidy cost under the current agreement. Depending on the actual revenues during the course of a year, this amount could differ somewhat. Thus it would seem prudent to seek at least $210,000 in operating assistance per year.

While this seems like a large amount for a relatively small number of passengers, two facts need to be kept in mind. One is that each of these passengers is taking a trip much longer than is typical for urban or rural transit, meaning that this line is producing passenger-miles at rates comparable to or higher than many urban transit systems. Based on the estimates in Chapter 3, the average trip length is approximately 200 miles, rather than the three or four miles typical of urban transit systems. A second factor that should be considered when comparing this subsidy amount to other public transportation systems in urban areas is that the users of this system are already paying a much higher proportion of its operating costs than are the users of urban or rural transit in the state. Approximately 57 percent of the total operating costs, including depreciation of equipment, is covered by user fares and shipper revenues. This can be compared to Omaha's transit system, where 30 percent of the operating costs (not including any capital costs) are covered by fare and ticket revenues.

FUNDING SOURCES

In general, sources of funding for the operation of bus services include the users, through fares and package shipping fees, local governments, state government, and federal sources. Historically, intercity bus service has been provided by private carriers, who funded the operations from user charges, and from cross-subsidies that were made possible by federal and state regulation. As indicated earlier, those cross-subsidies are no longer available, primarily because of the passage of the federal Bus Regulatory Reform Act and its state pre-emption clauses. Similar changes in the availability of cross-subsidies to

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[1]Although the carrier has filed to abandon only the Norfolk to Rapid City segment, calculations indicate that Omaha--Norfolk would also be unprofitable if through passengers were removed, so funding the entire route is recommended.

support rural services following the Airline Deregulation Act of 1978 were addressed in the legislation through the development of the Essential Air Service program, which provided federal subsidies for a period of ten years to guarantee continued air service to those places receiving it under regulation. No similar program was developed for the intercity bus industry, and a substantial abandonment of rural services was one outcome of this omission. However, the Section 18 program of Rural and Small Urban Public Transportation assistance provides each state with operating and capital funds that can be used to fund rural and small city public transportation, including intercity bus services.

UMTA Section 18 Funding

The program is administered by UMTA of the U.S.DOT. The program requires each state to apply for the funding, the amount of which is determined by a formula based on non-urban population. Each state must have an approved state management plan, specifying how it will use the federal funds. Use of the federal funding requires a non-federal match, which can be provided by states, localities, or other organizations (including intercity bus firms). Not only can such funds be used to contract with private providers, such as intercity bus companies, such uses are encouraged by UMTA. This program represents the major source of federal assistance.

In order to present ways in which this source of funding can be used, two cases are presented. One is that of Wisconsin, which has the longest running and the largest Section 18 program of intercity bus assistance. The other is North Carolina, which has used Section 18 funding in two very different regions to provide operating assistance to private carriers, and for capital to build a new terminal to serve both local transit and private intercity carriers.

Wisconsin. The Wisconsin program provided $335,715 for intercity carriers in FY1986 out of a total budget of $2.2 million. The funding was provided to local governments who contracted with carriers to provide the service. In prior years the state had contracted directly with intercity carriers, funding local and regional transportation through local governments. Most of the par-

ticipating carriers previously had been small Wisconsin bus companies, such as Prigge's, Wisconsin Northern, and Chippewa Yellow Bus.

However, for 1986 Greyhound bus also applied for funding, in much larger amounts. As 1986 Section 18 funds were reduced, and previous carry over was gone, the state was forced to devise ways of prioritizing services. Local services were given priority, and direct state contracting eliminated as a means of ensuring that services were responsive to local needs. Cost categories inherent in private sector operation were made ineligible.

According to Greyhound, these changes had the effect of making private sector involvement difficult at best, and Greyhound appealed them to UMTA. The state subsequently changed a number of the regulations, but direct state contracting was still eliminated. This forced intercity carriers to apply to local governments along the routes on their behalf, increasing the coordination problems.

Greyhound succeeded in winning contracts for four routes, but did not receive local match from the communities. Instead, the state permitted Greyhound to count other revenues, such as package express, toward the required local match. Such an arrangement can aid the private carrier with sufficient revenues, but may make it impossible to fund small firms who would otherwise provide low-cost service. No state funding was used to match Section 18.

North Carolina. In North Carolina, Section 18 funding has been provided for three different types of intercity projects. The first began in 1981 when Virginia Dare Transportation, a small bus company operating regular-route service from Manteo and Ocracoke on the remote Outer Bounds to Norfolk, Virginia, lost its lease on its two buses owned by Carolina Trailways. The firm turned to the state, as it could not afford replacement buses based on its revenues, alone. The state reviewed the carriers' services, and citing the important role of the carrier in providing transportation to low-income workers in the beach resorts, it approved funding of about $70,000 per year for operation of the regular-route service. The Section 18 local match is met by counting revenues from unsubsidized schedules and route segments, and bus package express as local match. The service is continuing at this time, though Virginia Dare went bankrupt in June 1987. A second project was structured in a similar manner using Section 18 funding for service by Blue Ridge Trailways in

a remote mountain area. Low ridership has caused this operation to be discontinued. In the coming fiscal year it is likely that North Carolina will provide about $70,000 to Carolina Trailways to fund operations on a number of routes in rural North Carolina.

The third project is a Section 18 capital expenditure on an intermodal terminal in Wilson, North Carolina. Located across the street from the Amtrak station, this facility will replace the worst bus station in the state. It will serve Carolina and Seashore Trailways, Greyhound, and Wilson Transit, with a capital cost estimated at $650,000.

Despite the fact that such uses are permitted and encouraged, few states have used Section 18 to assist intercity services. One reason is historical, in that most states still depend on private enterprise to provide all such services. A second reason is the strong competition for these funds from local and regional rural transportation systems. A third reason is that many states limit their role in the program to that of a pass-through to local governments. Intercity services through a number of localities are difficult to assist in such situations, because each of the local units must agree to cooperate and contribute. All three of these reasons apply to some extent in Nebraska, as discussed in the next section.

Nebraska's Section 18 Program

In Nebraska the Section 18 program is administered by the Department of Roads, under terms of the Nebraska Public Transportation Act of 1975 (NPTA). This means that the Department of Roads develops all administrative procedures, application processes, and program guidance for implementation of the Section 18 program in Nebraska. Under the NPTA the eligible recipients of the funding are state agencies, local public bodies, Indian tribes, public operators of public transportation services and private non-profit organizations. Private-for-profit firms can participate in the program only through contracts with eligible participants. The private operators of the Omaha--Rapid City route could not contract directly with the state under this program, but would instead have to contract with an eligible applicant representing the entire region. This is one immediate barrier to using Section 18 for funding this particular service.

Fund Allocation

A second problem with the Nebraska program is the way in which the funds are distributed, and the matching requirement. Up to 15 percent of the total state allocation can be used by the Department of Roads for administering the program. Another ten percent may be set aside for new starts, emergencies, and contingencies. The remaining funds are available to existing systems for capital and operating assistance. In FY1988 the state is not going to fund capital assistance because of the projected shortfall in funding, so the state policies on operating assistance will govern all allocations. These stipulate that no system will receive less than $2,000 per year; and that the remaining funds will be allocated on a formula basis, 60 percent on the annual vehicle mileage of the system, and the other 40 percent on the service area population. This allotment system alone would create problems for an intercity service covering a number of counties, and the restriction of funding to existing systems would clearly prevent Black Hills Stage Lines (or any other intercity carrier) from entering the program at this stage.

Local Match Requirements

Perhaps a more serious problem for the Omaha--Rapid City route is the requirement for local matching funds in order to receive operating assistance. For an existing system to draw down the funds allocated on the formula described above, it must provide local funds equal to 25 percent of the net operating deficit, which are in turn matched by state funds equal to 25 percent of the deficit. The remaining 50 percent of the net operating deficit is federally-funded -- up to the amount imposed on that system by the formula allotment. In practice, recent funding reductions in Section 18 have meant that many systems have not been able to receive 50% of their net deficit, but a lesser amount. For the Omaha--Rapid City route this match requirement, coupled with the allocation formula, would make it extremely difficult to use this program to fund the intercity service. Either a regional recipient of the funding would have to be created, such as a Black Hills Transit Authority, or

each county or town the bus passes through would have to contract with the state, and then in turn with the bus company. Furthermore, the local governments (or someone) would have to come up with the 25 percent local match. In a multi-county route such as this, the temptation for a city or county to be a "free-rider" and not share in the funding is great, if they assume that the bus will pass through whether they participate or not. In addition, South Dakota has a major portion of the route, and is not able to provide any Section 18 or state funding for its portion. The Advisory Committee to this study, and the local government officials contacted in site visits both confirm that is extremely unlikely that the local governments in the region could or would provide the 25 percent local match required by this funding program, even if a mechanism for jointly applying for the funds was created.

Lack of Funding

Finally, even if state legislation were enacted that changed the formula allocation and the match requirements, this funding source could not be used because there is simply not enough Section 18 funding and state match available. There are 49 existing Section 18 systems in the state, and based on the population and mileage formula, the federal operating assistance need for FY 1988 is $668,020. Based on a total annual subsidy need for the Black Hills route of $200,000 per year, the total need for federal Section 18 would be $768,020. The original allocation by the state is based on $625,000 in federal funds, and the state has anticipated receiving only $592,000, based on the House version of the transportation budget. Thus, the state will be running short based on the needs of the existing operators, even without using any of the funding for capital. A new project calling for $100,000 in federal money would wreak havoc on the existing programs under these funding constraints, and is not a viable option.

Table 4-1 presents the impact on the Section 18 funding allocations of existing systems affected by including the Black Hills Stage Lines route in the program. As can be seen, the state allocation formula would not provide the full $100,000 to the route, but only $71,293. In addition, each of the systems listed would face a reduction in allocation of the amount indicated, when

Table 4-1

IMPACT ON OTHER SYSTEMS OF FUNDING BLACK HILLS USING SECTION 18

Applicant	Projected Need	FY 1988 Original Allocation	Projected Need With Black Hills	Black Hills Allocation Omaha-R.C.	Loss Compared To FY88 Allocation
Box Butte County	$12,445.00	$12,445.00	$12,445.00	$11,993.31	$451.69
Mid-Nebr Comm Service	$61,488.00	$59,456.66	$61,488.00	$46,802.22	$12,654.44
Chase County	$8,680.00	$8,680.00	$8,680.00	$7,917.38	$762.62
City of Sidney	$10,585.00	$10,585.00	$10,585.00	$9,592.53	$992.47
City-Broken Bow	$12,398.00	$12,398.00	$12,398.00	$10,732.74	$1,665.26
City of Crawford	$8,373.00	$4,675.01	$8,373.00	$4,047.77	$627.24
City of Chadron	$9,505.00	$9,360.55	$9,505.00	$7,925.50	$1,435.05
Chappell Senior Center	$7,815.00	$7,534.16	$7,815.00	$6,047.75	$1,486.41
City of Benkelman	$6,143.00	$3,702.89	$6,143.00	$3,351.29	$351.60
Filmore County	$15,438.00	$12,377.35	$15,438.00	$9,888.89	$2,488.46
Blue Rivers AAA	$89,640.00	$89,640.00	$89,640.00	$73,396.12	$16,243.88
Harlan County	$10,320.00	$7,629.66	$10,320.00	$6,273.30	$1,356.36
City of Tecumseh	$8,580.00	$8,580.00	$8,580.00	$6,952.20	$1,627.80
City of Ogallala	$16,438.00	$10,970.20	$16,438.00	$9,137.80	$1,832.40
Kimball County	$8,838.00	$7,141.56	$8,838.00	$6,059.00	$1,082.56
Lancaster County	$12,062.00	$12,062.00	$12,062.00	$11,070.30	$991.70
City-North Platte	$32,194.00	$28,446.35	$32,194.00	$23,744.80	$4,701.55
City-Central City	$10,053.00	$8,912.84	$10,053.00	$7,273.90	$1,638.94
Morrill County	$12,711.00	$7,627.47	$12,711.00	$6,349.10	$1,278.37
Pawnee County	$7,140.00	$6,979.44	$7,140.00	$5,730.20	$1,249.24
Perkins County	$5,267.00	$5,267.00	$5,267.00	$5,019.20	$247.80
Phelps County	$22,376.00	$13,747.91	$22,376.00	$11,125.20	$2,622.71
City of McCook	$15,455.00	$13,991.59	$15,455.00	$11,473.90	$2,517.69
SCAT	$19,960.00	$19,960.00	$19,960.00	$17,453.30	$2,506.70
Saunders County	$12,792.00	$12,792.00	$12,792.00	$11,385.20	$1,406.80
Scotts Bluff County	$46,500.00	$46,500.00	$46,500.00	$42,181.10	$4,318.90
Sheridan County	$13,491.00	$12,204.36	$13,491.00	$9,649.50	$2,554.86
Vil-Guide Rock	$2,585.00	$2,585.00	$2,585.00	$2,463.20	$121.80
Black Hills Stage	$0.00	$0.00	$100,000.00	$71,292.90	($71,292.90)

compared to their 1988 allocation. The other existing systems that are not listed would not be affected.

Other Federal Sources

This leaves only UMTA Section 6 and 4(i) demonstration grant funds as the available federal funding source. The service is currently being funded under a Section 4(i) grant, which is normally a one-time source of funding. Unless a special appropriation or a source of discretionary funding materializes, federal funding does not seem to be an option.

Conclusions Regarding Federal Funding

However, there are several reasons why a federal role in funding this project would be appropriate. One is the interstate nature of the route, and the problems caused by the inability of the two states to independently fund a service such as this. A second factor is that it meets mobility needs of the type that federal transit programs are intended to address. Federal assistance is available for urban transit assistance where alternatives are much more readily available, for Amtrak where buses also operate, and for commuter air service that is much more costly on a per person basis. Yet there is no categorical program available that is designed for services such as this one. A third reason is that the loss of cross-subsidies can be attributed in part to federal deregulation, though it is likely that such funds would have disappeared anyway as a result of modal competition. For these reasons, the Advisory Committee recommends that alternative sources of federal funding be obtained, even if they must come from special appropriations or discretionary funds. As it may take time to develop such special sources, it may be necessary to look to other sources in the interim, such as state funding.

STATE FUNDING

As a result of the fact that there are apparently no federal funds available without harming the rest of the state, and the current state rural

program is not set up for intercity projects, a second funding option to be considered is some form of state funding.

State Funded Programs in Other States

In considering the possibilities of a state-funded intercity bus program for Nebraska, it may be useful to examine the approach taken by other states with regard to the loss of regular-route service. In some cases, the funds are included as part of a general transit assistance program, while in others specific programs for intercity bus are provided at the state level. Programs have included specific elements for funding of operating losses, terminal construction or rehabilitation, and vehicles, as described in the previous chapter.

As can be seen from Table 4-2, much of the assistance provided by the states to private carriers is actually for services that are commuter oriented, though the services are provided between cities. Only Michigan, New York, and Pennsylvania have programs that are expressly designed to deal with rural and small town services other than commuter in nature. California programs could also be used for rural intercity services, but may also be for commuter or local services as well.

In several states the intercity bus program is linked with the state regulatory system in that only the carrier holding the state authority to operate on a particular route is the one that can apply for and receive assistance. Subsidy levels are then negotiated, depending on losses. New York and Pennsylvania both follow this approach. In the case of New York, the bus regulatory function has been moved to DOT from its former location in a state utilities commission. Michigan (along with Wisconsin and North Carolina who use Section 18 funding) has deregulated the intercity bus industry in the state, permitting the state to use competitive bids as a means of obtaining service at the lowest public cost.

Examination of Table 4-2 also reveals that most programs provide either operating funding, or capital for vehicles as the predominant form of assistance. Vehicle capital often amounts to a state role as banker, with reduction or elimination of the interest cost and extended payback as the subsidy. If demand is high enough that such a limited subsidy will suffice to

Table 4-2: STATE FUNDING FOR INTERCITY BUS SERVICES IN 1985

State	Type of Program	Eligible Uses[1]	State Limits on Contribution	Annual Funding[2] Capital	Annual Funding[2] Operating	Comments	Contact
California	State Transit Assistance for Local Areas	A		Data on Use of Funds by Localities for Intercity Bus is Not Available		Funds may be used by localities for intercity uses	Don Dean Chief, Bus Transportation Caltrans P.O. Box 942874 Sacramento, CA 94274-0001 (916) 322-3624
Connecticut	Direct State/Carrier Contract	D	State contribution varies with route and revenue. Some bid, some negotiated rate		$ 419,000	Services are commuter buses operated by private carriers between towns and cities	James Moran Director of Bus Operations Bureau of Public Transport. Connecticut DOT 24 Wolcott Hill Road Wethersfield, CT 06109 (203) 566-2336
Delaware	State Ridesharing Program Contracts for Commuter Service Between Major Cities	D	Not fixed. Carriers bid a daily rate for service. State contracts with low bidder, guaranteeing that rate. Carrier bills state for difference between actual revenue and that rate.		$ 56,000	Services are commuter buses operated by private carriers: 1) Newark, DE - Wilmington-Philadelphia 2) Dover-Wilmington	Dan Logan Ride Sharing Admin. Delaware Transit Authority P.O. Box 778 Dover, DE 19903 (302) 571-7380
Maine	Direct State/Carrier Contract	D	Up to 10% of deficit on service, subject to budget constraint of amount allocated to that area of the state		$ 50,000	Amounts negotiated with carrier serving route	Arnold Leavitt Maine DOT Transportation Building Child Street Augusta, ME 04333 (207) 289-2841
Massachusetts	State Purchases Buses for Lease to Carriers, Some Operating Assistance	C,D	1983 bond issue program required carrier payback of principal and interest, 1985 bond issue program payback was principal only (retroactive to 1983)	$5,000,000 (1985 bond issue)	$ 400,000	Operating assistance funded through MBTA services are commuter oriented small town to Boston	Mr. Michael M. Sharff, Program Director Executive Office of Transportation and Construction 10 Park Plaza, Room 3510 Boston, MA 02116-3969 (617) 973-7000

[1]Notes:
- A Provided to localities who determine uses
- B Capital assistance for facilities
- C Capital assistance for vehicles
- D Operating assistance to carriers
- E Reimbursement for reduced fares for elderly

[2]Source for funding data: American Association of State Highway and Transportation Officials, 1986 Survey of State Involvement in Public Transportation, p. 12 and p. 21.

Table 4-2 (continued)

State	Type of Program	Eligible Uses[1]	State Limits on Contribution	Annual Funding[2] Capital	Annual Funding[2] Operating	Comments	Contact
Michigan	State Lease/Purchase Program Provides Buses for Intercity Carriers; Terminal Construction and Rehabilitation, Operating Assistance	B,C,D	Carriers participating in bus loan program must operate 150 mi/day of mi. regular-route service, payback period 6 yrs. @ 5% or 8 yrs. @ 9%. State portion of terminals and operating varies	$5,789,000	$ 100,000	Operating assistance limited to one route from Traverse City to Muskegon. Ten terminals built, 8 more in design or planning	Jerome J. Rudnick Administrator, Intercity Div. Bureau of Urban and Public Transportation Michigan DOT 425 West Ottawa Street Lansing, MI 48909 (517) 373-2953
New York	Under State Transit Operating Assistance Program, State Contracts Directly with Intercity Carriers Serving Two or More Counties	D	Cap on carrier profits at greater of 6.38% of line revenues, or 17% return on equity		$6,500,000	Program aimed at longer distance travel demand between places over 2,500 pop. not local or commuter services	Robert Knighton/David Weiss Transit Program and Evaluation Bureau New York DOT Albany, NY 12232
Pennsylvania	Direct State/Carrier Operating Assistance; State/Local for Facilities	B,D	Services must cover 40% of operating cost. Capital vs. operating at state discretion		$1,100,000	No capital assistance for FY85-86	William S. Parkin Bureau of Public Transit and Goods Movement Systems 1215 Transportation and Safety Bldg. Harrisburg, PA 17120 (717) 783-3996
Rhode Island	Fare Reduction Reimbursement for Elderly Persons Between Newport, Middletown and Portsmouth	E	State pays 50% of fare		$ 1,000	Reimbursement to carrier for reduced fares for elderly on Bonanza Bus Lines intrastate trips	Joseph Arruda Assistant Director for Planning Rhode Island Department of Transportation 372 State Office Building Providence, RI 02903 (401) 277-2694

maintain service, such programs may be beneficial as a means of providing assistance with minimal interference in management. However, if demand is low, it may not be sufficient to keep the carrier in the regular-route business, and the vehicles may be diverted to other unintended uses such as interstate charters.

The scale of the state programs varies considerably, depending on the state concern and available funds. Three of the state funded programs are described briefly in this section.

New York State. Following the BRRA in 1982, New York was threatened with the loss of a substantial amount of service. Rather than accept the loss, the state expanded its State Transit Operating Assistance (STOA) program to include intercity carriers. In 1982-83 about $9 million went to locally sponsored intercity carriers that provided their own match.

In 1982 legislation was enacted enabling the state to contract directly with intercity carriers for services which serve seven or more counties. In 1983 this was reduced to three countries. The Department has directly sponsored nine major intercity carriers that were formerly sponsored by local counties. These firms received about $7.9 million in STOA funds. Another $6 million goes to localities that contract with private carriers for local and regional services.

For the directly contracted intercity services, the state has oversight responsibilities to make sure that the services are efficient and effective. In general the services are not put out to competitive bid, but are priced at a negotiated rate with the existing carriers who are willing to put up the local match.

Pennsylvania. The state of Pennsylvania provides financial assistance to intercity carriers for operating subsidies, capital, demonstrations, and marketing or technical assistance under the Rural and Intercity Common Carrier Transportation Assistance Act of 1976 (Act 10). Most such assistance has been in the form of operating subsidies to private intercity carriers. The state will provide funds up to 75 percent of the carrier's losses. However, the services must cover 40 percent of the operating costs from revenues, a requirement which links the subsidy to usage to insure some level of

effectiveness. Capital funding under the program is provided on a 50 percent state/local match basis for intercity bus firms or localities providing intercity bus facilities. Again, the contracts are negotiated with the carriers having Pennsylvania intrastate operating authority for the route.

Massachusetts. Although the program is aimed at private commuter bus operators servicing Boston, the program operated by the Executive Office of Transportation and Construction (EOTC) is noteworthy because of its similarity to Michigan's bus loan program. Funds from two bond issues in 1983 and 1985 were used to purchase intercity coaches for private carriers to use in scheduled service on route from small towns to Boston. The 1983 bond issue required the carriers to repay the state principal and interest, and the 1985 issue required only the principal to be repaid. Only Massachusetts based carriers can participate, and trips are restricted to regular-route operations five days per week, with charters restricted to weekends, and to the state and immediately adjacent areas. To date, the program has not resulted in problems with division of coaches to charter uses (passengers call the state whenever a carrier substitutes a non-state bus), or with intra-industry problems regarding advantages of certain carriers.

Conclusions Regarding Programs in Other States

Many states are feeling the impact of declining regular-route service, and some are using federal and state funding to maintain service. Only five states are funding strictly intercity services however, the others generally providing assistance to commuter bus operations. Those states whose programs are aimed at intercity service have provided their assistance as operating contracts, with little or no capital involvement for vehicles or terminals. Other states providing vehicles to private carriers have done so for use in daily commuter services. No state is known to have provided vehicles to private carriers for charter purposes, though many states support efforts to attract out-of-state bus tours (almost always through economic development or tourism departments).

State Funding in Nebraska

State funding for public transportation in Nebraska is quite limited already, consisting of $1,000,000 per year from the State Highway Trust Fund. Of that amount, $440,000 is allocated to the rural areas for the state match for Section 18 and Section 16(b)(2), and the remainder goes to Omaha and Lincoln. Up to two years ago the state also provided an additional $1.8 million per year in general funds for transit, but that was discontinued due to financial stringency measures. Occasionally, other special transit funding is provided by the state, such as a special $800,000 allocation for Omaha to match federal funds for new buses. Thus there is currently no state funding available for intercity bus service, but there are precedents for both additional general fund transit assistance and special assistance. Because of the limited time available to find funding for the Black Hills route, and the uncertainty regarding future federal funding, a recommended strategy is to seek special funding for continuation of the existing service in this session of the legislature. Legislative Bill 1192 was introduced into the Ninetieth Legislature of Nebraska, on January 21, 1988, and referred to the Appropriations Committee. This bill would appropriate $150,000 from the General Fund for the period July 1, 1988 to June 30, 1989 to the Department of Roads for Program 305, to provide assistance to local transit authorities. These funds would be utilized to provide for bus service between Omaha and Chadron. Legislative Bill 1192 requires that these funds be matched by local sources on the basis of one dollar for each three dollars received. As of March 10, 1988 the bill remained in committee.

The program called for in this bill is structured like the current state transit assistance program, rather than the current operating contract, in that it requires local match. With the local match included, the bill would provide for $200,000 in subsidy for a year of operation, which should be adequate though tight. It would be administered in the same way by the Department of Roads, to maintain service for a year or two while efforts are made to secure on-going federal funding and boost ridership. During that time the Department of Roads could more fully examine whether or not the state should develop a broader program that would be open to other intercity routes in the state that may not be financially viable for private operators without some assistance.

Some suggested guidelines for such a program have been provided to the Department of Roads as part of this study, but because there has been no assessment of the ridership or financial condition of other routes it is not recommended that they be used as the basis for any legislation at this time.

CONCLUSION AND RECOMMENDATION

Based on this assessment of the amount of funding needed and the availability of funding sources, it is recommended that the state continue to seek federal funding of at least $210,000 per year in on-going operating assistance for this route. Currently such levels are not available from Section 18, the only categorical federal grant program available for rural public transportation such as this. Therefore, special appropriations or discretionary funding for this project will have to be obtained. This may well take some time, and in the interim it is recommended that a one-time state appropriation be sought (as called for in Legislative Bill 1192) in order to maintain the service while efforts to obtain federal funding and increase ridership continue.

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