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# **Postal Bus Feasibility Study**

**Final Report  
September 1982**

**UMTA/TSC Project Evaluation Series  
Service and Management Demonstrations Program**

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16. Abstract <p>This special study has assessed the feasibility of transporting passengers in vehicles also engaged in the distribution and collection of mail along designated routes. The integration of mail and passenger service can be carried out through three basic arrangements: 1) a private mail carrier (under contract to the U.S. Postal Service) carries passengers along its mail distribution route; 2) a passenger carrier contracts with the U.S. Postal Service to transport the mail; or 3) a combination of the first two - a passenger carrier or public body contracts with a star carrier to provide passenger service.</p> <p>The study involved a review of previous research, documentation of current examples of the concept in the U.S. and in Europe, estimation of potential demand, investigation of applicable regulatory issues, and assessment of possible demonstration sites. The overall conclusion is that the postal bus appears to be a feasible approach to providing passenger service where none currently exists and/or for achieving greater efficiencies in the provision of both types of service. As such, it would seem to have considerable potential as a rural transportation option.</p>					
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## PREFACE

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The Final Report was prepared by Daniel Fleishman, Imogene Burns, and J. William Rodman, with assistance from James Batchelder and Martin Flusberg. Daniel Fleishman served as project manager. The authors wish to thank all of those persons who were kind enough to supply information and data; these individuals are cited throughout the report. In addition, we wish to thank Joel Freilich, the TSC monitor, and Lynn Sahaj and Paul Fish, the UMTA project managers, for their cooperation and assistance.

# METRIC CONVERSION FACTORS

## Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
<b>LENGTH</b>				
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
<b>AREA</b>				
in <sup>2</sup>	square inches	6.5	square centimeters	cm <sup>2</sup>
ft <sup>2</sup>	square feet	0.09	square meters	m <sup>2</sup>
yd <sup>2</sup>	square yards	0.8	square meters	m <sup>2</sup>
mi <sup>2</sup>	square miles	2.6	square kilometers	km <sup>2</sup>
	acres	0.4	hectares	ha
<b>MASS (weight)</b>				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons	0.9	tonnes	t
	(2000 lb)			
<b>VOLUME</b>				
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft <sup>3</sup>	cubic feet	0.03	cubic meters	m <sup>3</sup>
yd <sup>3</sup>	cubic yards	0.76	cubic meters	m <sup>3</sup>

### TEMPERATURE (exact)

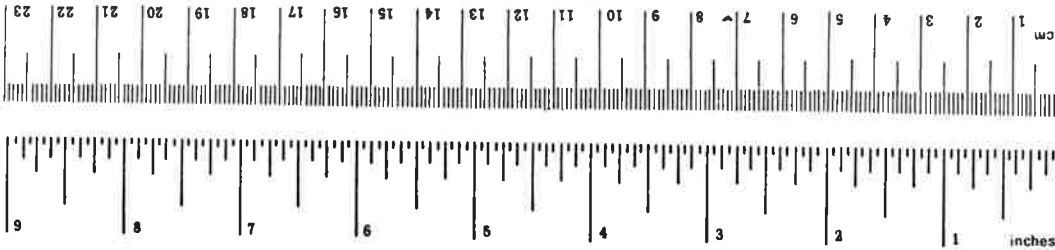
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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## Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
<b>LENGTH</b>				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
		1.1	yards	yd
km	kilometers	0.6	miles	mi
<b>AREA</b>				
cm <sup>2</sup>	square centimeters	0.16	square inches	in <sup>2</sup>
m <sup>2</sup>	square meters	1.2	square yards	yd <sup>2</sup>
km <sup>2</sup>	square kilometers	0.4	square miles	mi <sup>2</sup>
ha	hectares (10,000 m <sup>2</sup> )	2.5	square miles	acres
<b>MASS (weight)</b>				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
<b>VOLUME</b>				
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m <sup>3</sup>	cubic meters	35	cubic feet	ft <sup>3</sup>
m <sup>3</sup>	cubic meters	1.3	cubic yards	yd <sup>3</sup>

### TEMPERATURE (exact)

°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F
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\* 1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price \$2.25, SD Catalog No. C13.10.286.

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## 1.0 INTRODUCTION

A large portion of the rural United States is currently without bus service, either public or private. In the past, intercity bus routes offered access to most small communities, but the number of routes is decreasing each year as ridership declines. Between 1972 and 1979, 1800 small communities lost intercity bus service, leaving about half of the nation's communities under 50,000 people without bus connections.\* Most rural residents have no choice but to rely exclusively on the private automobile for transportation. For some this presents no hardship, as the automobile is the preferred mode. However, for others, the lack of alternatives seriously limits mobility. Though only 26% of the population lives in non-urbanized areas, these areas contain a disproportionate share of the nation's poor (52%) and elderly (45%). About 15% of U.S. rural households do not own an automobile and 52% of these households are single-car families.\*\*

Unfortunately, the viable transportation options available to serve these needs are quite limited; because of the extremely low densities and long travel distances involved, it is difficult to efficiently serve these areas with traditional forms of public transportation. This situation is exacerbated by rapidly escalating operating costs as well as the promise of reduced federal operating assistance over the coming years; rural operators are increasingly facing the realization that they must find new sources of revenue if they are to continue providing existing services, let alone expand their operations.

Both of these situations -- unmet needs and worsening fiscal constraints -- have spurred a search for new approaches to solving the rural transportation problem. One approach which has been proposed and investigated in the U.S. -- and has

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\* U.S. Department of Agriculture, Rural Development Progress, January 1977 - June 1979, October 1979.

\*\*The White House, Rural Development Initiatives: Improving Transportation in Rural America, June 1979.

seen widespread application in Europe -- is known as the "postal bus." The postal bus concept basically involves the use of vehicles engaged in the distribution and collection of mail along designated routes to serve passengers as well. These rural routes (called "star" routes), on which mail is distributed from regional centers to individual post offices (and then collected later in the day), are generally served by private carriers (called star carriers) under contract to the U.S. Postal Service. Thus, the postal bus would pick up/discharge passengers at the regional center or post offices (or along the route). This approach offers the advantage of utilizing existing resources and achieving certain economies in combining two different types of transportation operation.

The integration of mail and passenger service can be carried out through one of three basic arrangements: 1) a star carrier transports passengers along its mail distribution routes; 2) a passenger service contracts with the U.S. Postal Service to transport the mail (i.e., on star routes); or 3) a combination of the first two -- a passenger service provider or public body contracts with a star carrier to provide passenger service. The first and third frameworks allow for the expansion of passenger service to areas currently without such service; the second addresses the budgetary problem facing existing operators by providing them with additional revenue, while also possibly enabling them to extend their passenger operations (i.e., to the star routes).

This study found only two existing postal bus operations in the U.S. On the other hand, many such services exist throughout Europe. The basic question addressed by this study is whether the postal bus can play an expanded role in providing rural transportation in this country.

### 1.1 The Nature of the Study Effort

The Postal Bus Feasibility Study was undertaken by Multisystems, Inc. (under contract to the Transportation

Systems Center) and sponsored by the Service and Methods Demonstration (SMD) Program of the Urban Mass Transportation Administration (UMTA). The study was intended to examine the institutional, regulatory, and operational issues associated with the implementation and operation of the postal bus concept in the United States, with an eye toward a possible SMD-sponsored demonstration. This report presents the study findings and documents the nature of the study effort.

The study involved a review of previous research, analysis of current postal bus operations, estimation of potential demand, investigation of applicable regulatory issues, and assessment of possible demonstration sites. In the course of the study, Multisystems contacted star carriers, intercity and rural public transportation operators, U.S. Postal Service officials, state public utility commissioners, state transportation officials, regional planners, and other researchers. (Correspondences are documented throughout the report.)

Some difficulties were encountered during the data collection effort. Much of the data requested on rural transportation operations (including detailed cost information on existing postal bus services) was never received, despite repeated requests by phone and mail. In addition, some regional Postal Service officials were uncooperative -- supplying requested information only after extensive efforts were made.

This report documents the information collected, as well as the attitudes of various parties toward the concept. Section 2 briefly describes existing postal bus operations in the U.S. and abroad. Section 3 reviews other studies and planning efforts related to the postal bus concept. Section 4 examines the operational feasibility of the concept. Section 5 discusses relevant institutional and regulatory issues. Section 6 summarizes the overall findings of the study, and Section 7 recommends potential demonstration sites.

## 1.2 The Key Issues

The key issues addressed in the study center on the operational and institutional feasibility of the postal bus concept in the U.S. The central operational issues include the compatibility of star carrier schedules and routes with the needs of passenger service, the economics of postal bus service, and the potential ridership. The principal institutional issues are the attitudes of star carriers, rural transit authorities, and postal officials, and the regulatory requirements of the U.S. Postal Service and state public utility commissions. Where federal transportation funds are used, federal regulations/requirements are an issue as well. The various issues are addressed in the following sections.

## 2.0 EXISTING POSTAL BUS OPERATIONS

The postal bus concept is certainly not a new idea. During the 1800's, stage coach lines, which had developed to carry the mail, began to transport people as well. Most of these operations flourished into the early part of this century, before being forced out of business largely by the increasing expansion of the railroads. The joint transport of mail and passengers was never reintroduced in the U.S. to any significant extent, but the idea has taken hold once again in Europe. Although the institutional and operational conditions in Europe are different from those here, the existing operations abroad do provide some indication of the concept's potential, and thus merit examination. The following section briefly reviews the status of postal buses in Europe, while Section 2.2 discusses the only known examples currently operating in the U.S.

### 2.1 Postal Buses in Europe

Scotland, England, Switzerland, Germany, Austria, and Sweden currently operate various forms of postal buses. In Switzerland, Germany, Austria, and Sweden, passenger service is largely limited to the major bulk-mail collection/distribution routes. Most of these services have been operating for a few decades, and have developed to the point of being primarily passenger services, with mail delivery a secondary focus.\*

The Swedish Postal Administration, for example, operates the Swedish Mail Coach Lines, which deliver mail and freight, plow snow, and carry passengers in rural northern Sweden. The route system is extensive, operating over a network of 4,800 miles and delivering approximately 38 tons of mail and 50 tons of freight per day, and carrying 2.4 million passengers per

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\* Britton, Francis E.K. (Ecoplan International), Paratransit in Europe; An Overview. Prepared for the U.S. Department of Transportation, under contract to Multisystems, Inc., February 1980.

year. Most routes are served by three to six round trips per day, with vehicles ranging in size from 9 to 55 seats.\*

The Swiss Postal, Telegraph and Telephone (PTT) Service similarly operates more than 5,000 miles of routes with as many as 1,300 vehicles. The Reisepost, a department of the PTT Service, operates some routes itself, while other routes are operated by independent contractors. (Further information on the contract routes was requested, but not received, from the Reisepost.) In 1980, 63 million passengers were carried on the Reisepost system.\*\*

The majority of the British postal buses, on the other hand, are similar to the other European services only in that they provide a basic two-way service to and from a town or village. The British services differ in that almost all involve house-to-house delivery duties and letter-box collections, rather than bulk mail transportation. A typical Scottish postal bus makes two runs a day, one in the morning to deliver mail to towns and wayside mail boxes, and the second to collect mail from the towns. On both runs, only the empty leg of the trip is used to transport people. In certain cases, only one-way service is available for passengers because of the scheduled times of the runs; school bus service or private cars serve the other leg of the trip.\*\*\*

The first postal bus was introduced in Scotland in 1968, as one of four trial projects being carried out at that time.

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\* Letter and attachments to Multisystems, Inc. from Anders Hermansson, Postverkets diligenstrafix, Huvudkontoret, Lycksele, Sweden; includes timetables (1980), maps, bus specifications and brochures.

\*\* Genton, David L. and Geo Rathey, "Swiss Postal Passenger Service," paper presented at Fifth National Conference on Rural Public Transportation, Arcata, California, August 1981.

\*\*\* Watts, P.F., D.C. Stark, and I.H. Hawthorne, British Postbuses - A Review, TRRL Laboratory Report 840, Department of Environment, Department of Transport, Crowthorne, Berkshire, U.K., 1978.



Upon completion of the demonstration project, the Scottish Post Office did not pursue the concept further, citing that implementing such service was both time-consuming and costly.

The attitude of the Scottish Post Office changed, however, with the passage in Britain of two pieces of legislation. In 1969, the British Post Office was converted to a public corporation. In recognition of the fact that the postal vehicles in rural areas were underutilized, the Act of 1969 authorized the British Post Office to do anything "which appears requisite, advantageous or convenient for the purpose of executing its duties."\* It specifically stated that the Post Office "may carry for hire or reward passengers in vehicles used by it for the purpose of its business."\* Postal bus services were recognized to be eligible for subsidies under the 1968 Transport Act, which made capital grants available to operators of regularly scheduled bus services for new vehicle purchases, and offered refunds on gasoline taxes paid to operate these vehicles.

The Scottish Post Office (SPO) adopted a liberal interpretation of the 1969 law and allowed minor changes in mail service to accommodate passengers. The profitability of the concept from the Post Office viewpoint prompted the SPO to take a pioneering role in the development of the postal bus services. Advantages to the Post Office include a 50% refund on the purchase price of new vehicles, a partial rebate on the value added tax, a gasoline tax rebate, and local subsidies, where needed.\* Disadvantages include the cost of administration of passenger transportation, any additional capital cost of the postal bus vehicle over a regular mail van, and the additional operational cost of the postal bus.\*\*

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\* Ibid.

\*\*Hawthorne, I.H., D.C. Stark, and P.F. Watts, "British Postbuses - Finances," unpublished Public Transportation Division Working Paper WP(PT)18, TRRL Department of Transport, Crowthorne, Berkshire, U.K., 1977

Most Scottish postal buses operate at a slight surplus under the grant program. As a result, the program has expanded rapidly in Scotland, from one bus in 1971 to 127 in 1980. In 1980, Scottish postal buses carried a total of 156,000 passengers, or approximately 24 passengers per vehicle per week.\* The services are offered in locations where users have little real alternative. About half the trips are made by senior citizens, and most trips are made for the purposes of shopping and personal business.\*\* Of necessity, the timing of most trips made on postal buses must be somewhat flexible, so as to be accommodated by the fixed schedules of the vehicles.

Despite the apparent success of the Scottish Postal Buses, the enthusiasm of the Scottish Post Office has waned somewhat. Apparently, administration of the passenger operations consumes more time than is felt to be warranted by the small operating surplus generated by passenger service.\*\*\* Nevertheless, the services continue to operate.

## 2.2 Postal Buses in the U.S.

Very few examples of postal bus service have been identified (through this and previous studies) in the United States.+ Although it is not uncommon for U.S. intercity bus services to carry mail, these services are designed for

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\* Ridership statistics (1978-81) from the Scottish Postal Board Operations Division, Edinburgh.

\*\* Watts, P.F., D.C. Stark, and I.H. Hawthorne, British Postbuses - Service Details, TRRL Laboratory Report 366, Department of Transport, Crowthorne, Berkshire, U.K., 1978.

\*\*\* Britton, op.cit.

+ Inquiries in California, Maine, Vermont, New Hampshire, Massachusetts, West Virginia, Pennsylvania, Wisconsin, New York, Missouri and Florida, and review of other studies uncovered no additional examples of this type of service. However, other locations have had postal bus service in the past, and there may be other current examples we were unable to identify.

passenger transportation; the mail contract, like package delivery, is incidental. Only two current U.S. examples of the postal bus concept have been identified to date. These operations, both located in California, are discussed below.\*

The Mt. Lassen Motor Transit Company in Tehama County operates a single 110-mile route, transporting people, freight and mail between Red Bluff and Susanville, as well as six communities between.\*\* The service is in operation six days a week, with a one-way fare for the entire route of \$7.25 and a round-trip fare of \$13.80. Lower fares are charged for shorter distances. (Information on the different fare levels was requested, but was not received.) The vehicle used is a 1976 Transcoach, with a seating capacity of eight passengers and a mail capacity of 300 cubic feet. Ridership, which has been gradually increasing, currently averages approximately four one-way trips per day: 886 passengers were carried in 1978, 1005 in 1979, and 1204 in 1980. Passenger revenues account for approximately 12% of total revenues. In 1980, passenger receipts totalled \$8,384, freight revenues \$19,530, and mail contracts \$36,019. Passenger fares are regulated by the California Public Utility Commission. Mt. Lassen has petitioned for a fare increase of 15-30%, since fares have not been raised in four years.

The Mt. Lassen manager indicated that, although the vehicle cost and administrative costs are higher than they would be for a simple mail and freight service, the primary marginal cost of the passenger service is the insurance cost; without passenger service, the manager estimates that the insurance premiums

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\* There was reportedly a third postal bus service, located in North Carolina (connecting Elizabeth City and Okracoke) as of 1979. However, the present status of this service is unclear, as we were unable to find out any specific information about the operation.

\*\*Information on the Mt. Lassen operation comes from conversations and correspondences with Ms. Kathleen Jones of the Mt. Lassen Motor Transit Company.

would be one-third of the current level (Mt. Lassen's premiums totaled \$5,044 in 1980).\* No federal funding is involved, but the State of California is beginning a program of operating subsidies for rural services and would like Mt. Lassen to begin operating a new route under this program. However, the Mt. Lassen manager is reluctant to do so, because he feels that acceptance of the subsidy would subject the company to further regulation and additional daily reporting requirements.

The Kernville Stage and Freight Lines, headquartered in Bakersfield, California, also carries passengers as a secondary service on its 48-mile mail route between Kernville and Bakersfield.\*\* The service began as a stagecoach line and has carried both mail and passengers since 1865. Service is currently provided to and from the Bakersfield Greyhound Bus Terminal, but passengers may board and alight anywhere along the route. The service is operated six days a week, with a one-way fare of \$3.10 and a round-trip of \$5.00. The vehicle used is a Ford van equipped with four seats and a 1400-cubic-foot mail compartment.

Ridership averages 2 one-way trips per day, with passenger revenues of approximately \$6.00 per day, or \$1,800 per year, roughly 5% of total annual revenue. The manager of Kernville Stage and Freight indicated that the number of passengers using the service has remained virtually unchanged for over ten years. He attributes this to the slow travel times and the low population density of the service area.

Kernville Stage and Freight failed to provide cost information, but the manager indicated that the company breaks even on the passenger service. However, since the manager does

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\* The financial information supplied by Mt. Lassen did not separate out the costs related solely to the passenger service.

\*\*Information on the Kernville operation comes from conversations and correspondences with Mr. Peter Saunders of Kernville State and Freight Lines.

not perceive insurance costs to be significantly higher due to carrying passengers, it is possible that Kernville is making some profit, albeit rather small. Nevertheless, the company has petitioned the State Public Utilities Commission to discontinue the passenger component of its operation, regarding it as "a nuisance."

In addition to these two scheduled services, there may well be informal arrangements in which star carriers carry paying passengers without the required insurance or public utility certificate. However, we uncovered no definite information on such services.

### 2.3 Differences Between European and U.S. Postal Buses

The major differences between European and U.S. Postal Bus operations can be traced to the institutional and regulatory climates in the various nations. Whereas the concept has not been formally promoted -- or even sanctioned -- by the U.S. Postal Service, it has been formally endorsed by the postal departments in the aforementioned European countries.

These departments have encouraged -- in some cases even required -- the integration of mail and passenger service as a means of achieving economies in the delivery of both. As indicated earlier, the Scottish postal buses are subsidized and have come to comprise an important element of the nation's rural transportation program. In contrast, the U.S. Postal Service prohibits the transporting of passengers in its own vehicles and, in at least one instance (in West Virginia -- see the next section of the report) resisted -- and effectively defused -- an attempt to implement a postal bus demonstration.

Although there are various socio-demographic and geographic differences between the U.S. in general and specific European countries (e.g., Scotland has a lower auto ownership rate and Switzerland has a generally rougher terrain), variations within the U.S. are just as great as those between the U.S. and any of

the European countries. Thus, such differences cannot be said to account for the different postal bus situations here and abroad. More significant, perhaps, are attitudinal differences toward public transportation on the two continents, Europeans being generally more inclined to use it than are Americans. Residents of rural Scotland, for instance, have apparently grown accustomed to accomodating their travel needs to the infrequent postal bus schedules, a situation which is less likely to occur in the U.S.\* However, as automobile ownership and operating costs grow, Americans' willingness to adjust their travel schedules to those of available transportation providers may increase as well.

In summary, the extensiveness and general success of the postal bus operations in Europe indicate that mail delivery and passenger services can be effectively integrated so as to achieve economies in the provision of both. As the costs of both types of operation escalate in the U.S., it may prove advantageous to both the U.S. Postal Service and the U.S. Department of Transportation to recognize the potential benefits of such an integration.

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\* Britton, op. cit.

### 3.0 FINDINGS OF PREVIOUS STUDIES AND NATURE OF CURRENT INTEREST

Although the postal bus concept has yet to see widespread implementation in the U.S., there have been several studies of the concept. Thus far, feasibility studies have been undertaken by the California Department of Transportation (Caltrans), the West Virginia Office of Economic and Community Development (OECD), and a student at Pennsylvania State University. In addition to these studies, the concept is being actively considered by the Pennsylvania Department of Transportation (Penn DOT), the Greater Portland (Maine) Council of Governments (GPCOG), and White River Transportation Services (WRTS) of Bethel, Vermont. These efforts are described briefly below.

In 1978, Caltrans investigated the feasibility of star route passenger service in two communities: Galt (pop. 4,302) and Redding (pop. 43,500).\* The study briefly discussed the regulatory environment, but focused on operational issues such as the route and schedule compatibility of mail and passenger operations, duplication with existing public transit, potential ridership, type and cost of vehicles for joint mail and passenger use, and operating costs.

The Galt study location was quickly discarded, largely because the mail delivery schedules did not meet potential ridership needs with respect to time and direction. Redding, however, was judged to be more promising; three star carriers make daily outbound trips from Redding to post offices in satellite communities in the morning, with an inbound trip in the late afternoon. Existing public transit in the area was limited; most communities had no service, while a few had bus service three times a week.

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\* Hunter James P., Thayne Carlson and Jerry Laumer, Multiple Use of Service Vehicles in California, California Department of Transportation, January 1979.

To accommodate passengers on each star route, the study envisioned use of crew-cab pickup trucks that could seat six passengers and transport mail in locked camper shells. Revenue projections based on the study's ridership estimate (discussed further in Section 4) and a reasonable fare level were compared with equipment and operating costs. The analysis showed a small profit for star carriers from the passenger service, and accordingly, the study enthusiastically endorsed a demonstration project in the Redding area.

However, a decision was made not to proceed with the demonstration, apparently because of a judgment that demand would be lower than estimated, due to the morning-outbound and afternoon-inbound trip pattern of the star routes under consideration. It was projected that lower ridership could result in a deficit instead of a profit, thereby making an unsubsidized operation infeasible.

Another study was conducted by the West Virginia Office of Economic and Community Development (OECD).<sup>\*</sup> Instead of providing service in unserved areas, the OECD proposed to replace public transit in rural Pocahontas County with postal buses. Star carriers would enter into contract agreements with the regional public transportation authority.

The demonstration was not conducted, however, as a number of potential problems were uncovered. First, the star routes in the area made only one trip per day and would have had to be modified to accommodate the needs of passengers. Second, the vehicles would have been expensive, as they would have needed to be accessible to the handicapped.<sup>\*\*</sup> Third, the U.S. Postal

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<sup>\*</sup> West Virginia Office of Economic and Community Development, Design for a Postbus Demonstration, July 1975.

<sup>\*\*</sup>This was a requirement for public transportation systems imposed by the U.S. Department of Transportation to meet the requirements of Section 504 of the Rehabilitation Act of 1973. The requirement has since been modified (see p. 38 of this report).



Service sub-regional Transportation Management Office was opposed to the demonstration; it would have required operational changes which would be in effect only for a trial period, and would produce no apparent benefit to the Postal Service. Fourth, the cost was deemed to be excessive, requiring a 50% subsidy (although the study also indicated that this was probably lower than the projected subsidies for alternative public transportation services). Apparently, the primary factor causing the proposal to be dropped was the lack of interest on the part of the U.S. Postal Service.

A more recent study was conducted by a student at Pennsylvania State University, to determine if a viable postal bus demonstration could be conducted in the State College (PA) area.\* This study contended that the routes selected in both the California and West Virginia studies were atypical of most star routes, and that they were generally incompatible with the requirements of passenger transportation. The researcher proposed, instead, a postal bus demonstration using routes that funnel mail from outlying post offices into the regional center in the morning and then return outward in the afternoon. Although a long layover would be required, the postal bus would provide a means for residents in rural towns to make use of stores, medical services, and a senior citizen center, and return home the same day. No demand or cost estimates were included in the study.

In addition to these studies, offices in at least three states are interested in the postal bus concept.\*\* In

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\* Adams, Dale, "The Post-Bus for Rural Passenger Transportation and Rural Mail Delivery: A Technology Whose Time Has Come." Unpublished paper. Department of Geography, Pennsylvania State University.

\*\*These states had expressed interest prior to the initiation of the UMTA/Multisystems study. However, several other state (i.e, departments of transportation) and local officials contacted during this study were also quite interested in trying out the concept.

Pennsylvania, the Pennsylvania Department of Transportation (PennDOT) has become interested largely in response to the study mentioned above, as well as the enthusiasm of the manager of the postal facility in State College.\* PennDOT is currently sponsoring a study (with Section 18 funds) to look at the institutional and administrative feasibility of postal buses in Pennsylvania. If a favorable recommendation ensues, a demonstration project will be conducted, probably using Section 18 funds.\*\*

The Vermont Agency of Transportation, Division of Public Transit Operations, has also expressed strong interest in the postal bus concept, and encouraged White River Transportation Services (WRTS) to submit a Transportation Systems Management (TSM) proposal to the U.S. Department of Transportation (DOT), including a request for funds to assess and implement postal bus service.\*\*\* WRTS proposed to conduct a needs survey and analysis leading to a demonstration, and envisioned contracting with a star carrier to provide service in the most rural sections of its service area.+ Although the TSM study was not funded, Vermont and WRTS are still interested in testing the concept.

In Maine, the Greater Portland Council of Governments (GPCOG) has expressed interest in integrating mail delivery and passenger service in Cumberland County by having the rural transit operator transport mail.++ The GPCOG has identified

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\* Telephone conversation with Mr. Paul Mackus, Manager of the U.S. Postal Service Sectional Facility of State College.

\*\* Telephone conversations with Mr. Art Wagner, PennDOT.

\*\*\* Correspondence and telephone conversations with Mrs. Denise Mahoney, State of Vermont Division of Operations, May 1981.

+ Correspondences and telephone conversations with Mr. David Palmer, Director of WRTS.

++ GPCOG, memo describing postal bus "study", April 1981; also several telephone conversations with Leo Hurtubise, Transportation Planner, GPCOG, and James Friedlander, Executive Director, GPCOG.

several potential star routes on which passenger service might be provided. No cost analysis has been conducted; GPCOG has assumed that regular transit buses could be adapted to meet the U.S. Postal Service specifications.

Thus, there has been a fair amount of interest in the potential of integrating mail and passenger transportation in the U.S., as a means of providing new passenger transportation services, and as a means of enhancing the operating base and the revenues of passenger carriers, thereby preventing low-ridership routes from being abandoned. However, none of the previous studies/analyses have led to demonstrations (although there may yet be one in Pennsylvania), and, although some pointed out significant problems with the concept, these studies were generally inconclusive.

Each of the studies discussed in this section looked at a particular geographic area (in fact, particular routes) in assessing the feasibility of postal buses. Each study discussed specific barriers associated with its particular routes and institutional setting. Since some of the barriers, especially operational ones, may well be peculiar to the individual situation, it was felt to be important in the UMTA/Multisystems study to examine a range of settings, as well as the general (i.e., non-location-specific) feasibility of the concept.

Furthermore, this study has investigated the entire range of issues associated with implementation and operation of the postal bus, in order to fill the gaps left by the previous studies. The next section addresses a number of operational issues affecting the feasibility of the postal bus concept, including routes and schedules, demand, and costs.

#### 4.0 OPERATIONAL FEASIBILITY OF THE POSTAL BUS CONCEPT

The studies described in Section 3 raised a number of key operational issues affecting the feasibility of postal buses. The following discussion highlights these issues which include route and schedule compatibility, how passengers will access the postal bus, demand and costs.

##### 4.1 Routes and Schedules

As discussed in Section 3, postal bus routes and schedules must be compatible with both mail and passenger transportation needs. Many star carrier routes and schedules operate outward from regional centers in the mornings -- against the normal pattern of demand for passenger transportation service. Many star carriers also travel during unacceptably early or late hours, and delivery schedules are tightly drawn. Such routes are generally not appropriate for passenger travel. However, on those routes where the star carriers return to the regional center following distribution of the mail, the backhaul trips may be quite appropriate for many people. A sample star schedule is shown in Figure 1.\* On this route, the backhaul trip begins around 8:15 AM and arrives in the regional center at about 10:00 AM; the evening outbound backhaul trip then leaves the regional center at about 3:30 PM.

Of course, star schedules vary considerably. Some carriers make only one round trip per day (i.e., outbound in the morning and inbound in the evening, with no backhaul trips). The times vary greatly, as well. However, in areas which are good candidates for postal bus service, some schedule adjustments can potentially be made. Local sectional postal officials have the capability to adjust mail delivery/pickup schedules where they see a need. The manager of the U.S. Postal Service Sectional Facility of State College, Pennsylvania, for example, has expressed a willingness to adjust a route to accommodate

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\* This "sample" is a current star route in Southwestern Wisconsin.

Figure 1. SAMPLE STAR ROUTE SCHEDULE  
 (Route No. 53561 in Southwestern Wisconsin)

<u>AM</u>		<u>PM</u>
6:25 (Leave)	Mineral Point	6:40 (Arrive)
6:50	Rewey	6:15
7:00	Livingston	5:50
7:15	Montfort	5:50
7:30	Highland	5:35
7:45	Cobb	5:20
7:55	Edmund	5:10
8:05 (Arrive)	Linden	5:00 (Leave)

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postal bus service.\* He said that, although the star carrier contracts are put out for bid and processed at the sub-regional Postal Service Transportation Management Office in Pittsburgh, the local sectional facility has considerable latitude in defining the actual delivery routes and schedules. Thus, if the proper routes are selected and local postal managers are willing to make slight adjustments, routes and schedules should not constitute a barrier to the concept.

#### 4.2 Passenger Access

An issue related to the routes and schedules is how prospective passengers can get to and from the local post office (or to any point along the route) to access the postal bus. This question obviously applies to any fixed-route service operating in a low-density corridor. There is no hard and fast solution to the problem -- some of those persons in rural areas in need of public transportation doubtless live considerable distances from the local post office. Such people would have to get rides from other family members or neighbors,

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\* Telephone conversation with Mr. Dale Adams of Pennsylvania State University, and conversation with Mr. Paul Mackus of the State College Sectional Facility.

or ride bicycles. On the other hand, some rural residents do live within walking distance of a post office (or some point along a star route) and would, thus, have ready access to a postal bus.

#### 4.3 Demand

As cited earlier, the demand levels on the existing postal bus operations are quite low. While this does not in itself signify that every postal bus service would attract similarly low patronage levels, other rural transportation experience would indicate that such might well be the case. The low level of service (i.e., one or two trips per day in each direction) that would be provided by a postal bus, coupled with the low population densities likely to be found in postal bus corridors, suggests that demand is likely to be quite limited. However, the actual level may vary significantly from one location to the next, depending on the actual population (and density), the nature of trip generators, the travel times and schedule, the fare, and the manner in which the service is marketed (if at all).\* The range of potential demand levels is estimated below.

The limited direct experience and the low population densities within likely postal bus corridors make accurate demand projection quite difficult. To further complicate the problem, traditional models for estimating demand are generally inappropriate for rural areas, as the necessary input data (for existing systems) are often not collected (or not maintained); a major reason for this fact is that rural transit operators generally have very small staffs and can ill afford the time required to collect and tabulate detailed demand data.

Nevertheless, using the demand levels experienced by certain rural public transportation operators, we can provide rough estimates of potential demand at different fare levels on

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\* Kernville, for instance, does not actively advertise its service to the public.

postal bus service. Many rural (i.e., local, county-wide and intercity) systems are quite similar to postal bus service in that they have fixed schedules and involve only one or two runs per day; furthermore, such services often have very large (and very low density) service areas, with fairly long average trip lengths. Thus, we can reasonably base postal bus demand estimates on the demand levels of similar existing services.

In order to estimate potential bus demand, we have selected several rural transit systems (in Minnesota).\* Each of these services has a low level of service (i.e., one or two runs per day), serving a fairly large, yet low density area with a single vehicle\*\* in fixed schedule service.\*\*\* Table 1 summarizes the daily ridership, the fare, and the population density of each of these systems, as well as the two California postal bus operations. As shown in the table, the population densities of the Minnesota service areas fall within a range of 6 and 42 persons per square mile. Thus we can construct a rough estimate of demand at different fare levels for corridors falling within this general density range.

Figure 2 plots ridership against fare/mile for the entries in Table 1 (by ascending fare). Figure 2 also includes the

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\* Ridership data were also collected for two intercity bus operations: Vermont Transit Co. provided a summary of tickets sold in the individual cities/towns served (for January 1981); and Peter Pan Lines (of Massachusetts) provided ridership figures for trips originating or terminating in one town (Palmer) during May 1981. The former is not useful for estimating postal bus demand because it does not indicate origin-destination pairs. The latter is also of limited use because Peter Pan makes an average of 9 runs per day (in each direction), and because the fare is much higher than any of the other services examined; the average fare is 19¢/mi., as opposed to 6.5¢/mi. for the existing postal bus services and 3-5¢/mi. for the rural transit systems examined. The demand for the Peter Pan service varied substantially among the origin-destination pairs reported: 1-8 passenger trips per day.

\*\* One of the systems (Aitkin County) uses two vehicles.

\*\*\* Upsala and Clearwater County have route deviation service; the other three have fixed route service.

Table 1. EXISTING RURAL SERVICES

Location/Service	Population Density of Service Area	Fare (¢/mile)	Number Pass. Trips/Day
Kernville	N/A	6.5	2
Mt. Lassen	N/A	6.5	4
Clearwater Co., MN	8	3	12
Chisago, MN	42	3	14
Aitkin Co., MN	6	3	15
Upsala, MN	25	3.7	11
Lake of the Woods Co., MN	7	5	6

Source of Data: Minnesota Department of Transportation/Office of Transit Administration project fact sheets, March 1980.

ridership/fare projections from the Caltrans study for purposes of comparison. As can be seen on the graph, most of the figures fall roughly along the curve. This curve produces the demand/fare estimate shown in Table 2. As indicated earlier, this estimate is subject to significant variation, depending on various factors, including actual level of service provided, the corridor population, and the nature of the marketing effort. However, it does indicate some demand for postal bus service. As shown in the Mt. Lassen and Kernville examples, even a minimal demand should be sufficient to make a postal bus service feasible as a secondary source of revenue to a star carrier.

#### 4.4 Costs

The principal marginal costs of postal bus service are vehicle conversion or procurement, insurance and licensing. (Other costs include administration, ticketing, fare collection, and marketing.) As regards the vehicle, postal regulations require that star carriers provide a locked compartment, and specify the size of this compartment, based on



FIGURE 2: POSTAL BUS DEMAND PROJECTION:  
RURAL TRANSPORTATION SERVICES

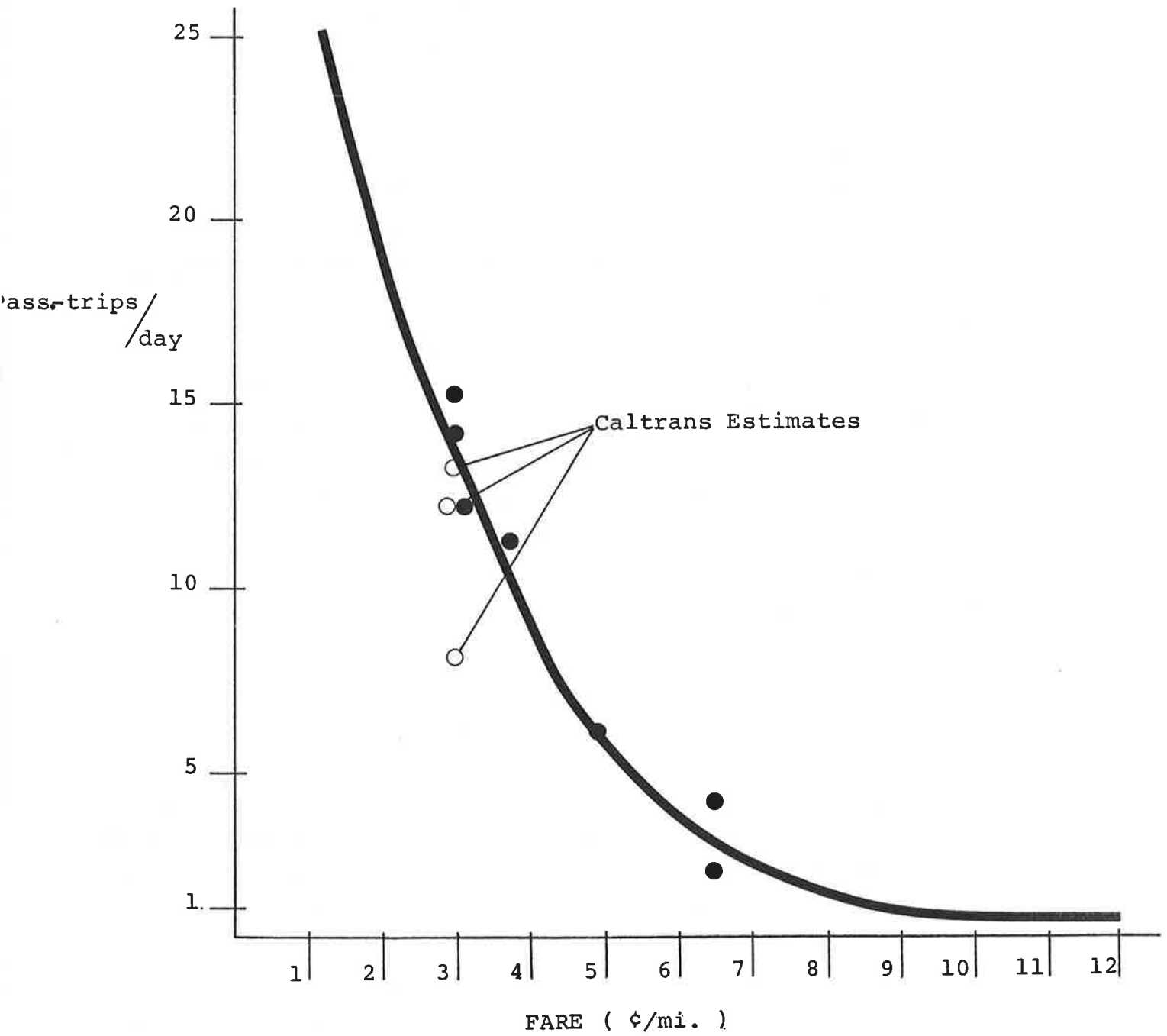


Table 2. POSTAL BUS STUDY DEMAND PROJECTION  
(from Figure 2)

<u>Fare</u> <u>(¢/mile)</u>	<u>Passengers</u> <u>Trips/Day</u>
2	19
3	14
4	10
6	4
8	1
10	0.5

the maximum anticipated daily mail volume over the four-year contract period.\* Most of the vehicles currently operated by star carriers are station wagons, vans or pickup trucks with a mail capacity of 200 to 1000 cubic feet. The vans and trucks typically do not have seating capacity for more than one or two passengers, while the station wagons generally do not provide adequate separation between the mail and the potential passengers (see p. 33).

As discussed in Section 3, the Caltrans study proposed use of a six-passenger crew-cab (four-door) pickup truck with a lockable camper shell and additional steps into the cab. Both 3/4 and 1 ton models were considered, depending on mail volume requirements.\*\* The current cost of such a vehicle is about \$10,000. The Pennsylvania study envisions use of either a club cab that could seat four people and provide a 400 cubic foot mail compartment, or a minibus with several seats removed to make room for the mail compartment.\*\*\*

\* U.S. Postal Service, "Star Carrier Solicitation Forms and Bidding Package," 1981.

\*\* Hunter et al., op cit.

\*\*\* Telephone conversation with Dale Adams.

For a passenger transportation operator seeking to carry the mail, the only vehicle-related cost involves adapting the interior so as to create a separate mail compartment. The cost of this depends on the size of the compartment required under the terms of the contract and the nature of the vehicle.

For star carriers, insurance fees are likely to increase substantially when passenger service is added. For instance, the California Public Utility Commission requires passenger insurance coverage as much as 15 times higher than that required by the U.S. Postal Service for the transportation of mail (see Table 3 and Section 5).\* Mt. Lassen's manager indicated that, without passengers, their insurance costs would be only one-third of current payments; PennDOT expects that insurance costs might account for 80% of the cost of a postal bus demonstration.\*\* The cost is likely to be especially high for new operators with no history of providing passenger service.

Based on the rates paid by rural transit operators, a postal bus operator should expect to pay annual premiums of \$500 or more -- probably closer to \$1000 per vehicle;\*\*\* the exact rate will depend on the requirements of the particular state, the size and type of vehicle used, and the expected passenger volume.

Licensing fees would include the necessary driver's licenses and the cost of any required certification. The fees for Certificates of Public Convenience and Necessity (see Section 5) for transporting passengers are typically between \$10 and \$75 (generally covering an operator's entire fleet), with renewals between \$5 and \$35 per year.

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\* Hunter et al., op cit.

\*\* Telephone conversation with Art Wagner.

\*\*\* Institute for Public Administration, Improving Service for Older Americans, September 1980. (cost information - from "Special Telephonic Survey of Sixty Transportation Providers").

Table 3. SAMPLE MINIMUM INSURANCE REQUIREMENTS

	(1) U.S. Postal Service* (no passengers)	California (7 pass. or less)	(2) (passenger-stage) (8 to 12 pass. (incl.))	(3) Maine (12 pass. or less)	(4) Vermont (8 to 12 pass (incl.))
(1) Limit for bodily injuries to or death of one person:	\$ 10,000	\$ 100,000	\$ 100,000	\$ 50,000	\$ 50,000
(2) Limit for bodily injuries to or death of all persons injured in any one accident:	20,000	300,000	350,000	100,000	250,000
(3) Limit for loss or damage in any one accident to property of others (excluding cargo):	5,000	50,000	50,000	10,000	50,000

\* If greater minimums are required by State or Federal laws, those minimums apply.

Sources:

- (1) U.S. Postal Service, Basic Surface Transportation Services Contract General Provisions, PS Form 7407, April 1979, Section 6.
- (2) Public Utilities Commission of the State of California, Public Utilities Code General Order No. 101-C, March 1, 1969, Section 1.
- (3) State of Maine Public Utilities Commission; Public Utilities Code Chapter 53, Safety and Operation of Motor Carriers of Passengers For Hire, May, 1979, Section 4.
- (4) State of Vermont Insurance Regulations, 1981.

Labor and fuel costs for star carriers should not be substantially higher with passenger service, although there may be some administrative costs involved. Most star carriers are self-employed; to cover those drivers who are employees, the U.S. Department of Labor publishes a "Register of Wage Determinations Under the Service Contract Act" specifying minimum hourly wages, based on region and type of vehicle. The March 1981 Register specifies an hourly minimum between \$7.50 and \$9.00.

Of course, integrally related to the cost of implementing and operating the postal bus is the level of additional revenue which the service will generate. For the star carrier transporting passengers, the amount of revenue will obviously depend on the fare level and the level of ridership. Since the marginal costs are not great, star carriers stand to make at least a small profit through the addition of passenger service. Indeed, several star carriers we contacted expressed interest in adding passenger service (see Section 6). However, in locations where the star carriers are reluctant to assume the additional costs (and there is certainly some risk involved), the guaranteed revenue of a service contract may be necessary to generate interest.\*

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\* In terms of the benefit to a public body in contracting with a star carrier, such an option should certainly prove less expensive than would direct operation (or contracting with another type of private operator). This is attributable to the fact that, in the direct operation situation, the entire operating cost must be covered, while the bulk of the star carrier's cost is covered through the mail contract. The level of the passenger service contract will depend on the nature of the additional costs involved and the level of guaranteed "profit" sought by the star carrier. In any event, the total contract amount should not be great -- perhaps on the order of \$5,000 per year (excluding marketing costs) if no routing or scheduling changes are required, as opposed to a direct operating cost for a public provider on the order of \$15,000-40,000 per year for a one-vehicle system.

Despite the apparent benefit to star carriers of carrying passengers, many carriers would have no interest in integrating the two functions, either because they do not wish to increase their administrative burdens and costs, or because they currently use their vehicles for other more lucrative activities (e.g., freight delivery) in addition to mail delivery. Several star carriers contacted as part of this study expressed this feeling, and the Kernville operator expressed a desire to drop his passenger-carrying functions. Thus, the potential of the star carrier postal bus option is limited to those locations where the carrier is convinced of the potential benefit of carrying passengers.\*

On the other hand, a public transportation operator could receive substantial additional revenue by taking over a star route. These routes carry contract reimbursement rates averaging nearly \$0.90/mile, and total annual revenue from star route contracts has been as high as \$85,000 (for star carriers in Vermont and New Hampshire), although most carriers are in the \$15-30,000 range.\*\*

#### 4.5 Summary

To summarize, operational issues will have rather different impacts, depending on the nature of the particular location and situation. For example, some routes and schedules do not

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\* A star carrier's interest in adding passenger service may also be limited by the fact that once he/she obtains a certificate of Public Convenience and Necessity, it may be difficult to discontinue the passenger service at some future time. This is discussed further in Section 5.2.

\*\* This must cover expenses, of course, but, as suggested earlier, the marginal cost to a passenger carrier of carrying the mail should not be very high. It should be noted, however, that there are certain barriers to this arrangement. First of all, the star contract bidding procedure (i.e., requiring that the operator submit the lowest bid) and contract award timing could impede an operator's efforts, as discussed in Section 5.1. In addition, there may be problems related to competition with private operators if the passenger carrier is receiving federal funds. This is discussed in Section 5.2.

immediately lend themselves to passenger service, while others are more conducive to the integration of mail and passenger service. The perception of significantly increased costs probably constitutes the most significant "operational" barrier to a star carrier implementing a postal bus arrangement, although, with an adequate fare and sufficient demand, the costs should be more than covered by the revenues. Other issues (e.g., interest of key parties) will certainly affect who operates the service, but would not seem to represent barriers to implementation in general.

## 5.0 REGULATORY AND INSTITUTIONAL ISSUES

This section reviews the regulatory requirements and administrative procedures which can have a bearing on the feasibility of a postal bus operation in the United States. Section 5.1 reviews the U.S. Postal Service regulations which pertain to the transportation of passengers on vehicles also transporting mail. It also includes a discussion of star carrier schedules, contract rates and adaptability to passenger transportation. Section 5.2 reviews a sample of the state public utility regulations that pertain to passenger transportation. Section 5.3 then includes a brief discussion of the federal regulations that may impose requirements on a postal bus operation.

### 5.1 The U.S. Postal Service

As suggested earlier, although the U.S. Postal Service owns and operates a large fleet of mail vehicles, federal regulations prohibit these vehicles from carrying passengers. These vehicles, driven by Postal Service employees, perform all house-to-house mail delivery, as well as regional mail distribution and collection (i.e., between the regional center and individual post offices) in some rural areas. In most rural locations, though, private contractors -- star carriers -- perform the regional distribution and collection. These contractors bid for routes and supply their own vehicles.

Star carrier contracts are awarded by the U.S. Postal Service Transportation Management Offices (TMO) located in each of approximately twenty sub-regions. Generally the contracts are renewed or advertised for bid on a state-by-state basis, although some states are divided into regions. The New England region TMO (located in Boston), for example, recently renegotiated contracts for New Hampshire and Vermont. Most contracts are set for a four-year period, the maximum period allowed by Postal Service regulations. However, if the TMO anticipates a change in mail volumes, it may set the contract period for a shorter period of time.



When awarding contracts, existing contracts are apparently renewed whenever possible. The contract is advertised for bids if the service provided by the contractor has been deemed unacceptable, if an unreasonable rate increase is demanded, or if the contractor wishes not to renew his contract. Sealed bids are requested; the bid price includes operational, fuel, and payroll costs, as well as the contractor's profit. The contract is then awarded to the lowest reasonable bidder, or to the bidder deemed "most advantageous." The "Contract Route Statement, Schedule and Specifications" is a matter of public record, but cost data other than total contract amounts are private.\*

The timing of these contract periods may impact what type of contractor will be able to implement and operate a postal bus. For instance, a new four-year contract period began on July 1, 1981 in Pennsylvania, Vermont, and New Hampshire and will begin on July 1, 1984 in Maine. Since the postal service must pay an indemnity for breaking a signed contract, any postal bus implemented on an existing star route would require the participation of the existing star carrier. For this reason, PennDOT proposes to find an interested star carrier within the boundaries of a transit authority. The authority would then sign a purchase of service agreement with the star carrier to provide passenger transportation along its mail route. The alternative option (i.e., if a passenger carrier wishes to directly operate the postal bus service) would require that the interested operator follow the standard star route contract process and bid on the star route in question at the appropriate time; this could serve as a barrier to this arrangement, in that the operating cost structures of many passenger carriers may prohibit them from submitting low enough bids.

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\* Telephone conversation with Mr. Tom Weir, General Manager of Surface Transportation, U.S. Postal Service, Washington, D.C., February 20, 1981.

In terms of cost/revenue data, a sample of star carrier contracts from the Manchester, N.H., White River Jct., Vt., and Portland, Maine, areas showed current (as of July 1, 1981) rates of between \$0.53 and \$1.40 per mile, with an average rate of approximately \$0.88 per mile.\* Since most contracts are awarded for the full four-year period, intermediate rate adjustments are allowed, although they are typically limited to fuel price or social security adjustments, and an occasional route or schedule change. Where data over time are available (e.g., in Manchester), the per mile rates show an average increase of 61% since July 1977 (equivalent to a 12.6% increase per year). The per mile rates do not appear to be correlated either with the type of vehicle nor with whether the contract is a renewal or an initial award.

The star carriers sampled make one or two round/trips per day, with at least one trip in the early morning and one in the late afternoon or early evening. Saturday schedules usually differ from weekday schedules, and often entail a mid-afternoon return trip in place of the late afternoon or early evening return trip. Some one-way trips are scheduled as well. Schedules vary according to the needs of mail delivery in each area.

Although federal rules and regulations prohibit the use of U.S. Postal Service vehicles for carrying anyone or anything other than mail, there is nothing in the rules and regulations for contract (star) carriers that prohibits the use of these vehicles for carrying passengers. The Postal Service General Provisions state that:

The Contractor shall protect the mail from loss, degradation, or damage. The mail shall be transported in an enclosed, water-proof compartment, equipped with secure locking devices, which shall be kept locked at all times except when access thereto is required for performance of service under this contract. The

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\* Selected U.S. Postal Service Carrier Contract Route Statement, Schedule and Specifications for White River Jct., VT, Portland, ME, and Manchester, NH.

Contractor, except when the vehicle of the Contractor is carrying passengers on a fixed schedule, shall await completion of all delayed mail connections, unless otherwise directed by the Contracting Officer. If the Contractor is authorized to carry passengers, the mail must be carried in a compartment separate from the passengers so that they cannot have access to the mail.\*

However, despite the fact that star carriers are not prohibited from transporting passengers, the reactions of postal officials (at both the national and regional levels) contacted suggests a prevailing attitude of general resistance to the postal bus concept. Specific reactions included concerns that adding passengers might cause delays in mail distribution/collection schedules, and that combining mail and passenger service could produce significant administrative problems (i.e., within the TMO and the sectional office); other reactions ranged from general skepticism over the concept's potential to interest in the concept as a possible way to hold down the Postal Service's costs. The nature of attitudes toward the concept was further manifested through the variability of level of cooperation from TMO officials in providing requested information. Some officials readily furnished star contract data, while others were uncooperative, providing us with information only after numerous attempts.

Although Postal Service regulations permit the integration of mail and passenger transportation, the nature of interest and cooperation within a particular TMO may have a definite impact on the prospects for implementing a postal bus within that TMO's service area. The Postal Service does have certain specific requirements (i.e., regarding the size and structure of the vehicle, and adherence to a strict mail collection/distribution schedule) and contracting procedures. While these do not constitute real barriers to the concept, a reluctant regional contracting office can create administrative

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\* U.S. Postal Service, Basic Surface Transportation Services Contract General Provisions, PS form 7407, April 1979, Section 4(c).

roadblocks to its effective implementation and operation. Where the regional office is amenable, the administrative and regulatory requirements can be met fairly easily (and possibly modified if necessary).

Finally, it should be pointed out the star carriers are not the only contractors hired to perform regional mail distribution. The U.S. Postal Service sometimes uses intercity bus lines to carry mail on scheduled passenger runs to and from a large city and smaller towns in rural areas. In the New England region, for example, the Postal Service has contracted with intercity bus companies to transport mail on the following two intercity bus runs:\*

- 1) Vermont Transit Run #218: leaves Boston 11:30 p.m.; arrives White River Jct., VT. 4:25 a.m.
- 2) Greyhound Lines Run #3044: leaves Boston 1:50 am; arrives Bangor, ME. 7:55. Return trip on Run #3037: leaves Bangor, ME. 10:00 am; arrives Boston 4:30 pm.

The Postal Contracting Manual stresses that "it should be determined that no other form of transportation exists that would be less expensive to handle the mail involved at the desired service standards."\*\*

## 5.2 State Regulations Pertaining to Passenger Transportation

Unless specifically given exempt status, as in the case of motor vehicles engaged exclusively in the delivery of the U.S. mail, most motor carrier and passenger transportation services that operate entirely within the boundaries of a state are regulated by the state's Public Utilities Commission (or an equivalent agency). These regulations cover safety (e.g., licensing of drivers) and insurance, and, to varying degrees,

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\* Interview with Mr. Joseph Bergin, General Manager of the U.S. Postal Service Transportation Management Office in Boston, February 1981.

\*\* U.S. Postal Service, Postal Contracting Manual, TL-21, 9-13-76, Section 19-318.1(c).

rates, routes and schedules for passenger transportation. Most states regulate most facets of passenger transportation - some even to the point of specifying the type of paper to be used for printed timetables. The state regulations that pertain to postal bus operations in selected states are discussed in this section.

As previously discussed, California has a history of combined mail/passenger operations. As a result, the California Public Utilities Commission has a set of regulations specifically for such operations.\* These regulations require a Certificate of Public Convenience and Necessity (PCN) for all carriers that propose to transport passengers over a regularly scheduled route. The PCN certificate requires a \$75 application fee, and once a Certificate has been awarded, a carrier must petition the Commission to transfer the certificate to another operator or to discontinue service.

Other states, including Maine, New Hampshire, Vermont, and West Virginia also require PCN Certificates for passenger transportation operations, and have similar requirements regarding license transfers or discontinuance of service. Maine and Vermont require a public hearing on each application to help assure that the application or proposed discontinuance is in the public interest.

Some states exempt certain governmental activities from public utility regulation. New Hampshire specifically exempts "motor vehicles engaged exclusively in work for any branch of the Government of the United States or for any department of this state, or for any county, city, town or village ...."\*\* Certain states, (e.g., Pennsylvania) have similar clauses

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\* Public Utility Commission of the State of California, Rules and Regulations Governing the Operations of Passenger Stage Corporations and Passenger Charter-Party Carriers, General Order No. 98-A, Amended as of May 31, 1977. Also, State of California Public Utilities Code, Section 255 et seq.

\*\*N.H. Property Transportation Law, Chapter 376, Section 3(5).

which exempt routes operated by public transportation authorities from specific regulation by the state public utilities commissions. As stated earlier, the postal bus study being undertaken in Pennsylvania is looking into the feasibility of working through a regional transportation authority to avoid the requirement of obtaining a separate Certificate of PCN. By signing a purchase of service agreement with a star carrier, the authority could issue temporary operating rights that could be transferred from carrier to carrier simply by transferring the agreement.

Most states also specify the minimum insurance requirements for motor vehicles engaged in the transportation of passengers. These requirements are considerably higher than those set by the U.S. Postal Service for mail delivery alone. The minimum insurance requirements for star carriers, and for passenger operations in California, Maine and Vermont are included in Table 3.

The Certificate of PCN can be easily obtained in most states upon payment of the appropriate fee (ranging from \$10 to \$75 in the states surveyed), as long as the operation is "sound" and there is no competing service. The major drawback of this requirement for star carriers willing to transport passengers is that once a certificate is awarded, the requirement to provide service remains until such time as the issuing agency gives permission either to transfer authority or to discontinue service. Thus, if a star carrier chose to discontinue carrying mail or the postal service chose not to renew a star carrier's contract at the end of the four year period, the requirement to carry passengers would not automatically be terminated as well. Such a requirement may make many star carriers reluctant to enter into such an agreement; the arrangement proposed by PennDOT may therefore make the postal bus concept considerably more appealing to star carriers.

### 5.3 Federal Transportation Regulations

If postal bus operators sought to utilize federal transportation funds,\* they might be subject to certain regulations affecting public transportation operations. These regulations include Sections 13(c) and 3(e) of the UMT Act of 1964 and U.S. DOT's rules pertaining to Section 504 of the Rehabilitation Act of 1973. The first, 13(c), deals with protection of labor of existing public transportation operations; it basically requires that the U.S. Secretary of Labor "sign off" on any new transportation service receiving federal funds, attesting to the fact that the new service will not adversely affect the interests of employees of existing public transportation operations. Section 3(e) is intended to assure existing private operators that their operations will not be adversely affected by competition from new services (receiving federal funds). The DOT Section 504 regulations relate to accessibility requirements (for the handicapped) on public transportation services.

Although 13(c) and 3(e) might present certain administrative hassles to potential postal bus operators, they are not likely to constitute serious impediments to implementation of the concept. Section 18 applicants have generally been granted a one-time waiver of the 13(c) provision if absolutely no service exists at the time of project implementation. Since there typically would be no existing transit service in areas initiating postal bus service, 13(c) should not be a problem. Similarly, 3(e) is not likely to be a problem in the implementation of a postal bus service since such a service would probably be introduced only in a location not currently served by other operators (e.g., taxis).

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\* Capital and operating funds are authorized under Section 18 of the Surface Transportation Act of 1978 for public transportation providers in "areas other than urbanized areas." Section 6 funds are for demonstrations and are disbursed through UMTA's Office of Transportation Management and Demonstrations.

As originally stated, the 504 regulations required that all transit fleets in areas of 50,000 or more people be made accessible to the handicapped (i.e., 50% of the fleet would have to be equipped with wheelchair lifts). The regulations are being revised and will likely allow localities the option of providing a separate demand-responsive service in lieu of making fixed route service accessible; however, the impact of this change on small rural operators is presently unclear, in that such operators would likely have considerable difficulty providing a separate service. In any event, the 504 regulations have not been finalized, and any attempt to assess the difficulties they might impose on postal bus operations would be purely speculative. At this time, it is sufficient to suggest that the prevailing 504 regulations be examined before a postal bus operation is initiated.



## 6.0 CONCLUSIONS: FEASIBILITY OF THE POSTAL BUS CONCEPT

This report has presented the findings of the Postal Bus Feasibility Study. We have examined the nature of operational and institutional requirements and potential barriers to the postal bus concept. This section presents the implications of the findings and discusses the general feasibility of the concept.

Based on the research conducted during the study, it would seem that the postal bus is certainly a feasible concept for providing passenger transportation service where none currently exists and/or for achieving greater efficiencies in the provision of both passenger and mail distribution/collection services. The integration of these two functions can potentially be accomplished through three different arrangements: 1) a star carrier transports passengers - in addition to its normal mail distribution functions - on its own initiative; 2) a star carrier provides passenger service under contract to a public body (i.e., a regional transportation operator/authority or a county government); or 3) a passenger transportation service operates a star route in addition to its normal functions.

Each of these arrangements has certain advantages and disadvantages. As shown in Table 4, there are a number of potential barriers to both a star carrier adding passenger service and a passenger carrier adding mail service. However, none of these barriers is insurmountable; the most serious are likely to be the requirements for certification (and the concomitant requirement to continue carrying passengers even if the mail contract is lost) for the star carrier and the star route contracting procedure for the passenger carrier. The other potential barriers will carry different levels of importance from one location to the next. For instance, to some star carriers, the additional costs (or perception of such costs) constitute a significant obstacle; these carriers do not feel that the likely additional revenue will make it worth

Table 4. POTENTIAL BARRIERS TO POSTAL BUS IMPLEMENTATION/OPERATION

Type of Issue	Star Carrier Providing Passenger Service	Passenger Trans. Operator Providing Mail Service
Regulatory/ Institutional	<ul style="list-style-type: none"> <li>● must get PCN certificate (and must continue to carry passengers, even if no longer carrying mail)</li> <li>● 13(c)</li> <li>● 504</li> <li>● opposition or lack of cooperation from Postal Service TMO</li> </ul>	<ul style="list-style-type: none"> <li>● proper mail compartment</li> <li>● timing of star contract cycle (every 4 years) and nature of bidding procedure</li> <li>● opposition or lack of cooperation from Postal Service TMO</li> </ul>
Operational	<ul style="list-style-type: none"> <li>● strict mail distribution schedules (i.e., without tolerance for passenger pickup/drop off)</li> <li>● service would have very low frequency and coverage</li> </ul>	<ul style="list-style-type: none"> <li>● strict mail dist. schedules</li> </ul>
Cost	<ul style="list-style-type: none"> <li>● new vehicle</li> <li>● additional insurance</li> </ul>	<ul style="list-style-type: none"> <li>● adaptation of vehicle (for mail compartment)</li> </ul>

their while to add passenger service. As another example, the star route contracting procedure is more "open" in some regions than others - in these locations, the existing contractors are not necessarily renewed every four years; thus, as a new bidder, a passenger carrier may have a better chance at securing a mail contract in such locations. In short, the most serious constraint to the implementation of a postal bus operation in many locations would be the lack of interest on the part of prospective operators.

In terms of which of these options has the greatest potential for a postal bus operation, there is no clear winner. The most appropriate arrangement will vary from one location to the next, and will depend on the interest of the key parties (star carrier, local/regional public bodies, and transportation authorities), the availability of public funds (i.e., to purchase service and/or to provide a vehicle more suitable to passengers), the timing of the local star contract, and the institutional environment related to certification. In other words, in one location, the star carrier may be interested in adding passenger service on his/her own, while in another, a passenger carrier may be interested in bidding on a star route on which the current carrier is retiring. It would be helpful to test out all three arrangements through formal demonstrations, in order to assess their relative potential; however, in that this may not be feasible at the present time, any type of demonstration of the general concept would be useful in determining its overall promise (the final section of this report presents recommendations concerning potential demonstration sites).

In summary, the postal bus concept would seem to have considerable potential as a rural transportation option in the United States. It has proven to be very effective in Europe,

and the declining supply of public transportation in the U.S. points to a need for more efficient utilization of existing resources. A postal bus arrangement offers definite, albeit modest, benefits to its operator - a star carrier stands to improve his/her profit margin, while a passenger carrier can increase his/her revenues. Although it is difficult to predict demand for such service, the results of current systems suggest that there is certainly some demand - however modest - for even a very low level of service in low density areas. Various institutional and operational issues may impede efforts to implement a postal bus operation, but none of these issues should constitute major barriers - at least in a cooperative institutional setting (i.e., with cooperation from the state public utilities commission and regional postal officials). Previous plans for implementing postal bus service (except for existing operations, of course) have been thwarted by uncooperative postal service officials and/or inappropriate service scope. In the proper setting, a modest-scale effort (i.e., covering only one or two routes to start with) would seem to have a good chance at successful implementation and operation.

## 7.0 RECOMMENDATIONS OF POTENTIAL DEMONSTRATION SITES

Based on the findings of this study, we have drawn general conclusions regarding the feasibility and potential of the postal bus concept. However, the best way to determine the concept's actual effectiveness is to undertake a demonstration. This section of the report presents recommendations concerning potential demonstration sites and discusses the procedures required to implement a postal bus operation.

### 7.1 Site-Selection Process

The procedure for determining the most promising sites was as follows: 1) establish criteria for selection; 2) identify candidate locations; 3) contact key parties and determine level of interest; 4) identify possible operational arrangements; and 5) recommend site(s) which are most promising. The selection criteria were as follows:

- o the nature of the star routes,
- o the availability of public transportation in the area,
- o the level of interest among potential operators,
- o the timing of the star contract renegotiation,
- o the interest of a potential local/state lead agency.

The star route schedules were reviewed for appropriateness for passenger travel, in terms of schedule, number of trips per day, and nature of the route (i.e., locations covered). This was taken into consideration in assessing sites, but since each area has several routes, no candidate sites were eliminated because of an inappropriate route. The candidate sites and routes are summarized in Table 5;\* The full list of candidate routes and key parties are presented in the Appendix.

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\* Because of the time and effort required to assess the potential of each location, we limited the locations to those where interest had been expressed (i.e., earlier in the study), or where previous contact has been made (i.e., through other studies). An exhaustive search was not possible within the time and budget constraints of the project. However, the areas reviewed do represent a variety of settings in terms of size of population centers and existence of other forms of transportation.

Table 5. POSSIBLE DEMONSTRATION SITES (SUMMARY)<sup>1</sup>

State	Regional Center	Star Carrier Interested	Passenger Carrier Interested	Local Lead Agency	State Interested	Star Contract Period	Comments
Maine	Portland	did not reach	no	yes	did not reach	7/1/80-6/30/84	Lead agency had pushed for passenger carrier operation, but operator not interested
Missouri	N/A	N/A	yes	yes	N/A	N/A	passenger carrier had pushed for concept, but did not provide requested information
New Hampshire	Portsmouth	yes	yes	yes	yes	7/1/81-6/30/85	area well served by passenger carriers
	Manchester	no	-	no	yes	7/1/81-6/30/85	not enough interest
New York	Troy	did not reach	did not reach	yes	yes	N/A	area well served by passenger carriers
Pennsylvania	State College	yes	yes	yes	yes	7/1/81-6/30/85	recommended site; focus of PennDOT study
	DuBois	did not reach	yes	yes	no	7/1/79-6/30/83	did not pursue because of PennDOT interest in above site
Vermont	White River Jct.	no	yes	yes	yes	7/1/81-6/30/85	star carrier not interested; contract period prohibits passenger carrier until 1985
Wisconsin	Madison	yes	-	yes	yes	7/1/78-6/30/82	star route not appropriate; doesn't make backhaul trips
	Wausau	yes	-	yes	yes	7/1/80-6/30/84	recommended site

The most important element of the selection process was the discussions with relevant parties. In each area we contacted (or attempted to contact) anyone likely to have interest and/or importance in implementing and operating a postal bus demonstration: star carriers, passenger carriers, state/regional transportation officials, the TMO, and local bodies which might serve as lead agencies. (The names of the key persons are listed in the Appendix.) We were unable to reach certain people despite repeated efforts; these people were classified in the "low" interest category. Reactions to our inquiries varied, although most people were quite interested in the concept, if not in the prospect of actually participating in a demonstration.\*

After assessing the candidate sites, we can recommend two locations as possible sites for demonstration of the postal bus concept. The first is in northern Wisconsin, in the Wausau area; the second is in the State College (PA) area. The most likely postal bus arrangement in the former is that of a star carrier adding passenger service; the latter would likely involve a regional transit authority contracting with a star carrier.

The prospective postal bus route in Wisconsin (star route #54431) originates in Wausau (leaves at 6:00 AM) and terminates in Rosholt (at 7:15 AM); the mail delivery/collection schedule is shown in Figure 3, the route itself in Figure 4. Following his arrival in Rosholt in the morning, the driver retraces his route back to Wausau. It is this backhaul trip that would

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\* This raises an important point concerning the initiation of postal bus service in general. Although it is a relatively simple concept, our research suggests that few transportation providers have thought of it on their own. When informed about the concept, a number of operators expressed interest. This suggests that there is a need for systematic information dissemination, perhaps from state transportation agencies to individual operators, if the concept is to become at all widespread.

Figure 3. SCHEDULE FOR STAR ROUTE 54431 (WISCONSIN)

<u>Outbound</u> (read down)		<u>Inbound</u> (read up)
5:55 AM (leave)	Wausau	6:30 PM (arrive)
6:15	Schofield	6:15
6:35	Ringle	5:55
6:50	Hatley	5:40
7:10	Elderon	5:20
7:20	Galloway	5:10
7:30 AM	Rosholt	5:00 PM

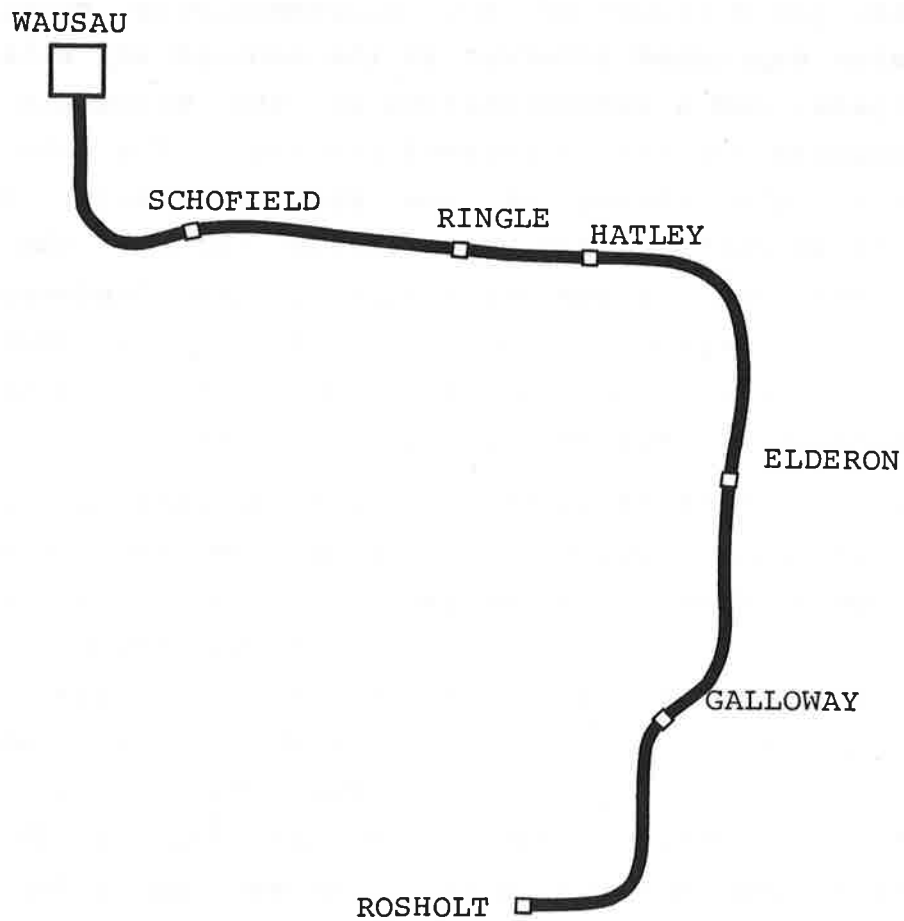
presumably be the major morning passenger trip: passengers would arrive in Wausau - the regional center - at approximately 9:00 AM. In the afternoon, the driver travels from Wausau to Rosholt so as to begin the mail collection run (from Rosholt) at 5:00 p.m.; passengers travelling from Wausau could thus take the afternoon backhaul run (the departure time would be around 3:30). Of course, passengers could also travel on the regular mail runs (i.e., from Wausau in the morning or to Wausau in the evening).

There are currently two transportation operations serving parts of the star route, but no service covering the entire route. There is intercity bus service on about half the route (from Wausau along Route 29, near Elderon). There is also a route deviation service operated by the County Commission on Aging covering about half the star route, but it operates only twice a week and is available only to the elderly. Thus, half of the route is without any public passenger service. The director of the Marathon County Planning Commission (the prospective lead local agency) expressed the viewpoint that a daily service in this area could be attractive to residents, and furthermore, such a service could conceivably enable the Commission on Aging to shift its vehicle to some other use.



FIGURE 4: POTENTIAL POSTAL BUS ROUTE-  
WAUSAU, WISCONSIN (HCR#54431)

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The star carrier has indicated considerable interest in carrying passengers. The only financial assistance he would require would be for purchase of an appropriate vehicle; the current vehicle (a Ford Econoline van) has no passenger seats, and the addition of seats would not leave enough room for the mail compartment. Thus, a larger vehicle would be needed to accommodate both mail and passengers.\* In terms of lead agencies, the director of the aforementioned county planning commission expressed interest in the concept and willingness to participate, and a representative of the Wisconsin Department of Transportation also expressed interest. The final issue of concern is the timing of the star contract: the current contracts in northern Wisconsin extend through the summer of 1984. This should allow ample time for the implementation and operation of a demonstration prior to the rebidding period. All factors considered, this site/route would seem to present a good location to test the postal bus concept.

The second potential site - the State College, Pennsylvania area - is the location recommended by the researchers at Pennsylvania State University, currently performing the feasibility study discussed earlier in this report. Since they have looked at essentially the same issues we have in choosing a demonstration site/route, we recommend their choice as a potential demonstration site. The star route they have tentatively selected is #16831, originating in State College and terminating in Woodward (see Figures 5 and 6 for the route schedule and its geographic setting).

The State of Pennsylvania is obviously interested in the postal bus concept, since it is sponsoring the study; the Pennsylvania Transportation Institute (at Pennsylvania State University) would serve as the local lead agency. Finally the

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\* The appropriate vehicle could be either a pickup truck with a crew cab and lockable shell or a minibus with some of the seats removed.

Figure 5. SCHEDULE FOR STAR ROUTE 16831 (PENNSYLVANIA)

Outbound (read down)			Inbound (read up)	
<u>Trip 1</u>	<u>Trip 3</u>		<u>Trip 2</u>	<u>Trip 4</u>
7:05 AM	2:25 PM (leave)	State College	10:20 AM	5:25 PM (arrive)
--	--	Pleasant Gap	10:05	5:10
7:40	3:00	Centre Hall	9:50	4:55
8:00	3:20	Spring Mills	9:35	4:40
8:20	3:40	Millheim	9:20	4:25
8:30	3:50	Rebersburg	-	4:15
8:40	4:00	Madisonburg	-	4:05
8:50	-	Aaronsburg	9:15	-
9:00 AM	- PM (arrive)	Woodward	9:05 AM	- PM (leave)

Note: Trips 1 and 2 are made daily except Sunday and holidays; trips 3 and 4 are made daily except Saturday, Sunday and holidays.

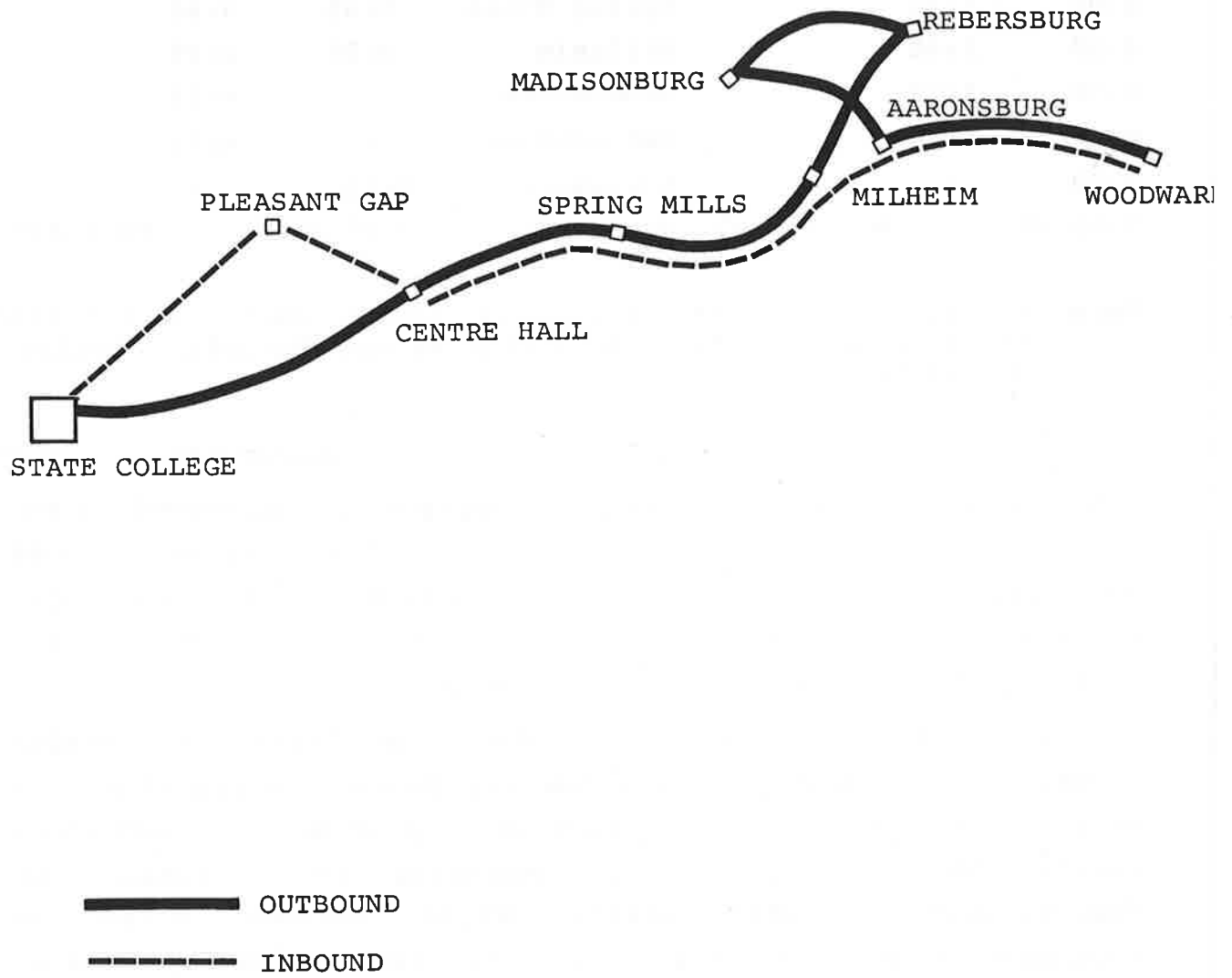
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star carrier serving that route is apparently interested in the concept. While the exact details of the operating arrangement have yet to be worked out, the intention is that the local transit authority (serving State College) would subcontract with the star carrier to provide service.

In addition to the above sites, our inquiries revealed several other locations in which key parties, especially star carriers and/or transportation providers, expressed considerable interest in participating in a postal bus demonstration. These areas, which include sites in southeastern New Hampshire, south-western Wisconsin, central Vermont, and southeastern Missouri, all offer some potential for successful postal bus operation. However, in each case, one or more of the selection criteria cited above were not satisfied (see Table 5). Most of these problems can conceivably be overcome where several parties are

Figure 6: POTENTIAL POSTAL BUS ROUTE-  
STATE COLLEGE, PENNSYLVANIA (HCR#16831)

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willing to work together, and indeed some of these sites may well find it in their interest to pursue the postal bus concept on their own - or through their respective state departments of transportation. Furthermore, our investigation suggests that there are very likely many locations across the U.S. which possess the right combination of "ingredients" to make postal bus a useful approach to solving certain transportation problems.

## 7.2 Demonstration Implementation Requirements

This subsection briefly reviews the institutional, administrative and operational procedures required to implement a postal bus demonstration.

In the case of a star carrier seeking to add passenger service, as in the northern Wisconsin example, the necessary procedures (for the carrier) would include the following: 1) securing state certification as a common carrier; 2) obtain the necessary insurance; 3) obtain a vehicle suitable for carrying passengers (or adapt the current vehicle, if feasible); 4) establish a definite travel schedule for the backhaul runs (i.e., those runs not constrained by mail schedules); 5) establish a fare level and collection mechanism (i.e., at the post offices, or on the vehicle, if feasible from the route contract owner's point of view); and 6) advertise the service (e.g., through the local/regional newspapers, radio and/or with flyers at the post offices).

In such an arrangement, a subsidy may be needed in helping the star carrier purchase a new vehicle, and possibly for marketing the service as well.\* If these funds come from a federal source (e.g., through an SMD demonstration grant, or through Section 18), the carrier will also have to adhere to the appropriate regulations - sections 13(c), 3(e) and 504.

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\* If a subsidy is involved, this becomes a form of contract arrangement.

The local lead agency and/or the state department of transportation might serve in an advisory role and assist in these and indeed all of the required procedures. If a federally-sponsored demonstration is undertaken, UMTA (or FHWA, if section 18 funds are used) might also provide technical assistance in implementing the project. Finally, any demonstration should be monitored and evaluated, so that the project results and potential transferability to other locations can be assessed and publicized.

In summary, we recommend that the postal bus concept be tested in at least one demonstration project. The Pennsylvania DOT has plans to undertake a demonstration; that project should be evaluated by the U.S. DOT for applicability to other locations. In addition, we recommend an SMD demonstration in the Wausau, Wisconsin area; a star route there would seem to be a good candidate for a postal bus arrangement and key parties there are interested in trying out the concept. The results of both of these demonstrations would provide an indication of the concept's potential under different administrative arrangements; however a demonstration in either location would do much toward testing out the basic concept.

Rural Contract Postal Route U.S. Postal Service Administration

State	HCR/ Contract Period	Route Termini	Route Schedule	Star Carrier	Sectional Center/TMO	Transit Provider	Lead Agency	State Agency
Maine	04030 7/80-8/84	Portland to Center Lovell	0630 1930 ↓ ↑	Gordon Dobson, So. Portland	Portland/ Boston	Loretta Sharpe, Regional Trans- portation Program (RTP) in Cumber- land County	Leo Hurtubise, GPOOG Portland	
			0940 1620					
	04064	Portland to Pownal	0630 1755 ↓ ↑	Orville Davis, Gray				
			0715 1710					
	04078	South Casco to Casco	0755 1720 ↓ ↑	Barbara Frank, Casco				
			0815 1700					
	04044	Scarborough to Prout's Neck	0825 0905 ↓ ↑	David Gorman, Scarborough				
			0840 0850					
			1605 1640 ↓ ↑					
	04035	Portland to Gorham	0545 0705 ↓ ↑	G. Dobson				
0625 0635								
04034	Portland to Bath	0330 0615 ↓ ↑	R. & J. Hakala, Gray					
		0500 0515						
		1300 1810 ↓ ↑						
04033	Portland to Harrison	0645 1910 ↓ ↑	Robert Holmes, Scarborough					
		0845 1710						

APPENDIX

POSSIBLE DEMONSTRATION SITES

Rural Contract Postal Route U.S. Postal Service Administration

State	HCR/ Contract Period	Route Termini	Route Schedule	Star Carrier	Sectional Center/TMO	Transit Provider	Lead Agency	State Agency
Missouri	N/A	N/A	N/A	N/A		Bill Osborne, SE MO Trans. (Fredericktown)	SMNS	N/A
New Hampshire	03830 7/81-6/85	Portsmouth to Rochester	0430 1830 ↓ ↑ 0530 1730	Wm. Langley, Somersworth	Alvin Fernald, Portsmouth / Joseph Bergin, Frank Cronin, Boston	Bill Puffer, Kariyan (UNH)	Univ. of New Hampshire	Henry Smith, Dept. of Hwys.
		Portsmouth to Danville	0530 1840 ↓ ↑ 0755 1630	Gerry Mackey, Chester				
	03834	Portsmouth to Seabrook	0530 1750 ↓ ↑ 0625 1700	Paul Bunette, Exeter				
	03836	Portsmouth to N. Hampton	0545 1820 ↓ ↑ 0645 1730	Batchelder Trans- portation, Portsmouth				
	03875	Portsmouth to Exeter	0530 1820 ↓ ↑ 0600 1740	Paul Binette				
	03032	Manchester to So. Lyndeboro	0540 0845 ↓ ↑ 0720 0800  1400 1830 ↓ ↑ 1505 1730	Henry Champagne	Roger Brasard, Bill Sula, Manchester			



## Rural Contract Postal Route U.S. Postal Service Administration

State	HCR/ Contract Period	Route Termini	Route Schedule	Star Carrier	Sectional Center/TMO	Transit Provider	Lead Agency	State Agency
New Hampshire (cont.)	03033	Manchester	0605 0810 ↓ ↑ 0705 0710	John Twarjan, Manchester	Roger Brassard Bill Sula, Manchester/ Joseph Bergin Frank Cronin, Boston			Henry Smith Dept. of Hwys.
		to Greenfield	1600 1815 ↓ ↑ 1700 1715					
	03040	Manchester	0535 0940 ↓ ↑ 0700 0745	Robert Clapp, E. Candia				
		to Epping	1630 1835 ↓ ↑ 1705 1710					
05036	White River Jct.	0615 0905 ↓ ↑ 0810 0815	Mowers News Service, White River Jct.	Harold Wright, Pete Simons, White River Jct.				
	to Georges Mill	1605 1820 ↓ ↑ 1640 1645						
0538	White River Jct.	0700 0745 ↓ ↑ 0715 0730	Mowers News Service, White River Jct.					
	to Hanover	1500 1600 ↓ ↑ 1540 1545						

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POSSIBLE DEMONSTRATION SITES

Rural Contract Postal Route U.S. Postal Service Administration

State	HCR/ Contract Period	Route Termini	Route Schedule	Star Carrier	Sectional Center/TMO	Transit Provider	Lead Agency	State Agency
New York	N/A	(Rensselaer County)	N/A	N/A	N/A/ Springfield, MA	Yankee Trails	David Soule, Rensselaer Co. Planning Dept.	Richard Albertin, NY DOT
Pennsylvania	16831 7/81-6/85	State College to Woodward	0705 1020 ↓ 0900 0905 1425 1725 ↓ 1600 1605	Hartman	Paul Mackus, State College/ Jerry Watkins, Pittsburgh		Dale Adams, Penn State U.,	Art Wagner, PennDOT
		DuBois to Rockton	0700 0855 ↓ 0835 0840 1550 1745 ↓ 1605 1610	Nancy Sprague, Reynoldsville	DuBois/Pittsburgh	Mike Imbragno ATA-NCP Johnsonburg		
	15831	DuBois to Corsica	0645 0920 ↓ 0815 0820 1500 1815 ↓ 1640 1650	Nancy Sprague Reynoldsville				
	15832	DuBois to Brockport	0700 0900 ↓ 0830 0835 1600 1815 ↓ 1630 1635	WR Reasinger, DuBois				

Rural Contract Postal Route U.S. Postal Service Administration

State	HCR/ Contract Period	Route Termini	Route Schedule	Star Carrier	Sectional Center/TMO	Transit Provider	Lead Agency	State Agency	
Pennsylvania (cont.)	15833	DuBois to Emporium	0515 1630 ↓ ↑ 0750 1435	H.W. Sidelinger, DuBois	DuBois/Pittsburgh	Mike Imbragno ATA-NCP Johnsonburg		Art Wagner, PennDOT	
	15834	DuBois to Emporium	0630 1115 ↓ ↑ 0905 0915	Howard Frantz, DuBois					
	16732	Bradford to Roulette	0630 0955 ↓ ↑ 0755 0805	J. Perischini, Bradford	Bradford/ Pittsburgh				
	16735	Bradford to DeYoung	0625 1005 ↓ ↑ 0845 0850	John Matto, Bradford,					
				1355 1815 ↓ ↑ 1615 1620					
	16762	Port Allegheny to Austin	0745 0920 ↓ ↑ 0830 0835	Mary Weiner, Port Allegheny	Port Allegheny/ Pittsburgh				
			1570 1645 ↓ ↑ 1555 1650						

APPENDIX

POSSIBLE DEMONSTRATION SITES

Administration

U.S. Postal Service

Rural Contract Postal Route

State	HCR/ Contract Period	Route Termini	Route Schedule	Star Carrier	Sectional Center/TMO	Transit Provider	Lead Agency	State Agency
Pennsylvania (cont.)	15880 7/79-6/83	DuBois to Jeff. Co. Airport	0315 1435 ↓ ↑	Elead Reitz, DuBois	DuBois/Pittsburgh	Mike Imbragno, ATA-NCP, Johnsonburg		Art Wagner, PennDOT
			345 1405					
Vermont	05034 7/81-6/85	White River Jct. to Randolph	0530 0845 ↓ ↑	Earl Bushor (Mower's News Service), White River Jct.	White River Jct./ Boston	David Palmer, Stagecoach	David Palmer, Stagecoach	Langdon Cummings, Vermont DOT
			0700 0730 1530 1840 ↓ ↑					
Wisconsin	53534 7/79-6/82	Madison to S. Wayne	0430 1805 ↓ ↑	Gary Neidert, Wausau	Madison/ Chicago		Frank Huntington, SW Wisconsin Reg. Planning Comm.	Richard Martin, WISDOT
			0740 1700					
	53533 7/79-6/82	Madison to Woodford	0430 1940 ↓ ↑	Gary Neidert, Wausau				
	54431 7/80-7/84	Wausau to Rosholt	0555 1830 ↓ ↑	Gary Neidert Wausau	Wausau/ Chicago	Wausau Area Trans. System	Bill Forest Marathon Co. Planning Comm.	
			0730 1700					

## APPENDIX B

### REPORT OF NEW TECHNOLOGY

A thorough review of the work performed under this contract has revealed no significant innovations, discoveries, or inventions at this time. In addition, all methodologies employed are available in the open literature. However, the findings in this document do represent new information and should prove useful throughout the United States in designing and evaluating future transportation demonstrations.

300 copies

