Innovative Rural Transit Services

DETAILS

43 pages | | PAPERBACK
ISBN 978-0-309-14352-3 | DOI 10.17226/14605

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TCRP SYNTHESIS 94

TRANSIT COOPERATIVE RESEARCH PROGRAM

Innovative Rural Transit Services

Sponsored by the Federal Transit Administration

A Synthesis of Transit Practice

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TRANSIT COOPERATIVE RESEARCH PROGRAM

TCRP SYNTHESIS 94

Innovative Rural Transit Services

A Synthesis of Transit Practice

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Research Sponsored by the Federal Transit Administration in Cooperation with
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TRANSIT COOPERATIVE RESEARCH PROGRAM

The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions*, published in 1987 and based on a study sponsored by the Federal Transit Administration (FTA). A report by the American Public Transportation Association (APTA), *Transportation 2000*, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA, the National Academy of Sciences, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

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Because research cannot have the desired impact if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended end users of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

TCRP SYNTHESIS 94

Project J-7, Topic SB-17
ISSN 1073-4880
ISBN 978-0-309-14352-3
Library of Congress Control Number 2011936874

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TRANSIT COOPERATIVE RESEARCH PROGRAM

are available from:

Transportation Research Board
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Printed in the United States of America

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Cover Figure: Bicycles and transit get together in Middlebury, Vermont, as Addison County Transportation Resources provides a variety of innovative services to meet the needs of a transit-oriented community. (©Caleb Kenna)

FOREWORD

Transit administrators, engineers, and researchers often face problems for which information already exists, either in documented form or as undocumented experience and practice. This information may be fragmented, scattered, and unevaluated. As a consequence, full knowledge of what has been learned about a problem may not be brought to bear on its solution. Costly research findings may go unused, valuable experience may be overlooked, and due consideration may not be given to recommended practices for solving or alleviating the problem.

There is information on nearly every subject of concern to the transit industry. Much of it derives from research or from the work of practitioners faced with problems in their day-to-day work. To provide a systematic means for assembling and evaluating such useful information and to make it available to the entire transit community, the Transit Cooperative Research Program Oversight and Project Selection (TOPS) Committee authorized the Transportation Research Board to undertake a continuing study. This study, TCRP Project J-7, "Synthesis of Information Related to Transit Problems," searches out and synthesizes useful knowledge from all available sources and prepares concise, documented reports on specific topics. Reports from this endeavor constitute a TCRP report series, *Synthesis of Transit Practice.*

This synthesis series reports on current knowledge and practice, in a compact format, without the detailed directions usually found in handbooks or design manuals. Each report in the series provides a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems.

PREFACE

By Donna L. Vlasak
Senior Program Officer
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Research Board

The focus of this synthesis was on transit's response (including rural intercity bus service) to changing rural community transportation needs. The synthesis placed an emphasis on innovative and/or entrepreneurial spirit, the innovator, and the conditions required for innovation. The unique nature of most rural transit systems requires management to adapt to their specific needs, making innovation important to rural transit. The real innovation appears to be the change and re-invention of the organization to meet ever-changing dynamics in demographics, technology, and economic factors. Most innovators did not realize that what they are doing is innovative. They replied that what they were doing was "just common sense" or "the logical thing to do."

A literature review was conducted; however, overall few publications related directly to rural transit. There are two TCRP reports that provided case studies of innovative systems and included more than 40 innovations. A selected survey of state departments of transportation, state and national associations, as well as rural transit agencies known by the consultant and expert panel to operate innovative service yielded an 82% response rate; 27 of 32 agencies responded. The five case study agencies offer a range of rural transit services from around the country, including large and small-sized systems, as well as FTA Section 5311 (f)-funded intercity services.

Kenneth I. Hosen and S. Bennett Powell, KFH Group, Inc., Austin, Texas, collected and synthesized the information and wrote the report, under the guidance of a panel of experts in the subject area. The members of the topic panel are acknowledged on the preceding page. This synthesis is an immediately useful document that records the practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As progress in research and practice continues, new knowledge will be added to that now at hand.

CONTENTS

INNOVATIVE RURAL TRANSIT SERVICES

SUMMARY

Rural public transit systems and rural intercity bus service face a wide variety of challenges on a daily basis. Complicating this is the unique nature of rural transit—each system has its own dynamics related to geography, quality of service, political issues, service design, cost, and a host of other factors. The unique nature of most rural transit systems requires management to adapt to their specific needs, making innovation important to rural transit.

Rural transit agencies need to change and innovate in order to improve and meet the increasing demands for their service, as their service area often undergoes significant changes. The old saying "necessity is the mother of invention" is more than evident in rural transit. Some transit agencies are not able to make such changes, yet others thrive in this environment, even in a poor economy. The synthesis tells us that the successful systems have certain characteristics related to their willingness and ability to change as needed to improve, innovate, and try something new; the ability to change in itself is innovative.

Considerable thought went into how innovations would be defined and categorized for rural transit. Building on earlier TCRP reports, the synthesis defines innovation as change for a useful purpose, including

- New, different, and unique techniques, practices, or approaches (changes that improve a part of the organization);
- Techniques, practices, or approaches that are newly applied to a rural transit setting, but not necessarily unique; and
- Modification of a practice that has been previously implemented, but with a nuance or twist that makes it different or innovative (*TCRP Report 70*).

TCRP is conducting this synthesis to focus on transit's response (including rural intercity bus service) to the changing rural community transportation needs. The synthesis reviews the state-of-the-practice, broadly defined for the report as rural *transportation service innovations*, with a compilation of possible innovations that have been considered and implemented by rural transit agencies with a focus on innovations in the following six categories:

1. Innovative agency characteristics;
2. Service responses to changing demographics;
3. Involvement in the transportation planning process;
4. Alternative service modes;
5. Outreach, education, and training; and
6. Leveraging funding opportunities.

The literature review was undertaken to compile the latest literature on the subject and to assist in identifying potential innovations and innovators. The focus was on both literature directly related to transit innovation and other rural transit literature which, in some cases, contained examples of innovative approaches to rural transit.

Overall, few publications are directly related to rural transit innovation. The two major publications were developed for TCRP (*TCRP Report 70: Guidebook for Change and Innovation at Rural and Small Urban Transit Systems* and *TCRP Report 99: Embracing Change in a Changing World—Case Studies Applying New Paradigms for Rural and Small Urban Transit Service Delivery*). These reports include case studies that examined innovative systems as well as more than 40 innovations. Other TCRP reports and syntheses were reviewed as well.

A survey of state departments of transportation, state and national associations, as well as transit systems was conducted for the purpose of discovering additional innovations at the local level. There was an 82% response rate to the surveys. In addition, other organizations were contacted for information on innovations. Although these organizations did not point to specific innovations, they were helpful in directing the synthesis team to innovative operators.

The survey responses revealed many successful practices for rural transit, but few true innovations using the synthesis's definition of innovation. Most innovators do not realize that what they are doing is innovative; responses such as "we just thought that was common sense" or "I thought it was the logical thing to do" were frequent. Many of the respondents did not consider that their practices might be innovative. This response was similar to the consultant's experience when conducting *TCRP Report 70*.

TCRP Report 70 was the initial report that addressed innovation in rural transit. The study focused on the ingredients necessary for innovation and compared innovation in rural transit with innovation in other fields. It also compiled a detailed review of more than 40 innovations in a wide range of areas. This report is the baseline for this synthesis and is detailed in the literature review.

The compilation of innovations was a difficult process as there is often a fine line between innovative and successful practice. Many of the "innovations" identified through the survey process may be over that line. For the most part, we have not included those responses that are simply examples of good or successful practice, including such practices related to procuring smart bus technology, initiating a new route in a rural area, bus wraps, or coordinating service between a city and a county. The compilation of innovative practices consists of those innovations discovered in the survey process, through professional contacts, and, in some cases, through the literature. Care was taken not to repeat the innovations from *TCRP Report 70*.

Case studies for the synthesis were selected based on a review of the innovations identified in the study effort, the literature search, suggestions from the Panel, discussions with other transit professionals, and the consultant's knowledge of the subject. Five agencies were selected for the case studies, which provided a range of rural transit services from around the country (this in no way is meant to diminish the many other innovative transit systems). These included large and small systems as well as FTA Section 5311(f)-funded intercity services. The case studies were conducted through telephone interviews.

Each case study includes background information about the agency and its accomplishments, which is followed by an assessment of their "innovative/entrepreneurial spirit" and "culture of innovation." This assessment builds on previous TCRP research on innovation.

In conclusion, it was found that the innovative spirit is alive and well in rural transit. In the 10 years since *TCRP Report 70* was published, transit agencies continue to innovate and change. Review efforts for this synthesis suggest that many rural transit managers have adopted an innovative/entrepreneurial spirit, motivated at times by limited resources and changing demographics in their service areas. Successful rural systems are capable and ready to change and innovate as needed. The need to innovate has not changed and the motivation remains.

Perhaps more important than determining whether a rural transit agency has implemented an innovation or borrowed a creative idea from another transit agency is the ability to make change happen. Changing demographics, technology, and economic factors play a major and continuing role in shaping rural transit systems. The real innovation is in the change and reinvention of the organization to meet these changing dynamics.

The synthesis placed an emphasis on innovative and/or entrepreneurial spirit: the culture of innovation and an organization's ability to reinvent itself. Once the organization reinvents itself, innovation and change can occur as needed. It may be in the culture of change and innovation where future study in the area of innovation might take place, that is, a focus on the innovator and the conditions required for innovation rather than on successful innovative practices. At the same time, there is considerable value to a new successful practices guide to highlight operational and service design issues. Areas such as coordination and technology, although important, have been studied extensively through previous TCRP and other research. An emphasis on operations and, most important, route design (other than expensive paratransit) would have a beneficial impact on the rural transit community.

CHAPTER ONE

INTRODUCTION

The transit industry has long recognized that transit agencies in rural America face unique challenges. Providers of rural transit operate with limited budgets, traverse large service areas with low densities, typically operate with less sophisticated technology than their urban counterparts, may have inherited poor service designs, and must stretch to meet service demands with limited staffing. Compounding these challenges is the image problem associated with many rural transit systems—the service is for human service clients. These challenges make innovation a necessity and a key element of success.

Rapid suburbanization of rural areas is a twofold problem for rural transit. What was at the beginning of the decade a rural area (and funded as such) in 10 years may become an expanding suburb, where the population may double by the end of the decade. Funding, however, is maintained at a low level. Furthermore, this suburb often becomes part of the urban area, and as we saw in one case study, the rural transit system was forced to withdraw from the service area.

Rural transit service is a lifeline for many people residing in rural areas. Transit is called on to provide access to work, school, medical appointments, shopping, and other essential services. Unique to rural transit, requests for service can come from locations many miles apart at the same time. This places enormous pressure on the service as needs for transit service expand.

Many rural transit agencies are changing and innovating to improve and meet the increasing demands for their service. Although some thrive in this environment, other transit agencies are not able to make such changes. This synthesis revealed that the successful systems have certain characteristics related to their willingness and ability to change as needed to improve, innovate, and try something new. Indeed, the ability to change in itself is innovative.

The case studies in this synthesis highlight four rural transit agencies that have innovative aspects, and all have reinvented themselves, which is perhaps their greatest and most important innovation. The fifth case study is a state agency with a history of innovation in a number of areas.

SYNTHESIS PURPOSE

TCRP is conducting this synthesis to focus on transit's response to rural community transportation needs. The synthesis reviews the state-of-the-practice, broadly defined for the synthesis as rural *transportation service innovations.*

Considerable thought was put into how innovations could be defined and categorized for rural transit. Building on previous TCRP research, the synthesis defines innovation as change for a useful purpose, including—

- New, different, and unique techniques, practices, or approaches (changes that improve a part of the organization);
- Techniques, practices, or approaches that are newly applied to a rural transit setting, but not necessarily unique; and
- Modification of a practice that has been previously implemented, but with a nuance or twist that makes it different or innovative (*1*, p. 1–2).

With a wide array of possible innovations that have been considered and implemented by rural transit agencies and intercity bus operators, the synthesis narrowed its focus of innovations to the following six categories:

1. Innovative agency characteristics;
2. Service responses to changing demographics;
3. Involvement in the transportation planning process;
4. Alternative service modes;
5. Outreach, education, and training; and
6. Leveraging funding opportunities.

Innovations relating to coordination and technology were purposefully not included in the review, as they have been studied and reported on elsewhere. The reader can view a number of TCRP reports on coordination, including *TCRP*

Report 101: Toolkit for Rural Community Coordinated Transportation Services (2); TCRP Report 105: Strategies to Increase Coordination of Transportation Services for the Transportation Disadvantaged (3); and *TCRP Report 121: Toolkit for Integrating Non-dedicated Vehicles in Paratransit Service* (*4*). Additional coordination studies were conducted through Community Transportation Association of America (CTAA) and Project ACTION. Technology-related studies can also be found through TCRP, CTAA, and FHWA.

Despite the categorization of innovations into common groups, innovations tend to fit a particular niche or need, and are typically tailored to an individual transit agency. It is important that the reader not necessarily attempt to replicate an innovation from another agency, but rather take the idea and tailor it for a particular situation.

Background on Rural Transit and Intercity Service

Rural transit is defined as transportation services available to the public in communities of fewer than 50,000 residents. This can include public transportation services operating in only one town up to multicounty transit systems, which in some cases can be as many as 25 counties. Rural transit also includes intercity bus services, which provide critical linkages across vast stretches of the country. Public as well as private providers may operate rural transit.

Across the country, rural transit comes in many different designs and configurations, with each service implemented to meet the needs of its often-unique community or communities. Population densities are low and come nowhere near the levels that urban systems enjoy. This results in a high cost per trip at rural agencies because of long distances that must be traveled and low productivities achieved. With limited funding, growing needs for service, and the realities of their operating environment, rural transit needs to adapt.

Innovation in Rural Transit

Real-world experience teaches us that over the past 30 years, a number of significant transit innovations have come from rural areas. Examples include bus wraps, service routes, coordinated intercity feeder connections, and coordination of Medicaid and human service transportation. It is interesting to note that one of the first practitioners of bus wraps was Pee Dee Regional Transit in South Carolina. The system was successful in generating revenue for that innovative transit system in the mid-1980s and early 1990s. [In the 1980s and early 1990s, Pee Dee Regional Transit was an innovative system with its bus wraps, 50-mile (one-way) commuter routes to Myrtle Beach, South Carolina, and its unique approach to local service.]

Innovation among rural transit agencies has been explored in earlier TCRP research, specifically *TCRP Reports 70* and *99* (*1,5*) summarized within this synthesis's literature review in the following section. This synthesis is a follow-up to that earlier research, and readers are urged to review those two documents in conjunction with this synthesis. One of the key points taken from those documents is the need to align the organization for change, developing a culture of innovation.

The Guidebook on Change and Innovation (*TCRP Report 70*) focuses on the "culture of innovation." According to the guidebook, "The culture of innovation suggests that an organization is willing and able to change" (*1*). The need for an entrepreneurial leader was also apparent as every case study confirmed.

Thinking in the Future Tense

It is interesting to note that in 1999 bicycle racks were considered innovative. The question to be asked is, Why wasn't that thought of 80 years ago? Why did it take so long for an innovation that within 10 years is almost as ubiquitous as a lift or ramp and has expanded the reach of transit? What is the next major innovation waiting to happen, and how will it be created? What types of organization and what types of managers are prerequisites for this to happen?

Significantly, certain organizations are better positioned to "think in the future tense," through management style and practice that fosters creativity and innovation. Such organization characteristics were explored as part of *TCRP Reports 70* and *99*, which provide a detailed bibliography on organizational change and adaptation. Understanding and anticipating future patterns, trends, and needs will allow an organization to change in a timely manner rather than continually playing "catch up."

REPORT METHODOLOGY

This synthesis includes a literature review; a survey of state agencies, state and national associations, and transit providers; and five case studies. Follow-up interviews were conducted as necessary. The literature review included both documents germane to the topic of innovation, as well as publications that might have highlighted innovative practices. Sources included TCRP reports, and documents from CTAA, Project ACTION of Easter Seals, and university research centers.

A web-based survey was developed specifically for this synthesis to search for innovative practices. Survey candidates were contacted by email and asked to participate. Many did, but some requested that we contact the transit system directly. Respondents included state departments of transportation (DOTs), national associations, and transit providers. The response rate was 82%. Appendix A includes a copy of the survey, and Appendix B lists the respondents.

Through the surveys, the consultant's knowledge, and the literature review, a number of potential case studies were selected and narrowed to five. Care was taken to—

- Introduce some systems that have not been extensively studied,
- Ensure that different sized systems were represented,
- Ensure that diverse regions of the country were represented, and
- Include intercity bus.

Interviews were conducted over the telephone and responses were verified with each of the respondents.

REPORT ORGANIZATION

This synthesis is organized into five chapters. This introduction is followed by the literature review in chapter two, the survey results and a compilation of the innovations in chapter three, and the case studies in chapter four. Chapter five focuses on conclusions and suggestions for further research.

CHAPTER TWO

REVIEW OF LITERATURE AND OTHER SOURCES

BACKGROUND

Study efforts for this synthesis included the review of a variety of sources to identify possible innovations. This included a review of pertinent literature both directly related to innovation as well as other publications where innovative ideas might be found. A Transportation Research Information Service search and other Internet searches were conducted, and various industry publications were reviewed. Professionals in the industry were canvassed and national associations were contacted.

LITERATURE REVIEW

The focus of the literature review was actual rural transit and rural intercity service innovations; however, other documents that may not be innovation-specific were reviewed in an attempt to find additional innovative approaches. The following sources were canvassed to identify relevant reports and other published materials:

- TCRP
- FTA
- CTAA
- American Bus Association
- Easter Seals—Project ACTION
- University research centers
- Other peer-reviewed transit research
- The consultant's prior work on public transit innovation.

In the area of organizational change and innovation, there is a wealth of general management theory and practice in the literature. In addition to the published reports, a variety of unpublished documents were reviewed. Although beyond the scope of this effort, it may be worthwhile for a reader to review the general management bibliography in *TCRP Report 70* (*1*).

TCRP Publications

A primary source of literature on the subject of transit innovation is found in TCRP reports and syntheses, the first two of which highlight innovation. The other TCRP reports and syntheses cited focus on various aspects of rural transit and intercity service and often have examples of successful practices from which innovation can be gleaned. Furthermore, the reader is directed to the bibliography, which contains other related TCRP reports that may spark ideas for a new innovative or successful practice.

TCRP Report 70: Guidebook for Change and Innovation at Rural and Small Urban Transit Systems (1)

This guidebook is the initial detailed TCRP research on change and innovation in the rural transit industry. It is divided into three major sections. The first section includes research on how organizations change and innovate, how they develop a culture of innovation, and how they align themselves for change. The general management theories on innovation are compared with actual results and experiences of innovative transit agencies and their managers, obtained through the project's primary research. The comparison found many commonalities. The second part of the guidebook is a compendium of 42 different innovations, grouped into categories of productivity, efficiency, quality, funding, training, and marketing.

The guidebook's third part describes the case studies of seven truly innovative rural and small urban transit agencies, which are located in diverse parts of the country. This publication provides a solid starting point on innovative rural transit services.

TCRP Report 99: Embracing Change in a Changing World—Case Studies Applying New Paradigms for Rural and Small Urban Transit Service Delivery (5)

The case studies in *TCRP Report 99* were a follow-up to the *TCRP Report 70*. The report examined four rural transit systems recognized for their innovative characteristics. The purpose of this effort was to examine how and why these systems adapted to change and new paradigms. The new paradigms require a different way of thinking and approaching an issue or problem. Of particular interest in the research for this report was the changing rural landscape due to urban fringe "creep" close to the rural areas. The report examines how four transit systems responded to the changes of demographics, technology, funding, service design, and other factors.

TCRP Synthesis 53: Operational Experiences with Flexible Transit Services (6)

This synthesis documents and summarizes transit agency experiences with "flexible transit services," including all types of hybrid services that are not pure demand-responsive (including dial-a-ride and ADA paratransit) or fixed-route services, but that fall somewhere in between those traditional service models. The report documents six types of flexible transit service: request stops, flexible route segments, route deviation, point deviation, zone routes, and demand-responsive connector service. A number of rural case studies are highlighted as well as a number of innovative services.

TCRP Report 54: Management Toolkit for Rural and Small Urban Transportation Systems (7)

The toolkit offers managers of rural and small urban transit systems a wide range of management practices and strategies to provide effective, customer-focused service. Under chapters with titles such as "Managing for Reliable Service," the toolkit describes specific approaches to ensuring high-quality customer service. Some of the practices and approaches describe successful practices, whereas others are innovative, such as the Ludington, Michigan, transit system's practice of contracting out its excess maintenance capacity, which provided new revenue that served as valuable local matching funds.

TCRP Synthesis 65: Transit Agency Participation in Medicaid Transportation Programs (8)

This synthesis reviews programs and approaches to coordinating Medicaid transportation and rural public transit, some of which could be considered innovative, for example, Oregon's model for brokering Medicaid transportation through public transit systems. In these brokerages, the selected transit systems took on the role of providing Medicaid transportation either directly or through a contract. These transit brokers are able to reduce costs due to economies of scale and the absence of the typical independent broker that acts as a "middleman." In many of the Oregon cases, the broker is able to coordinate service with the general public and ADA riders. Furthermore, safety and quality are the same for all riders.

TCRP Report 79: Effective Approaches to Meeting Rural Intercity Bus Transportation Needs (9)

This TCRP report focused on a wide variety of approaches to planning, operating, and funding intercity services. Some of the identified strategies can be called innovative, whereas others are just smart practice. The report includes a step-by-step approach to meeting intercity needs, followed by a number of examples of strategies for facilities development and operation of service by both the public and private sector. Each of these project descriptions includes a background and descriptions of the projects, marketing, challenges, and costs.

TCRP Report 122: Understanding How to Motivate Communities to Support and Ride Public Transportation (10)

This publication focuses on outreach efforts and strategies designed to motivate people to ride transit. The report includes perceptions and attitudes of the public, practices in other industries, and communications strategies and promotional campaigns. The researchers conducted surveys of the public in three different areas based on population densities. Although the focus of this research was transit in general, many of the strategies in the report can be applied in rural areas. The study identifies a number of successful and innovative marketing/attitude activities in the private sector and explains how these approaches can be applied for transit, including rural transit.

TCRP Report 140: A Guide for Planning and Operating Flexible Public Transportation Services (11)

This report focuses on a variety of flexible services in urban and rural areas. By nature, flexible service is innovative and typically tailored for a particular area. The study includes three rural transit systems that operate flex route services (also called route deviation). Types of services are discussed, as well as most appropriate settings for the different services and results of these implementations are reviewed. Three of the 10 case studies are rural in nature; however, innovative approaches applicable for rural areas can be gleaned from both urban and rural examples.

Other Reports and Articles

In addition to the TCRP reports, various organizations and publications were reviewed for information on rural transit innovation, including the CTAA magazine, Project ACTION, and university research centers, as these were the primary sources for rural transit research. Beyond TCRP, there is little literature on this subject. One of the few published articles that specifically addressed rural transit innovation noted a CTAA article on the topic, which was primarily a review of *TCRP Report 70* (*1*). The article mentions a variety of innovations; those not already included in *TCRP Report 70* are listed in chapter three.

CHAPTER THREE

SURVEY RESULTS—A COMPILATION OF INNOVATIONS

A survey of state DOTs, state and national associations, and transit providers was conducted to discover additional innovations at the local level. The response rate was 82% of those surveyed. In addition, other organizations were contacted for information on innovations. Although these organizations did not point to specific innovations, they were helpful in directing the synthesis team to innovative operators.

The survey responses revealed many successful practices for rural transit, but few true innovations using the synthesis's definition of innovation. This was similar to the researchers' experience when conducting *TCRP Report 70*.

Most innovators do not realize that what they are doing is innovative. Responses such as "we just thought that was common sense" or "I thought it was the logical thing to do" were frequent. Many of the respondents did not consider that their practices might be innovative. Although innovations were discovered through the DOTs and state and national association survey, others were discovered through the consultant's network of transit professionals throughout the industry.

PROACTIVE AND REACTIVE INNOVATORS

The review and surveys indicated that there are two major approaches to change: those who change out of necessity as a reaction to a problem, and those who change as a proactive measure. As seen in the next chapter, the case study operators are innovators that produced change as a reaction to a problem (often potentially catastrophic). After the crisis was resolved, however, these systems and their managers became proactive innovators.

COMPILATION OF INNOVATIONS

What is innovative? The definitions cited in chapter one were used to the greatest extent possible in assembling the compilation of innovations in this section. However, there is often a fine line between innovative and successful practice. Many of the "innovations" identified through the survey process may be over that line. For the most part, we have not included those responses that are only good practice [examples include procuring smart bus technology such as automatic vehicle locator (AVL) systems], or initiating a new route in a rural area.

The compilation consists of those innovations discovered in the survey process through professional contacts and, in some cases, through the literature. The reader is also directed to several TCRP reports on innovations that were cited in chapter two. Innovations identified through prior research are not repeated in this synthesis.

Innovative Agency Characteristics

Study efforts for the synthesis found a number of innovations that revolved around transit agencies reinventing themselves when confronted with a major loss of service. Faced with a catastrophic loss of business, an organization can either reinvent itself through change and innovation or fold its doors.

Both Treasure Valley Transit (TVT) in Idaho and TRAX based in Texas lost major portions of their service, but were able to gain new service through concerted efforts to change and create new opportunities. Details of these two rural transit agencies are discussed in the case study summaries that follow.

TVT lost 60% of its service when most of its service area became urbanized and was absorbed into the service area of the region's urban transit agency. TVT immediately started marketing its services to other communities in its rural region, looking as far as 200 miles beyond its facility location. TVT devised a plan to find new service; following the plan essentially invented new markets; and the rural transit agency was able to grow all of its service back within 2 years.

TRAX, the rural transit provider for nine counties of northeastern Texas, lost its Medicaid contract, which comprised about 40% of its service, in 2006. Similar to TVT, TRAX chose to reinvent itself and start marketing its services to other entities. The rural transit agency now has many sponsors and constituents and has increased service beyond the 40% that it lost. TRAX went from a single-mode agency that operated only demand-response service to a system that reinvented itself as a multimodal provider to meet the needs of the different new markets it created. TRAX now operates fixed-route and commuter service, in addition to

demand-response service, tailoring the service to the transit needs of the various communities it now serves.

Addison County Transit Resources (ACTR) in central Vermont is a third example of rural transit agency reinvention. In this case, the impetus was a new manager. He changed the organization from a human service-oriented demand-response program with a handful of riders to a dynamic system offering commuter service, regional service, local fixed routes, and demand-response service, depending on the transit needs of the ridership markets that he recognized. Among the most visible results are significantly higher ridership levels. As part of the reinvention efforts, the manager has also forged new partnerships with the local college and the adjacent transit systems, which have helped grow the system and increase its stature in the community.

Service Responses to Changing Demographics

The population in Williamson County, Texas, 20 miles north of Austin, is growing at record levels. Available data show 100% population growth in the county from 1990 to 2000, and growth continues at high levels (69% growth between 2001 and 2010). The addition of major businesses and universities in the area makes transit a high need. Despite the growing needs for transit, the local communities in the county were not able to follow through with funding as the economy had turned and local tax revenues had dwindled. Capital Area Rural Transportation System (CARTS), a rural transit agency based in Austin, Texas, recognized the need for transit and responded with a network of intercity services designed for regional connection. CARTS's buses will interline with CARTS's partners, Arrow Trailways and Greyhound, intercity carriers operating traditional over-the-road coaches. The service will also connect to the large urban transit's (Capital Metro) park-and-ride facility. The CARTS buses will be listed in Greyhound and Arrows schedule guide, and a passenger will be able to get a ticket to go anywhere in the country through the CARTS network.

Faced with increasing population and a growing need for its residents to travel to employment opportunities in a neighboring community, Dover, Idaho, applied for and received transit funding to purchase a bus. The small community of Dover realized that it did not have the funding resources to operate transit service by itself. Working with the Community Transit Association of Idaho's (CTAI) mobility manager, Dover joined forces with other small cities in the region, which offered portions of their hotel bed tax to support the transit operation that they recognized would benefit their own communities as well. One of the region's communities recently won an election for a hotel bed tax that is dedicated for public transit. With the dramatic growth of tourism in northern Idaho, the hotels support the funding of transit service because they recognize transit's important role in providing transportation for their increasing numbers of employees and guests.

Estuary Transit District (ETD) in Connecticut, while seeing an increase in the ranks of the elderly, has noted that the senior citizens of today are different from seniors in years past. According to ETD management, today's senior citizens are healthier, more active, and more independent, which has led to a decline in the percentage of seniors using public transportation. Because of the changing demographics and life styles of an important transit market segment, ETD decided to diversify and pursue a broader range of transit customers.

Many of ETD's routes and schedules were designed to transport seniors who were not working. This made the routes unusable by the general public and seniors who were still working, a demographic that has increased in recent years. So ETD changed many of its fixed routes and schedules as well as the hours of its demand-response service to better accommodate customers' work hours. Work commute times are now the busiest time of day for the demand-response service.

Historically, the Eureka Springs Transit System in Arkansas has provided fixed-route services to the hundreds of thousands of tourists who visit the area each year. The transit system is operated by the city of Eureka Springs, a small community, with a permanent population of just under 2,400 people. Residents living outside the primary service area believed they would benefit from an expanded transit system. Two years ago, the rural transit system expanded its ADA complementary paratransit program, Share-A-Ride. Using excess capacity in their ADA complementary paratransit program has allowed the system to provide transportation to areas outside the city at little additional cost. Ridership on the Eureka Springs Transit System has increased as more riders now have access to fixed-route service and the system has gained significant recognition in the community for expanding its services.

TriCounty Link, a rural system in Moncks Corner, South Carolina, implemented new commuter routes to meet the changing transportation needs of its residents. The system initiated three new "commuter solution" routes in 2008 and offered free rides on the service as part of a 90-day introductory period. The commuter routes pick up customers from park-and-ride locations in the rural areas and transport them to locations where they can connect with the urban system's express bus service in Charleston. Customers were offered free service, not only on the new commuter routes but also throughout the entire fixed-route system for a 3-month period. The free rides, plus an added incentive for customers to enter a drawing to win a free trip to Las Vegas, jumpstarted ridership on the new service. Ridership doubled within 3 weeks of the start-up date, and customers expressed their satisfaction

with the new service. The new service showed a 40% increase in ridership after the 90-day trial.

Few rural systems have grown as rapidly as Maui Transit (Hawaii). A fixed-route service was implemented on the island in 2006; in its first month, 30,000 trips were provided. Over the next 18 months, service increased 400% to almost 120,000 one-way trips in January 2008 (Figure 1). Management quickly realized that the system would need to catch up to this growth. Forty-foot transit coaches were ordered and a full-scale bus stop inventory was conducted. This was perhaps the first time a full bus inventory with an interactive electronic database was used in a rural transit environment. Each of the 120 bus stops was assessed for amenities, accessibility, safety, and appropriateness. All were photographed and their exact locations were determined using satellite navigation; the stops were all placed in a geographic information system database. The needs for each stop were assessed and prioritized. The database is used for capital planning, maintenance of the stops, and determining whether persons with disabilities can access the bus stop.

FIGURE 1 Maui Transit's transfer center struggled to keep up with ridership.

Involvement in Transportation Planning Process

CTAI and the Idaho Transportation Department (ITD) have taken public participation in the transportation planning process to a new level through a participation process known as "I-way" (I-way.org).

ITD's Division of Public Transportation embraced the challenge of major change to its planning process to enhance mobility and provide a transparent planning process. ITD has given each of 17 mobility networks, formed into six districts, which are composed of stakeholders, the decision-making powers related to FTA funding in rural areas (Section 5310—Elderly and Disabled, Section 5311—Rural Transit, Section 5316—New Freedom, and Section 5317—Job Access and Reverse Commute [JARC]). Under this arrangement, the local stakeholders—not ITD employees—decide how FTA funding is allocated. The division has recently handed this planning program to CTAI to provide vision, management, and oversight of the new I-way planning process.

CTAI works with mobility stakeholders and the public at large to identify issues of concern, articulate desired future conditions, and identify the opportunities and work needed to achieve that future. CTAI has also hired six mobility managers, locally based, to guide the process. Most important, each of the state's six districts determines how its funding is allocated in an open forum, which is a truly transparent process.

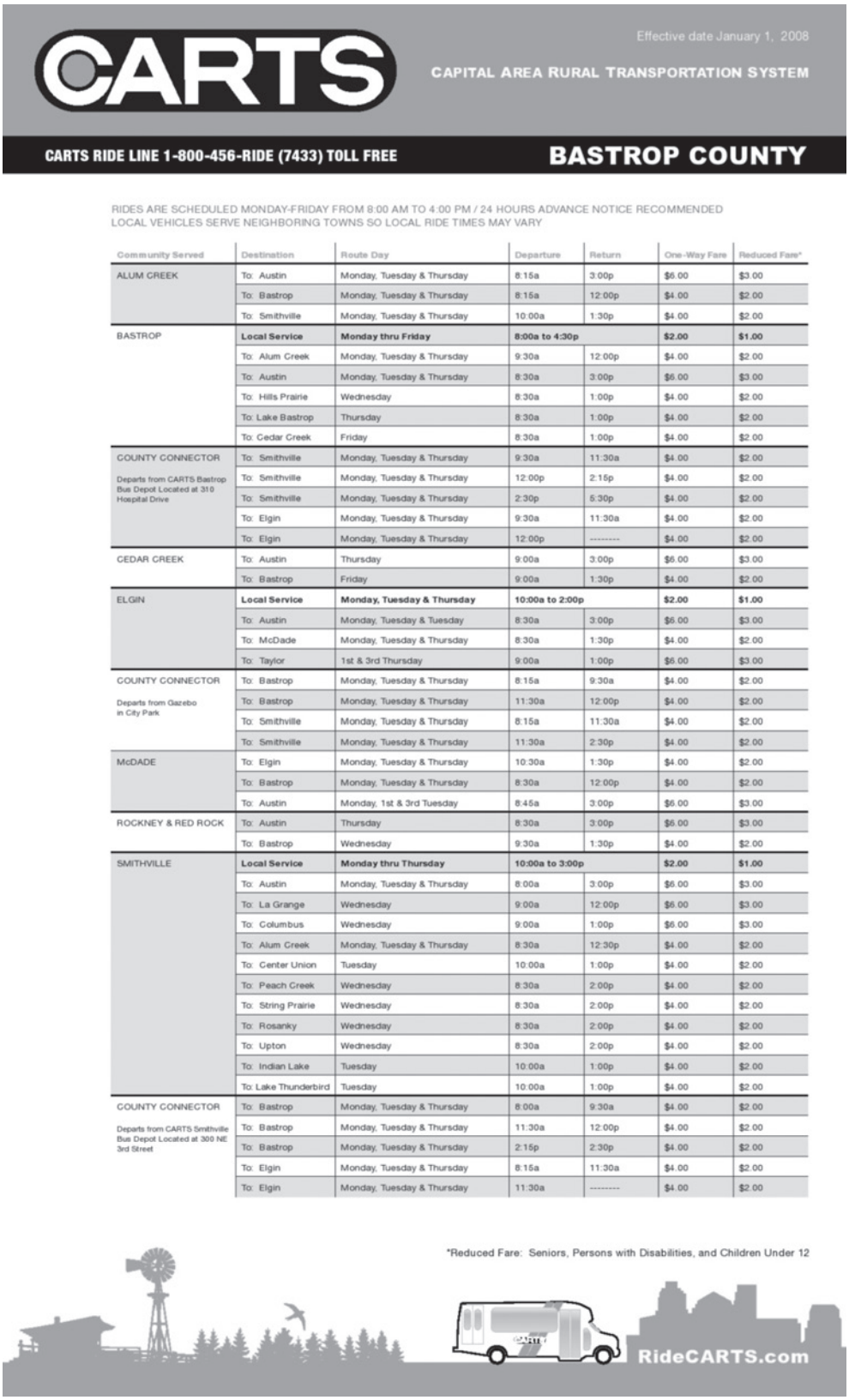
JAUNT, the rural transit system based in Charlottesville, Virginia, has taken an innovative approach to the mobility manager position. This mobility manager's job includes developing plans for human service agencies that operate their own service. The goals of the mobility manager include helping agencies use transportation resources more effectively. The mobility manager identifies deficiencies in a human service agency operation and works with the agencies to come up with an appropriate solution. JAUNT reasons that if they cannot combine operations, at least they can improve the agencies' services and gain a level of trust for future efforts.

Alternative Service Modes

It is widely recognized that paratransit is the most expensive form of transit on a per trip basis because of its low productivity. At the same time, it is arguably the most difficult form of transit to operate because of the constant change. Alternative service modes, in part, seek to reduce the role of paratransit. CARTS, in Texas, developed a new rural hybrid service design called "fixed-schedule" service. That is, the service is available in a designated community to designated destinations on a fixed-schedule basis. Passengers can still be picked up at the curb, but they must adhere to a schedule. This arrangement significantly improved productivity. Figure 2 is a sample of this type of schedule.

Immediate-response dial-a-ride service can offer some service and operational advantages in selected areas, such as those where the service area is relatively small and compact. Immediate response service remains the mode of choice in some parts of the country, including small, rural communities in places such as Wilmington, Ohio; Ludington and Ionia, Michigan; Cleburne, Texas; and Fresno, California.

Ben Franklin Transit, in rural central Washington State, operates a vanpool program that has successfully grown to become the fourth largest in the nation through a variety of practices, some that would be considered successful practices and others innovative. Most innovative about this program is that a small urban/rural transit system has embraced



CARTS

Effective date January 1, 2008

CAPITAL AREA RURAL TRANSPORTATION SYSTEM

CARTS RIDE LINE 1-800-456-RIDE (7433) TOLL FREE

BASTROP COUNTY

RIDES ARE SCHEDULED MONDAY-FRIDAY FROM 8:00 AM TO 4:00 PM / 24 HOURS ADVANCE NOTICE RECOMMENDED
LOCAL VEHICLES SERVE NEIGHBORING TOWNS SO LOCAL RIDE TIMES MAY VARY

Community Served	Destination	Route Day	Departure	Return	One-Way Fare	Reduced Fare*
ALUM CREEK	To: Austin	Monday, Tuesday & Thursday	8:15a	3:00p	$6.00	$3.00
	To: Bastrop	Monday, Tuesday & Thursday	8:15a	12:00p	$4.00	$2.00
	To: Smithville	Monday, Tuesday & Thursday	10:00a	1:30p	$4.00	$2.00
BASTROP	**Local Service**	**Monday thru Friday**	**8:00a to 4:30p**		**$2.00**	**$1.00**
	To: Alum Creek	Monday, Tuesday & Thursday	9:30a	12:00p	$4.00	$2.00
	To: Austin	Monday, Tuesday & Thursday	8:30a	3:00p	$6.00	$3.00
	To: Hills Prairie	Wednesday	8:30a	1:00p	$4.00	$2.00
	To: Lake Bastrop	Thursday	8:30a	1:00p	$4.00	$2.00
	To: Cedar Creek	Friday	8:30a	1:00p	$4.00	$2.00
COUNTY CONNECTOR	To: Smithville	Monday, Tuesday & Thursday	9:30a	11:30a	$4.00	$2.00
Departs from CARTS Bastrop Bus Depot Located at 310 Hospital Drive	To: Smithville	Monday, Tuesday & Thursday	12:00p	2:15p	$4.00	$2.00
	To: Smithville	Monday, Tuesday & Thursday	2:30p	5:30p	$4.00	$2.00
	To: Elgin	Monday, Tuesday & Thursday	9:30a	11:30a	$4.00	$2.00
	To: Elgin	Monday, Tuesday & Thursday	12:00p	--------	$4.00	$2.00
CEDAR CREEK	To: Austin	Thursday	9:00a	3:00p	$6.00	$3.00
	To: Bastrop	Friday	9:00a	1:30p	$4.00	$2.00
ELGIN	**Local Service**	**Monday, Tuesday & Thursday**	**10:00a to 2:00p**		**$2.00**	**$1.00**
	To: Austin	Monday, Tuesday & Tuesday	8:30a	3:00p	$6.00	$3.00
	To: McDade	Monday, Tuesday & Thursday	8:30a	1:30p	$4.00	$2.00
	To: Taylor	1st & 3rd Thursday	9:00a	1:00p	$6.00	$3.00
COUNTY CONNECTOR	To: Bastrop	Monday, Tuesday & Thursday	8:15a	9:30a	$4.00	$2.00
Departs from Gazebo in City Park	To: Bastrop	Monday, Tuesday & Thursday	11:30a	12:00p	$4.00	$2.00
	To: Smithville	Monday, Tuesday & Thursday	8:15a	11:30a	$4.00	$2.00
	To: Smithville	Monday, Tuesday & Thursday	11:30a	2:30p	$4.00	$2.00
McDADE	To: Elgin	Monday, Tuesday & Thursday	10:30a	1:30p	$4.00	$2.00
	To: Bastrop	Monday, Tuesday & Thursday	8:30a	12:00p	$4.00	$2.00
	To: Austin	Monday, 1st & 3rd Tuesday	8:45a	3:00p	$6.00	$3.00
ROCKNEY & RED ROCK	To: Austin	Thursday	8:30a	3:00p	$6.00	$3.00
	To: Bastrop	Wednesday	9:30a	1:30p	$4.00	$2.00
SMITHVILLE	**Local Service**	**Monday thru Thursday**	**10:00a to 3:00p**		**$2.00**	**$1.00**
	To: Austin	Monday, Tuesday & Thursday	8:00a	3:00p	$6.00	$3.00
	To: La Grange	Wednesday	9:00a	12:00p	$6.00	$3.00
	To: Columbus	Wednesday	9:00a	1:00p	$6.00	$3.00
	To: Alum Creek	Monday, Tuesday & Thursday	8:30a	12:30p	$4.00	$2.00
	To: Center Union	Tuesday	10:00a	1:00p	$4.00	$2.00
	To: Peach Creek	Wednesday	8:30a	2:00p	$4.00	$2.00
	To: String Prairie	Wednesday	8:30a	2:00p	$4.00	$2.00
	To: Rosanky	Wednesday	8:30a	2:00p	$4.00	$2.00
	To: Upton	Wednesday	8:30a	2:00p	$4.00	$2.00
	To: Indian Lake	Tuesday	10:00a	1:00p	$4.00	$2.00
	To: Lake Thunderbird	Tuesday	10:00a	1:00p	$4.00	$2.00
COUNTY CONNECTOR	To: Bastrop	Monday, Tuesday & Thursday	8:00a	9:30a	$4.00	$2.00
Departs from CARTS Smithville Bus Depot Located at 300 NE 3rd Street	To: Bastrop	Monday, Tuesday & Thursday	11:30a	12:00p	$4.00	$2.00
	To: Bastrop	Monday, Tuesday & Thursday	2:15p	2:30p	$4.00	$2.00
	To: Elgin	Monday, Tuesday & Thursday	8:15a	11:30a	$4.00	$2.00
	To: Elgin	Monday, Tuesday & Thursday	11:30a	--------	$4.00	$2.00

*Reduced Fare: Seniors, Persons with Disabilities, and Children Under 12

RideCARTS.com

FIGURE 2 Sample fixed schedule guide. [*Source*: CARTS website.]

ridesharing to this extent. This is another idea, such as the bicycle rack, that could have been embraced by most rural transit systems years ago.

Vanpool drivers are required to attend a workshop, which covers defensive driving with hands-on practice, maintenance, accident procedures, and more. Rider fares are charged

as a fixed-cost plus per-mile rate that varies by the size of the vehicle and number of days the van operates per year. The fares cover capital costs, insurance, maintenance, the cost of a guaranteed ride home program, and fuel. Some employers help subsidize the vanpool costs for their employees. The program has been so successful that larger vehicles are now needed. The transit agency is training vanpool drivers to use 25 passenger cutaways (also innovative in and of itself).

The New Mexico Park and Ride program has the largest service area of any public transit provider in the State of New Mexico. The program has routes in northern, central, and southern New Mexico, with one route extending into west Texas. During the past 5 years, the program has secured rights to use lots or stops on property owned or controlled by two federal agencies, two tribal entities, one university, eight local governments, and six private property owners.

Baltimore County's (Maryland) specialized transportation program, known as CountyRide, uses the sophisticated computerized scheduling/dispatch system Trapeze (with interactive voice response/interactive web response), but in an unusual and innovative way. The transportation program takes trip requests in advance, but schedules the trips in real time, digitally dispatching the trips to drivers to optimize scheduling. CountyRide also uses the real-time dispatching function to collect fare and service data.

As rural areas change and commuters with young families move in, services geared toward children and their families may be an important option. In Zanesville, Ohio, the South East Transit Authority recognized that a growing population of single working mothers created a need for reliable services to transport children to and from daycare. In response, the transit authority implemented a successful service transporting children to and from the local Early Start program, adding a paid part-time attendant to ride with the children, securing their seat belts and ensuring their safety and comfort while on board.

The IT Network in Portland, Maine, charges different fares for individual travel and shared ride service; riders willing to wait longer, be flexible in their pick-up times, and incur longer ride times are charged less. Riders who wish to travel immediately and alone are charged premium fares. The fare differentials make the premium services more attractive to well-off retirees who have migrated to rural areas, yet steers other riders to the lowest cost service that meets their needs.

The Kings County Area Public Transportation Agency (KCAPTA) innovative system of vanpools and rural buses ensures access to schools, jobs, and medical services in the rural reaches of California's San Joaquin Valley. The system provides a safe, practical way for workers at a job site to "self-organize" a vanpool, with local government providing equipment, insurance, and other logistics. These vanpools now cover 4.8 million miles a year, giving rural workers a safe and sustainable lifeline to work. KCAPTA's services include 23 rural bus routes and 346 vanpool services.

Outreach, Education, and Training

Many systems are changing the way they communicate with the public. Typical now is a web page, email, Facebook, and other electronic communications techniques. Ark-Tex TRAX based in northeastern Texas has a website and email but started a new approach to communicate with its riders with its "Meeting on a Bus" program. TRAX, like many rural transit systems, has had difficulty in generating interest in a public meeting. Experience indicates that people will not attend a meeting unless drastic cuts or major changes are being made to the service or if the service is really poor. "Meeting on a Bus" brings the meeting to riders who would otherwise not provide input to the transit agency. TRAX designates a location for the meeting and sets up the bus with posters, maps, and informational materials. TRAX uses the local media (newspapers and radio), getting interviews and raising awareness. Management has stated that it helps to have coffee, water, and pastries. Initial meetings through the "Meeting on a Bus" program have expanded public meeting participants 10-fold over previous meetings.

The Modoc Transportation Agency (MTA)/Sage Stage Bus in rural northern California has taken its driver training program public. The rural transit agency trains not just its own drivers, but those at several local social service transportation providers, and also provides periodic driver safety courses to the general public at three local senior centers. The latter practice has been extremely valuable in marketing the agency's transit services, which has in turn increased ridership. The practice also has built "goodwill" and positive recognition in the transit agency's rural area.

The Community Transportation Association of Virginia developed a simple training education tool by printing driver emergency procedures on the driver clipboard. This leaves nothing to chance in an emergency, as the driver can quickly refer to his or her clipboard for guidance.

The Oregon Department of Transportation (ODOT) has developed a network of intercity services. These intercity routes are competitively procured, and each is specifically branded and marketed to the public. ODOT has implemented two routes, with a third in the planning stage. The service is supported by web-based information. ODOT is now in the process of developing a full management information system to better monitor service and make adjustments as needed. This service is highlighted as a case study in the next chapter.

JAUNT in Virginia has recently launched a new twist to the mobility manager function—that of a mentoring/training role with human service agencies that operate their own vehicles. The goals of the mobility management program are to help human service agencies use transportation resources more effectively, identify gaps in service that prevent clients from getting the services they need, and link resources with needs to improve mobility.

Although becoming a public system was important to the JAUNT Board of Directors, there was a desire for the agency to reconnect with human transportation providers in the area. This mobility management project provided the opportunity to renew relationships with local human service agencies and engage them in mobility management services. The project also allowed JAUNT to assess how the landscape has changed over the years since the organization was formed and to identify new opportunities for coordination. Although there have been no surprises in this assessment, JAUNT reports that it has provided the opportunity to reacquaint some human service agencies with the services provided by JAUNT.

Leveraging Funding Opportunities

Generating local matching funds remains one of the greatest barriers facing many rural transit systems. Some states cannot spend all of their FTA funds because of lack of a match at the local level. Some transit systems have had success in generating local revenue through local elections. In Idaho, where local funding is limited and there is no state funding for transportation, several systems have successfully appealed to local voters with passage of a hotel tax dedicated to transit. TVT in Idaho is one such system, with several of the small communities it serves passing a hotel tax to help provide local funds for the service. With a growing tourism market, the communities and their hotels recognize the need to support local transit.

The CTAI mobility manager in Ponderay, Idaho, also has worked with local cities and agencies and the tourism industry to generate revenue for a new transit system, in part using hotel tax from an election won in 2010. ACTR in Vermont also has had success in generating tax revenue at the local level.

A number of transit systems have generated revenue from agreements with "big box" stores and grocery stores. These examples have been well documented in *TCRP Report 70*. Examples can include advertising, provision of direct service, and bus shelters.

Mountain Rides Transit Authority in Idaho receives local funding in part from local option sales tax. The transit authority has been able to better leverage the funding dollars available by consolidating three organizations (dollars go farther with less overhead, etc.). The funding has enabled the authority to respond to service needs in areas not previously served.

With limited resources, support, or funding, Kingman Area Regional Transit in Arizona uses many types of bartering to achieve its goals while limiting expenses for the agency. As one example, advertising on the buses is traded with the local cell phone provider for mobile cell phones and usage.

JAUNT has had great success generating local funding and ties its service levels to the level of local funding available. Management includes a community relations specialist, whose job includes working with each local community about the importance of the local match.

CHAPTER FOUR

CASE STUDIES—INNOVATIVE RURAL TRANSIT AND INTERCITY SERVICES

Case studies for the synthesis were selected based on a review of the innovations identified, the literature search, suggestions from the Panel, discussions with other transit professionals, and the consultant's knowledge of the subject. There are likely many rural systems that could have been selected for the case study because the realities of rural transit—operating with limited resources and staff in challenging service areas—often make creativity and innovation a necessity. Five agencies, which provide a range of rural transit services from around the country, were selected for the detailed review (this in no way is meant to diminish the many other innovative transit systems). The case study subjects include large and small rural transit systems, as well as FTA Section 5311(f)-funded intercity services. The case studies were conducted through telephone interviews.

The case study agencies were examined to determine how they have integrated innovative ideas into their service and/or operation and management. The approaches taken by the case study agencies in implementing innovative practices were also reviewed, and the case study write-ups provide examples of the agencies' decision-making and operational frameworks that helped lead to innovation and improved service. These examples provide insights into what can be called the agencies' "culture of innovation."

Each case study write-up includes background information about the agency and its accomplishments, which is followed by an assessment of their "innovative/entrepreneurial spirit" and culture of innovation. This assessment builds on previous TCRP research on innovation (*1,5*).

CULTURE OF INNOVATION

TCRP Report 99 found that transit agencies that implement new, creative, and successful programs and practices can be characterized in specific, identifiable ways, and have established an organizational culture of innovation (*5*). Such agencies—

1. Serve as community agents of change—They are "out front" in the community, gaining a reputation for successful change and innovation.
2. Optimize rural resources—They are able to generate local match and other operating and capital funds, which is a huge challenge; this ability is a key characteristic of a transit innovator.
3. Embrace technology—They know to embrace technology, which, after all, is all about change.
4. Act as entrepreneurs—They look for business deals or partnerships; innovators apply business sense to transit.
5. Provide effective, quality service—They build ridership by providing quality services that meet the local needs, ensuring well-trained drivers and staff and vehicles maintained to high standards. Customer service is essential.
6. Maintain fiscal diversity—They do not rely on a single funding source. Although they use FTA funding, they ensure that they have a diversity of funding resources.

CASE STUDY TRANSIT AGENCIES

The following transit agencies (see Figure 3) were selected for case studies:

1. **Addison County Transit Resources, Vermont**—ACTR is a one-county transit system located in central Vermont that completely reinvented itself in 2002–2003 and is now a well-respected innovative transit system with partnerships throughout its region and generating high ridership.
2. **Ark-Tex–TRAX, Texas**—TRAX is a nine-county rural system that went from being dependent on Medicaid funding to a full public transit system with a wide variety of partners and funding sources.
3. **JAUNT, Virginia**—JAUNT, a six-county system, has been in existence for about 30 years, first as a coordinated human service transit program, and now as an operator of public transit throughout its service area.

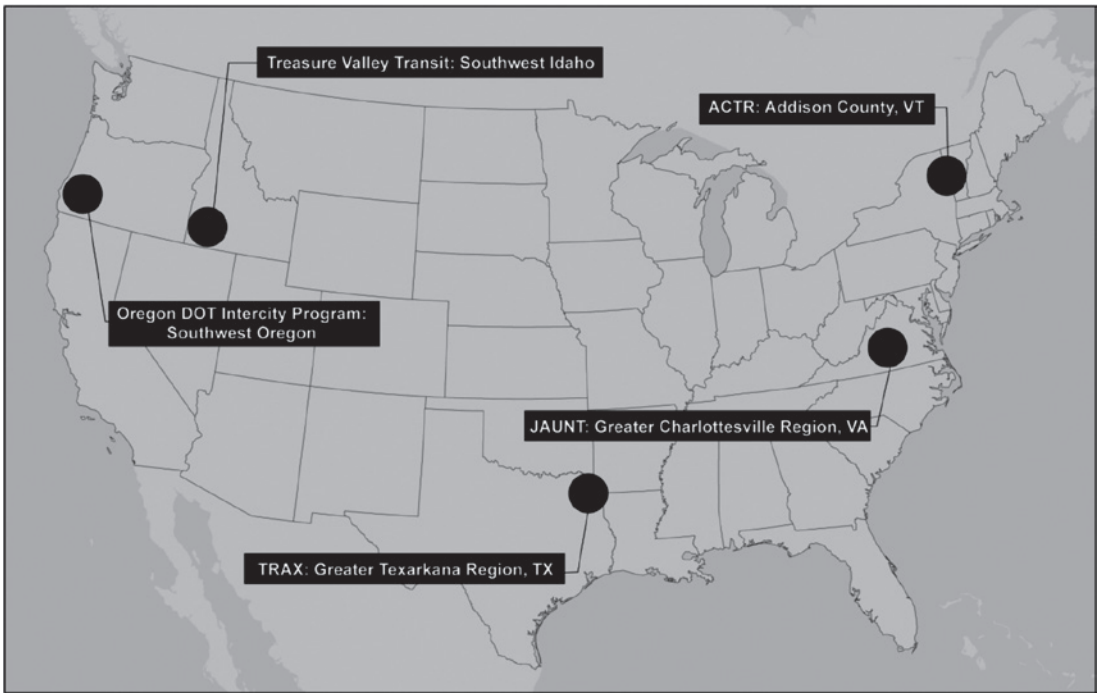


FIGURE 3 Location of the case studies.

4. **Oregon Department of Transportation**—ODOT has developed a full-scale intercity bus program, which meets intercity needs across the state using a variety of innovative strategies, management, and communication tools.

5. **Treasure Valley Transit, Idaho**—TVT has gone from a small service area that became urbanized to a multicounty rural system spanning almost 300 miles with both rural and small town service, using a variety of innovative approaches.

Addison County Transportation Resources

Organizational Background

ACTR, a nonprofit corporation, is the public transit operator for Addison County, Vermont. This 770 mi² rural county is located about half way between Rutland and Burlington (Figure 4), the state's two largest cities. ACTR provides rural and small town flex-route services (route deviation) as well as paratransit service in rural areas.

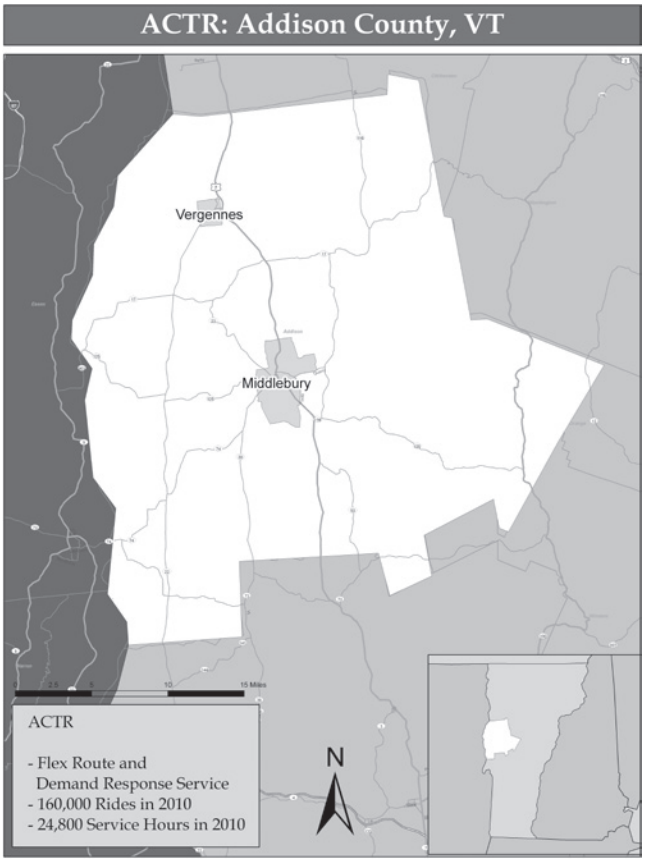


FIGURE 4 ACTR service area.

Addison County is endowed with a number of attributes and activity centers that can work well with transit: summer, fall, and winter tourist seasons, including Nordic and alpine ski areas; Middlebury College in the town of Middlebury (in the center of the service area); and being within commuting distance of the two largest cities in the state (Figure 5). It can be noted that Middlebury College attracts students from around the world and transit is the norm for these students. ACTR has taken full advantage of each of these attributes; as a result, it has diverse partners, including the local governments and the local college. ACTR, because it is situated between the two largest cities in the state, has developed a

partnership with each of the adjoining transit systems and, with them, provides service linking the three service areas. Tourist activities that include including hiking, skiing, and foliage tours are important to the community, and ACTR operates service to the local ski facilities, hiking trails, and prime foliage areas.

FIGURE 5 Ski season is very important to ACTR. [*Source:* ACTR.]

The service operates a variety of fixed routes, commuter service, and demand-response service. The service is consistent and reliable. Countywide service includes two deviated fixed routes connecting Middlebury to Vergennes and Bristol, plus two commuter routes going north and south stretching into the next counties. In Middlebury, there is a flex-route that circulates throughout town and on the Middlebury College campus all day.

There are 11 peak vehicles and five management-level personnel: executive director, finance manager, operations manager (oversees bus routes/drivers), program manager (oversees demand-response system), and community relations manager. The fixed-route services had little signage in place for bus stops. Management realized that stops are important for quality service and serve as an excellent source of advertising for the service. The system went from 7 bus stop signs to 80 signs.

Just 9 years ago, the system was volunteer-driven with low ridership and inconsistent service, and was invisible to the community. Taking an essentially dormant service and turning it into a vibrant network of services, highly respected in the community, required management skills and an innovative/entrepreneurial spirit among management and staff.

Innovative Spirit

As soon as the new manager came on board, he cultivated relationships with an emphasis on gaining the trust of the community—business, political, and community leaders. The second major step was to take advantage of the community's transit attributes: college, tourism, commuters, and a transit-friendly attitude. The third step was to build quality service and generate ridership and a constituency. Through consistent efforts, ACTR has now gained the necessary respect needed to work with other organizations as a peer. As a result, ACTR can leverage funds from a diverse set of funding sources, including Middlebury College, local municipalities, and the United Way. Local match is not a major problem, which gives the system the flexibility to be innovative.

One of its most innovative features is how ACTR started commuter service in conjunction with Marble Valley Transit and Chittenden County Transportation Authorities (both innovative small urban systems and both much larger than ACTR). Both ACTR and Marble Valley to the south operate one round trip (morning and evening) for two-way commuter service. To the north, Chittenden operates the weekday service and ACTR operates weekend service—generating high ridership from those students and others going to Burlington. These collaborations with the other two innovative small urban systems based in Rutland and Burlington were made possible only through the respect that ACTR has gained since 2002. No other such collaborations existed in Vermont before the launch of these two services. Since then, several others have been launched.

ACTR is also collaborating with the Vermont Agency of Transportation (AOT) in its new transit center and maintenance facility, which will be built on AOT land and colocated with an AOT maintenance facility. This partnership is advantageous in many ways as it will allow ACTR to gain economies of scale through shared equipment and services, avoid a loss of property tax revenue for the town, and be a "smart growth" project by virtue of its close proximity to low- and moderate-income housing developments, schools, and shopping centers.

Management was emphatic that there would be no resistance from staff as the organization was changing. The executive director commented, "I gave them responsibility for results and worked to ensure they had the resources to achieve them, things they didn't have before. Once the results started to happen, then it became self-reinforcing." (See Table 1 for ACTR results.) At ACTR, success breeds growth and innovation as staff buy into the mission.

Factors That Led to Innovation

The key factors leading to innovation were a new executive director with a true mission and goals statement, a staff that wanted to be valued and successful, and a community that desired and was ready to support vibrant transit service. The system was at a low ebb when new management arrived in 2002. The new director had no transit experience, but knew

TABLE 1
ACTR GROWTH SINCE SFY 2002

	SFY 2002[a]	SFY 2011[b]	Percentage Change
Operating budget	$700,000	$1,925,000	175
Capital budget	$90,000	$325,000	261
Fleet size (no. of vehicles)	7	16	128
Fleet size (no. of seats)	90	302	236
Hours of bus service	8,300	20,400	146
Hours of dial-a-ride van service	2,500	4,400	76
No. of bus routes	2	6	200
No. of interregional bus connections	0	2	n/a
Ridership (shuttle buses)	24,000	106,000	342
Ridership (dial-a-ride)	44,000	54,000	23
Staff members (FTE)	12.0	23.3	94
Volunteers (daily census)	22	45	105
Office space	1,000 ft²	1,265 ft², including 265 ft² of rented space shared on a half-time basis with other building tenants	27 in the form of shared space

FTE = Full-time equivalent.
[a]Vermont state fiscal year (SFY) is July 1 through June 30.
[b]Projections based on information from July 1 through December 31, 2010.
Source: ACTR Management.

how to manage. The timing was excellent as the director started shortly after a 5-year planning process was initiated and was able to work closely with the consultant and staff to form a new vision, which was ultimately carried out by management and staff. Management continues to seek new opportunities in a proactive manner.

Effect on the Community

Through a consistent effort in the community, the implementation of credible and effective service has been embraced by the college, voters, business community/Chamber of Commerce, and adjoining transit systems. As seen in other systems, once the credibility has been established, the respect ensures that ACTR is seen as part of the "solution."

The best example of ACTR's impact on the community is its wide variety of choice riders, both regular and occasional: commuters inbound, outbound (in two directions), and internal; college students; youths, skiers; and persons traveling on everyday activities. Recently AOT gave ACTR 40% more service to provide, yet ridership is actually up 44% in only the first 8 months of expansion.

Innovative Ranking

Innovation stems from an organization's ability to change. Attributes that help establish this culture of change and innovation for transit have been identified in prior TCRP research, as described earlier. *TCRP Report 99* went further and listed six criteria deemed important for an organization to change and innovate (*5*, p. 2). ACTR clearly meets these attributes.

1. Serving as community agents of change—ACTR has a reputation in the community as a provider of quality service. It has had a significant impact on the community's travel behavior.

2. Optimizing rural resources—ACTR has been extremely effective in leveraging local funding and bringing millions of dollars of federal funding into the county.

3. Embracing technology—ACTR was the first transit system in Vermont to implement traveler information using Google Transit. ACTR is also on Facebook and Twitter, and has begun the move to "cloud computing."

4. Acting as entrepreneurs—ACTR is a true entrepreneur. The agency is always looking for a business deal or partnership. It has had excellent success in generating new business and new partners.

5. Providing effective service—ACTR has introduced a new network of services, tailored to needs that have expanded its geographic reach throughout and beyond the county as well as increased frequency of service. The drivers are well trained, and the vehicles are maintained to high standards.

6. Maintaining fiscal diversity—ACTR has diverse funding resources; the agency does not rely on any one source and has adequate local funding.

Ark-Tex Council of Governments–TRAX

Organizational Background

Ark-Tex TRAX is the rural transit provider serving the counties of Bowie (rural part of the county), Cass, Delta, Franklin, Hopkins, Lamar, Morris, Red River, and Titus in the northeastern corner of Texas (Figure 6). TRAX is a division of the Ark-Tex Council of Governments (ATCOG) based in Texarkana, Texas. The service area borders Arkansas, Louisiana, and Oklahoma.

Ark-Tex TRAX provides a variety of transportation services for the general public and human service agencies. The service modes fit the demographics and need. In rural areas, job access routes are in place along with demand-response service. Some of the small cities have local dial-a-ride services and others have a fixed-route service.

TRAX has partnered with a wide variety of agencies, businesses, and governments to provide a network of services. These include regional and national businesses, for example, Wal-Mart, a poultry processing plant, the local community college, Greyhound, a variety of human service agencies such as the local Workforce Board, and the fixed-route service in Texarkana. TRAX has its own maintenance facility for all vehicles in the system. TRAX is diversely funded and has

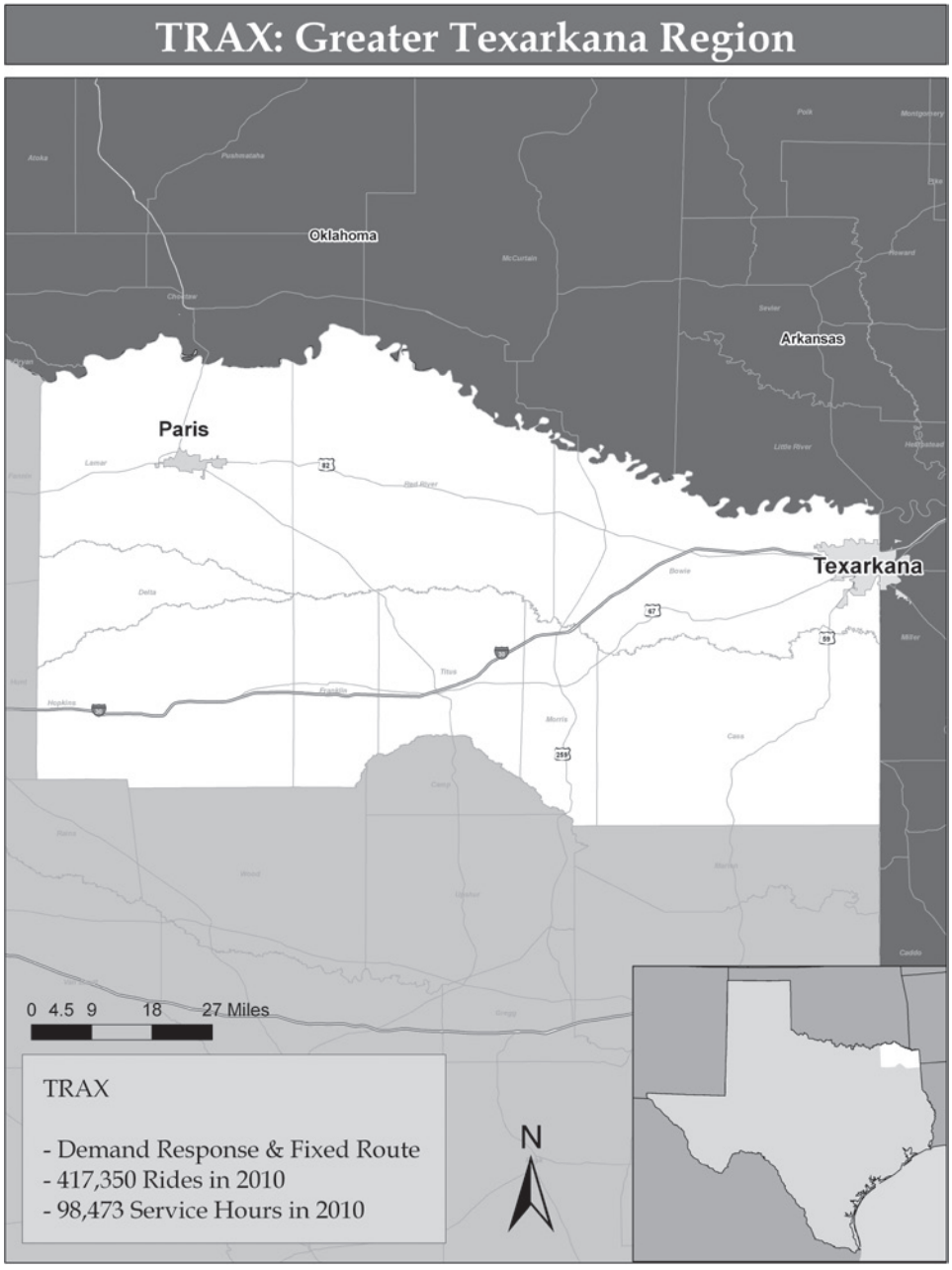


FIGURE 6 TRAX service area.

successfully gained many innovative projects that are not typical of a Council of Governments. TRAX has four management staff: manager, director of operations, dispatch center manager, and maintenance manager. Human resources and accounting staff are shared with the parent organization.

It was not always this way. In 2006, TRAX was dependent on Medicaid funding, which was, by far, its largest source of matching funds. Its service was composed of general public demand-response service in all nine counties. This completely changed in the succeeding 4 years.

Innovative Spirit

Innovation became "business as usual" after TRAX lost its contract to provide Medicaid service. The Medicaid loss was doubly damaging: the agency lost not only its major source of funds, but also its major source of local matching funds for rural transit. This loss of Medicaid service, which was coordinated with its general public service, convinced TRAX that it needed to reinvent itself; otherwise, it would cease to exist.

Since the Medicaid service loss, TRAX has successfully gained multiple JARC and New Freedom projects and is currently preparing to implement intercity feeder service from Paris (Texas) to Mt. Pleasant to connect to Greyhound service. Working with another rural transit system, the agency was able to meet the federal insurance requirements in a creative way. TRAX functions as the mobility manager for the region and has its own maintenance facility for its 75 buses.

A truly innovative project is TRAX's new approach to community and rider outreach. The "Meeting on a Bus" program brings the public meetings and outreach to each town in TRAX's service area by holding meetings on a bus, rather than requiring the public to come to a central meeting point (Figure 7). Participation at the meetings went from two or three persons in a small town to 25 with the new "Meeting on a Bus" program.

FIGURE 7 TRAX meeting on a bus.

Complacency is a word that cannot be used to describe TRAX. Its reinvention became complete when it embraced technology. The agency now has fully functioning paratransit software with AVL and mobile data computers (MDCs). TRAX also recently completed building an operations/administrative facility that is designed specifically to meet its operating needs, including its new technology.

Factors That Led to Innovation

Clearly, the loss of much of its service was a potentially crippling blow to TRAX. Reacting to this major problem, TRAX management embarked on a new and entrepreneurial path with an innovative spirit. The transit agency had some experience in generating funding from nontraditional sources. TRAX has secured some sponsorship funding from the Pilgrim's Pride chicken processing plant as well as Wal-Mart to ensure routing to their facilities (this also provided some promotional benefits). Thus, TRAX knew it could look beyond the traditional governmental and other grant sources for new resources.

After the crisis was averted, management has settled into a proactive approach to innovation. Working with the Texas Department of Transportation (TxDOT), TRAX started applying for grant opportunities to initiate a network of commuter services and service for persons with disabilities in its nine-county region. Partnerships were sought with colleges, human service providers, and local governments.

TRAX management reported that the agency tries to conduct itself as a business, even though it is a Council of Governments. TRAX is always looking for new business opportunities to provide "more trips for more people."

Effect on the Community

The changes that TRAX initiated within a 3-year period after the loss of Medicaid service—new scheduled routes and intercity service, which have improved productivity—have enabled TRAX to demonstrate that it is a viable and respected transportation solution in the community. This respect ensures that TRAX is seen as the "go-to" entity for human service and public transportation. TRAX has recently entered into a partnership with Lowe's stores, the State Department of Adult Rehabilitative Services, the Northeast Texas Workforce Board, and TxDOT (this collaboration and plan is the first of its kind in Texas).

The partnership with Lowe's includes planning transportation services to meet the company's employment needs: Lowe's needs to ensure transportation services to its major distribution center for the young adults with disabilities who the company employs or seeks to employ. Lowe's will be working with TRAX to generate local matching funds to ensure operating funds, another example of TRAX's cre-

ative approach to funding. TRAX and Lowe's are also discussing an advertising contract.

These opportunities for partnerships with local businesses and other entities present themselves to TRAX in large part because TRAX has gained a presence and reputation of accomplishment in the community. Community and business leaders recognize TRAX's efforts, as do the transit agency's staff and customers.

Innovative Ranking

Innovation stems from an organization's ability to change. Attributes that help establish this culture of change and innovation for transit have been identified in previous TCRP research, as described earlier. TRAX clearly meets these attributes.

1. Serving as community agents of change—TRAX is out front in the community, partnering with many organizations from community colleges to Lowe's, Wal-Mart, and Greyhound. ATCOG is more than just a Council of Governments; it is an active hands-on organization that routinely gets involved in direct implementation and operation. ATCOG houses the Homeland Security backup emergency response communications network for the region.

2. Optimizing rural resources—TRAX has been successful in generating local revenue to match the FTA funding it receives. The partnerships stretch dollars.

3. Embracing technology—TRAX recently implemented new paratransit software, MDCs, and AVL. This state-of-the-art system has allowed TRAX to increase the vehicle fleet without adding dispatch staff.

4. Acting as entrepreneurs—TRAX is a true entrepreneur. The agency is always looking for a business deal or partnership. TRAX has been successful in obtaining JARC and New Freedom funds for new services and then partnering with other entities to strengthen the new services. The agency also contracts with local taxi companies and tries to integrate the private sector in the planning process.

5. Providing effective service—TRAX has introduced a new network of services, tailored to needs, through a detailed planning process. The drivers are well trained through in-house trainers, and the vehicles are maintained to high standards.

6. Maintaining fiscal diversity—TRAX has diverse funding resources; the agency does not rely on any one source. Private sector as well as a diverse set of FTA and human service funding now protect the organization.

JAUNT, Virginia

Organizational Background

JAUNT, a six-county rural transit system, had its start in the mid-1970s when it began coordinating human service transportation programs in the Charlottesville, Virginia, area (Figure 8). By the early 1980s, it provided service for 60 human service agencies and its budget reflected it with 90% of the funding coming from coordinated services.

Over the next 10 years, the human service funding started to decline as agencies "shed" their clients into the public system (ridership to agency programs continues to increase, but the clients now pay their fares directly), shifting the cost of client transportation from the sponsoring agencies to JAUNT. Now, with the exception of Medicaid and Head Start subcontracts, most of the human service agencies have withdrawn from directly contracting with JAUNT. Currently, human service transportation is approximately 10% of JAUNT's budget.

The reinvention is complete and continues as JAUNT is always looking for new services to operate (Figure 9). It recently won a commuter contract outside of its service area into the Charlottesville area. Throughout the rural parts of the six-county area, JAUNT operates an innovative fixed-schedule type of service where it travels a corridor according to a schedule and picks up passengers who reserve a ride (JAUNT is responding by procuring larger vehicles because of high ridership). JAUNT also provides a variety of other services, including a ski resort employee shuttle from a designated Charlottesville bus stop, commuter services, a wintertime homeless shuttle program, and ADA paratransit service in the city of Charlottesville. JAUNT maintains a strong relationship with the major hospitals in the region as well as the University of Virginia and Charlottesville Area Transit.

JAUNT also launched a new mobility manager program with an innovative twist that is discussed in detail in the section on innovations. JAUNT works closely with human service agencies to help them improve their operation. This assistance involves an initial kickoff meeting with the agency to discuss the process, gathering appropriate information from the agency, analyzing the agency's transportation-related resources and needs, and developing a written report with appropriate recommendations. Although these recommendations are tailored to each agency, typical suggestions include opportunities for the agency to partner with JAUNT to address unmet transportation needs, how the agency may be able to pool resources or share vehicles with another human service agency, or how the agency could use private providers of transportation services. JAUNT has completed 10 reviews to date.

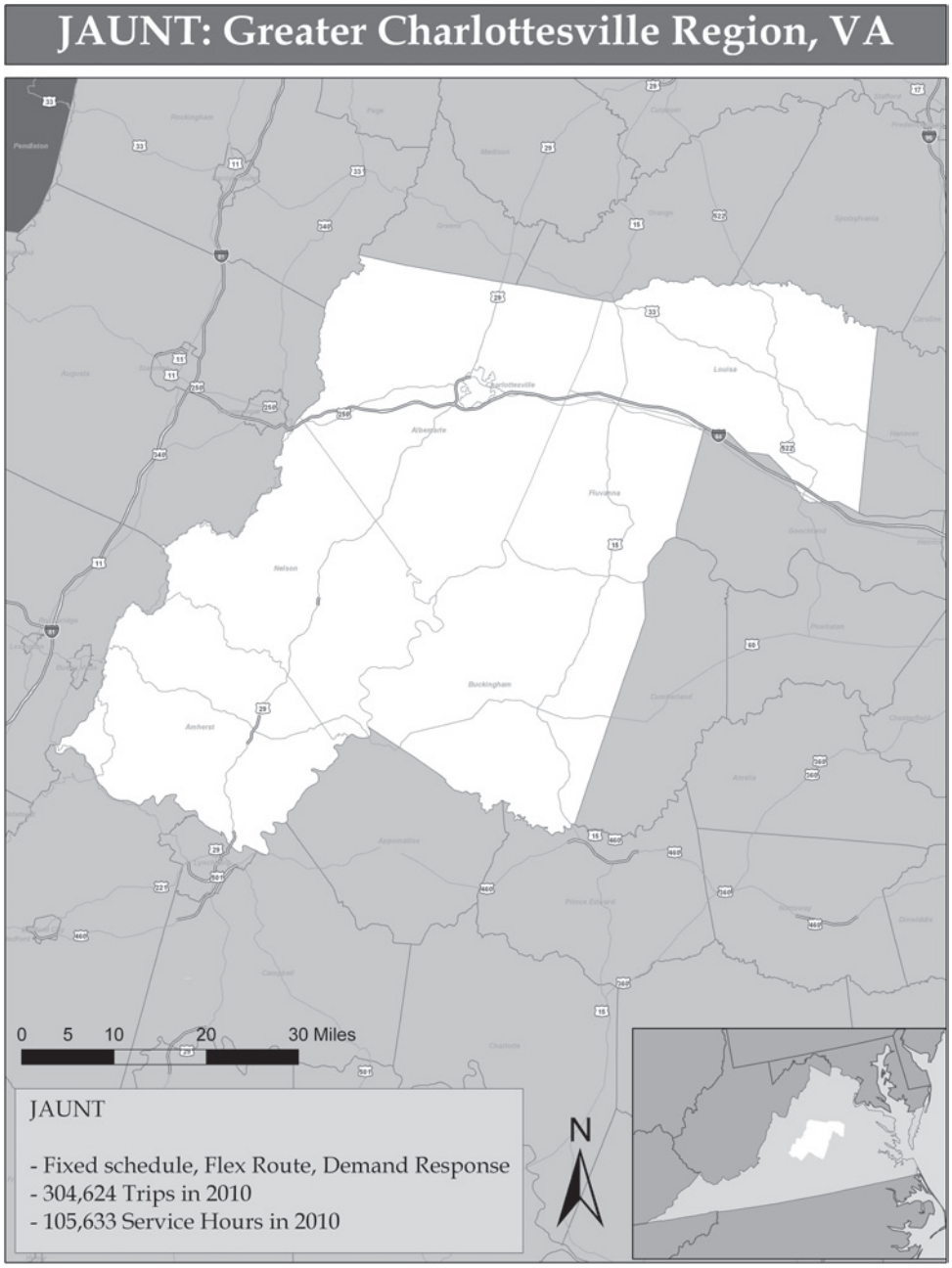


FIGURE 8 JAUNT service area.

FIGURE 9 JAUNT Buses are easily identified and branded. [*Source:* JAUNT.]

JAUNT noted that although these reports are useful, the process—the "journey"—is more important. JAUNT reported that through meetings, discussions, and interaction with the JAUNT mobility manager, human service agency staff learn more about their transportation operations and the opportunities available to them as the process moves along. An additional supplementary benefit was leaving these agencies with a higher education/perception of public transportation service availability. The reports simply document what has been learned throughout the work with the JAUNT mobility manager.

JAUNT has six managers and the mobility manager and operates 48 peak vehicles. Management consists of a

director, assistant director, operations manager, finance manager, safety and training manager, and a community relations manager. The director cites this last position as crucial to maintaining close ties with the communities served and being able to anticipate needs because of these close connections.

Innovative Spirit

JAUNT clearly reinvented itself in those years as human service funding was reduced. This in itself is an innovation as the agency saw a fundamental change as it adapted to the changing environment. As a result, it operates using a number of successful practices and some truly innovative practices as well. Staff is comfortable with change, witnessed by JAUNT's regularly gaining and implementing new services. Management sees some barriers in regulations such as the charter rules, but this has not stopped JAUNT in setting up new services for the most part.

As with other skilled managers when faced with change, the director (who considers herself a "conservative entrepreneur") and staff looked for other business opportunities. Through that process, the organization continued to innovate in its drive for new business. The director again stressed the ability to have a community relations specialist as critical to success in working with local areas. The proof? JAUNT generates $2 million in local match funding every year. That success speaks volumes. What can also be noted is JAUNT's management stability, having only two executive directors in more than 30 years. The second executive director had served as operations manager for many years.

Some of its innovations include—

- The mobility manager as mentor to human service agencies—JAUNT's mobility manager is also a transportation planner working with the human service agencies in areas such as safety/security, training, and insurance.
- Fixed-schedule route but on a reservation basis—Passengers call for service that operates on a set schedule (but not set route), picking up people at bus stops.
- Funding and service—JAUNT develops a plan for each county with a menu of services and cost levels. Counties are required to pay a uniform rate for the level of service provided.

JAUNT does what all innovators do—show up at every local function, parade, county fair, community, and Chamber of Commerce meeting and communicate the message. Again, having a community relations manager is a big help in meeting this requirement. JAUNT is well established and respected in the community and by business, community, and political leaders.

Factors That Led to Innovation

Management faced a slow erosion of its business because of decisions beyond its control. JAUNT did what any innovative system would do—find new business opportunities. The loss was over a period of years and not sudden. Being more proactive than reactive, management was able to move cautiously and seek new funding sources and services to provide. Throughout the 1990s, JAUNT went from a system that was 90% funded by human service programs to a service that is now 90% public transit service.

Effect on the Community

The community response to JAUNT is nothing short of overwhelming. JAUNT is recognized throughout the service area as an effective, well-managed service that operates clean, well-maintained vehicles with professionally trained drivers. Again, the proof is in the impressive level of local funding available.

Innovative Ranking

Innovation stems from an organizational ability to change. The factors required for change in general business as well as transit were documented in *TCRP Report 70* (*1*). These include—

1. Serving as community agents of change—JAUNT has changed the face of public transportation in the region. The introduction of new services and the expansion of public service have had a significant impact in the community.

2. Optimizing rural resources—JAUNT has been successful in leveraging local funds to bring in more federal dollars. Management has staff assigned to generating local revenue. The previously cited $2 million is all the proof needed.

3. Embracing technology—JAUNT has procured and implemented state-of-the-art paratransit software MDCs and AVLs.

4. Acting as entrepreneurs—JAUNT is an entrepreneur in every sense of the word. It is always looking for a business deal or partnership. Conservative entrepreneur is how the manager characterizes herself.

5. Providing effective service—Quality service is essential to JAUNT's mission. Drivers are well trained, and the vehicles are maintained to high standards.

6. Maintaining fiscal diversity—Other than FTA, there is no reliance on any one source (such as Medicaid). The funding sources are diverse.

Treasure Valley Transit, Idaho

Organizational Background

The mission of TVT is to provide a viable public transportation system where the need is great and access is limited, as depicted in Figure 10. TVT began in 1992 as a private, nonprofit, rural provider operating in Canyon and Owyhee Counties. At that time, the city of Nampa had a population of 28,000 and there was no available public transportation. The service was initiated by a Head Start agency in conjunction with a health clinic.

TVT established and provided all of the public transportation service (including fixed-route service) in the county until the 2000 Census redesignated the Nampa/Caldwell area from a "rural" to "small urbanized" area. TVT, as a result of this process, no longer had jurisdiction over the small urban area as it went under the Valley Regional Transit Authority. This was a potentially catastrophic event as TVT lost 65% of its funding. TVT then turned all of its resources to the eight counties of rural southwestern Idaho. TVT was forced to reinvent itself and create diversified funding sources to better protect it in the future. TVT began to market its services in the rural and remote rural areas.

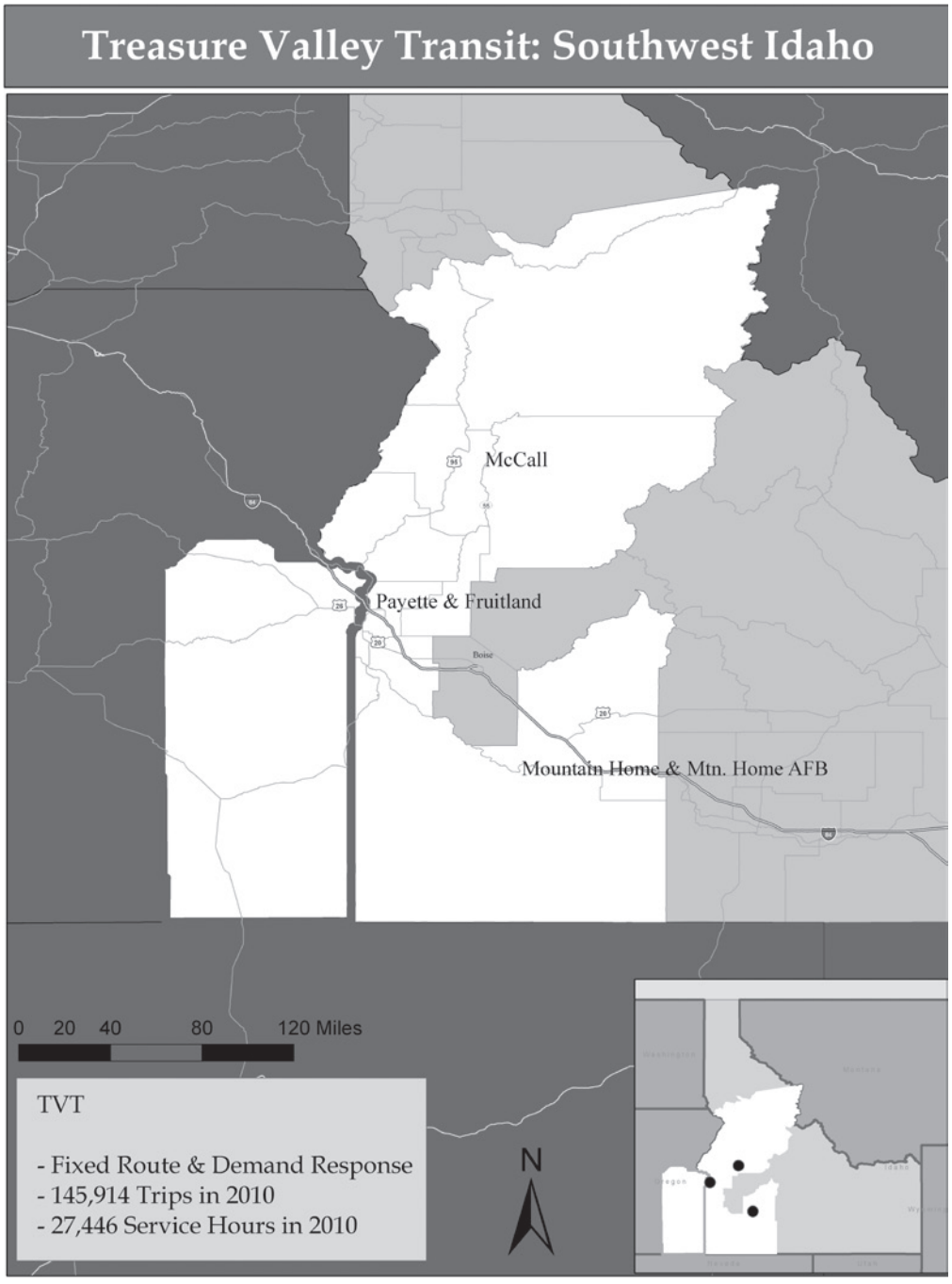


FIGURE 10 TVT transportation system.

Current services include being the rural transportation provider for the eight counties in ITD District 3 [Adams, Canyon (rural), Elmore, Gem, Payette, Owyhee, Valley, and Washington]. In addition, TVT serves Idaho County in District 2 and Malheur County in Oregon. It is also a Medicaid provider, about 12% of its overall services. TVT provides transportation for the developmentally disabled in these rural counties along with individual Medicaid trips. It also operates Mountain Community Transit, which includes 15 commuter runs, and the City Route in McCall. TVT operates Snake River Transit in Payette County (Idaho) and Malheur County (Oregon), and also a fixed-route service in Mountain Home and the Mountain Home Air Force Base. TVT operates 18 peak vehicles with a staff of 42, including the drivers. Most drivers are full-time and receive benefits. TVT provided more than 145,914 annual trips in 2010, or approximately 12,160 trips per month, in its combined service area. Their management has a staff of five, including executive director, assistant director, finance and grants manager, operations/safety manager, and operations/mobility manager (Figure 11). The two operations managers handle different counties.

FIGURE 11 TVT management staff. [*Source:* TVT.]

TVT meets with the 14-plus senior centers in the eight counties it serves. It loans vehicles to the senior centers, which operate and schedule these vehicles directly. Discussions are underway for the senior centers to consider coordination alternatives that can enhance their current transportation programs. In addition, TVT has a small contract with the Nampa Recreation Center to take students to school in the morning.

TVT had a public–private partnership with the Tamarack Resort to coordinate the operations of an employee/general public shuttle running from Cascade (Valley County) to the ski resort at Tamarack and into McCall. However, with the economic downturn, the resort went into bankruptcy. There was enough local demand for the service that a restructure took place and the service remained viable. Valley County stepped up with an in-kind donation of office space with both indoor and outdoor parking.

Innovative Spirit

Reinventing an organization is innovative in and of itself. TVT's change was fundamental in nature, and management simply sought business opportunities in the diverse rural areas of its boundaries (and beyond). TVT worked toward its strengths. Management tailored service in each part of its service areas. Each service is locally branded to facilitate local "ownership" and its buy-in. In tourist areas, commuter service and service geared for tourists are in place. In Mountain Home, the Air Force Base is served along with the community. The Payette/Ontario area was linked through a fixed-route service. Rural farming areas receive demand-response service.

FIGURE 12 TVT Bus branded for the city of Mountain Home, Idaho. [*Source:* TVT.]

FIGURE 13 TVT Bus branded for the city of McCall, Idaho. [*Source:* TVT.]

TVT's greatest innovation was the approach used to work with communities in its service area to tailor service to meet each particular need. TVT approached each willing community, formed an advisory committee, conducted a planning study, and presented the plan to the local government and the committee. If all parties were willing to proceed, TVT initiated a demonstration project, and if the service was not supported, it planned to pull the service after 6 months. However, TVT has never had to pull service from a community and in many cases has expanded service.

TVT is a leader in securing a hotel bed tax (in two elections) and using it for transit, in support of its local program.

Part of TVT's service is in tourist-oriented areas where there is significant need for both tourist transportation and commuter service for employees, to the point where it operates 15 commuter runs during peak season. TVT's commuter service is growing in rural areas, and it is initiating a new vanpool program as an additional mode to meet customer needs in 2011.

After years of a good relationship, 14-plus senior centers will be able to resume transportation services through a TVT purchase of service procurement using Section 5310 Transportation for Elderly Person and Persons with Disabilities funds. The senior centers came to TVT at a time when many area agencies on aging are diverting funding from transportation. TVT is not slowing down. It has recently reached the small city of Grangeville, Idaho (more than 200 miles from its base of operations) with limited service and sees new opportunities in this rural area as it is not served by any transit system at this time.

Factors That Led to Innovation

Management was faced with a catastrophic loss because of demographic/jurisdictional service changes beyond TVT's control. TVT, as any good business would do, sought new opportunities rather than close its doors. After the loss of funding, management tightened the organization's "belt" and immediately sought new business opportunities. Using its strategy of working with individual communities with tailored service, TVT regained its lost funding through new contracts and is continuing in a proactive manner to grow and expand.

Effect on the Community

TVT's emphasis on proper planning and realistic expectations has resulted in no loss of service once TVT implemented a new service in its communities. TVT is a well-respected organization that continues to grow in the face of a poor economy. TVT has recently expanded to a new region that was not served by any transit system. This acceptance in new communities demonstrates TVT's effectiveness in the communities it serves.

Innovative Ranking

Innovation stems from an organizational ability to change. The factors required for change in general business as well as transit were documented in *TCRP Report 70* (*1*). These include—

1. Serving as community agents of change—TVT works closely with all of its communities and counties to the point where it is well known and respected.

2. Optimizing rural resources—TVT has been successful in generating diverse local revenue to match the FTA funding it receives. The partnerships include the private sector, local governments, and human service agencies (including Medicaid).

3. Embracing technology—TVT has embraced technology and is currently installing new fixed-route and demand-response software on all vehicles in operation. This includes AVLs, passenger manifest, driver, and vehicle statistics, and the like.

4. Acting as entrepreneurs—TVT is an entrepreneur in every sense of the word. It is always looking for a business deal or partnership.

5. Providing effective service—Quality service is essential to TVT's mission. Drivers are well trained, and the vehicles are maintained to high standards.

6. Maintaining fiscal diversity—Other than FTA, there is no reliance on any one source (such as Medicaid). The funding sources are diverse.

Oregon Department of Transportation—Intercity Bus Program

Organizational Background

ODOT has all of the transit challenges of a western state: low density and long distances. ODOT embraces the challenge of a true department of transportation—looking at all modes as part of the solution and is not highway centric.

This program promotes intercity passenger services, connecting rural communities through incentive funding, information, and equipment to make vehicles accessible. Emphasis is placed on connecting communities of 2,500 or more with the next larger market economy and connecting bus, rail, and air (Figure 14). Biennial discretionary grants are offered to assist public and private providers to fill gaps in rural intercity connections.

Innovative Spirit

ODOT is one of the more innovative and proactive DOTs as it is willing to embrace all modes of transportation and does not focus exclusively on roads. In the rural areas, faced with a need that could not be filled exclusively by the private sector, the ODOT's Public Transit Division is taking advantage of a pilot change in FTA match rules to fund intercity bus service between Klamath Falls, Oregon, and Smith River, California, via White City, Medford, Gold Hill, Grants Pass, Cave Junction, and Crescent City, California (Figure 15). The service allows one-day round trips from Smith River, California, or Klamath Falls, Oregon, to Medford, Oregon. The service also allows one-day one-way trips between Klamath Falls, Oregon, and Smith River, California. Grey-

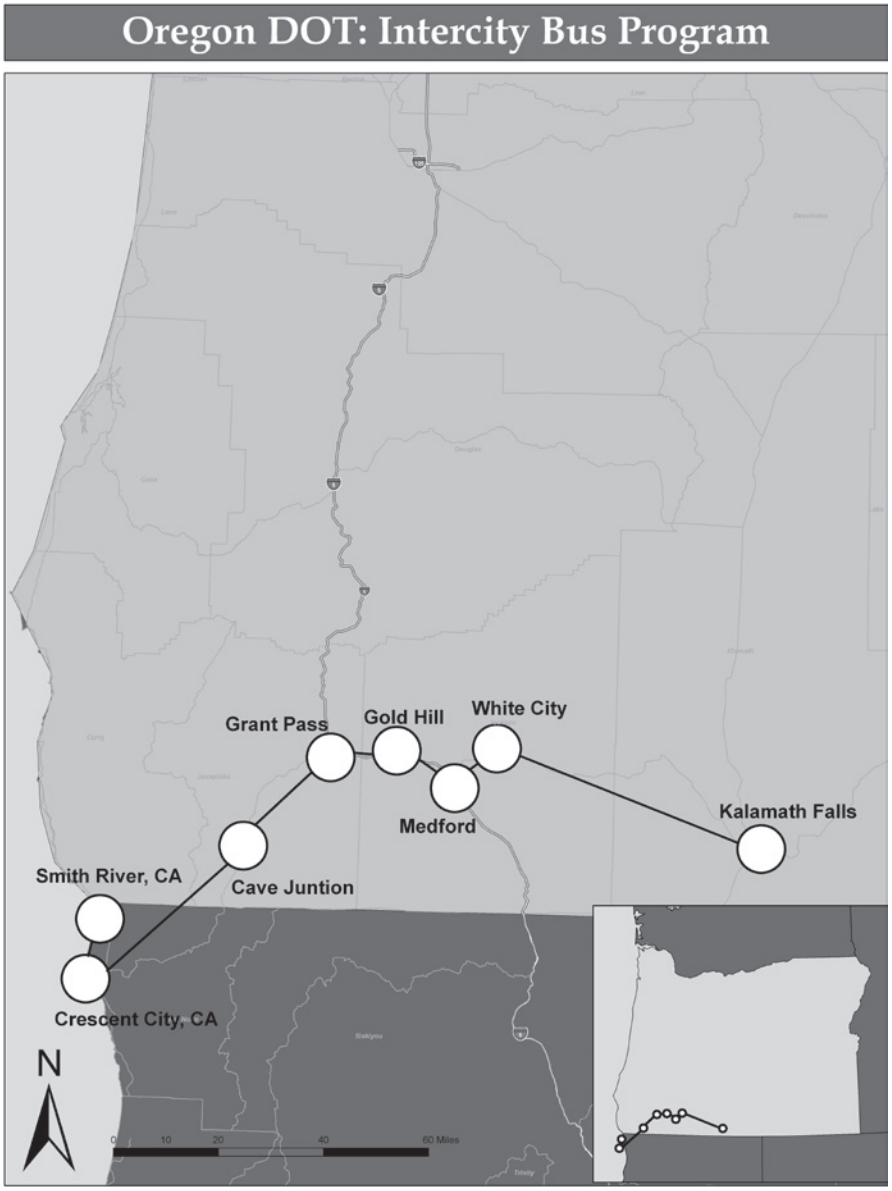


FIGURE 14 ODOT Intercity bus routes.

hound Lines, Inc. acts as a match partner in this project. A portion of Greyhound service along the I-5 corridor serves as a match for the project.

FIGURE 15 ODOT-funded intercity service. [*Source:* ODOT.]

The new bus service is the only regularly scheduled general public transit service connecting the I-5 corridor to the 101 corridor, along the 400-plus miles between Eugene, Oregon, and Williams, California. Although this is a good practice, in and of itself it is not innovative; ODOT's service implementation process and support functions make it innovative.

- Branding—the services are professionally branded;
- Amenities such as free Wi-Fi and bike racks;
- Connections with local providers where feasible;
- Wrapping the vendor's bus with the brand;
- Generating new data—ODOT is in the middle of a project to collect data needed to properly analyze service levels;
- Request for proposals—ODOT puts out a request for proposals for the service, which has been awarded to a private for-profit firm;

- Collaboration with the Medicaid agency (*8*)—ODOT has demonstrated innovation in other transportation services in rural areas, through its effective approach to the Medicaid Transportation issue.

Factors That Led to Innovation

Innovation is typically difficult in a large state agency, however ODOT has a history of innovative efforts in regard to public transit. Unlike the other case studies, ODOT was not faced with a need to re-invent or innovate. The agency encourages innovation and allows managers to develop new programs. This has manifested itself in a number of innovations as discussed previously.

Effect on the Community

This program has allowed many rural residents to connect to areas outside of their county. Although the impact is modest, it does bring new opportunities for local residents for medical, shopping, and perhaps work-related pursuits.

Innovation Ranking

Innovation stems from an organizational ability to change. The factors required for change in general business as well as transit were documented in *TCRP Report 70* (*1*). These include—

1. Serving as community agents of change—ODOT has stepped in where the private sector and the rural transit systems could not, despite the need. ODOT is in the forefront in a number of communities where new service has been implemented or proposed.

2. Optimizing rural resources—Using Section 5311(f) funding with an innovative in-kind match from Greyhound has the effect of allowing these services to flourish where they can interline with Greyhound or other intercity carriers.

3. Embracing technology—ODOT is investing in the creation and maintenance of General Transit Feed Specification data for fixed-route services and has a web-based statewide transit information system and Wi-Fi on board the vehicles used in contracted intercity bus service. ODOT hopes to be going to a real-time trip planner in the future.

4. Acting as entrepreneurs—ODOT in providing this service is encouraging entrepreneurs.

5. Providing effective service—ODOT has a minimum threshold for service and is now upgrading its ability to collect data (origin and destination) needed to properly analyze the service.

6. Maintaining fiscal diversity—Innovative approaches to local match.

CHAPTER FIVE

CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The innovative spirit is alive and well in rural transit. In the 10 years since *TCRP Report 70: Guidebook for Change and Innovation at Rural and Small Urban Transit Systems* was published, transit agencies continue to innovate and change. Study efforts for this synthesis suggest that many rural transit managers have adopted an innovative and/or entrepreneurial spirit, motivated at times by limited resources and in some cases by changing demographics in their service areas. Successful rural transit systems are capable and ready to change and innovate as needed. The need to innovate has not changed and the motivation remains.

INNOVATION AND SUCCESSFUL PRACTICES

There is a fine line between innovation and successful practice. Some innovations are truly innovative, but in most cases one transit agency's "innovation" is a practice borrowed from elsewhere that is totally new for the agency or that the agency has modified for its own purposes. Some of the true innovations in transit include bus wraps (one of the first was a rural transit system), bicycle racks, flex routes, immediate response dial-a-ride, Greyhound rural feeder service, ticket agent, and depot manager (*TCRP Report 70*). Beyond these, many practices and programs at rural transit agencies could be termed innovative or successful practices, but when newly adopted they could be considered innovative for that particular agency.

Possibly the most important innovation identified in the case study reviews for this synthesis is the ability of a rural transit system to reinvent itself. Based on these reviews, the ability to make significant changes to the agency's operation is critical to success. The transit agency essentially becomes innovative by virtue of its ability to change. Once the agency begins to make changes to meet the realities of its circumstances, innovation becomes the norm. These organizations often innovate as a reaction to a problem, but once they develop the culture of innovation they become proactive in their ability to change. With the constant change that rural transit managers face, this organizational ability to change and reinvent is a trait seen in the case studies in earlier TCRP work on innovation and again in the case studies of this synthesis.

Uncovering Innovations

Identifying innovation in the transit industry is difficult for a variety of reasons:

- There is often a fine line between innovation and successful practice.
- Surveying departments of transportation and state and national associations is not effective when discussing specific transit-level activities, as these organizations are not always aware of what is happening at a transit system unless the system manager informs them of the innovation. Many state departments of transportation and national-level transit organizations were not interested in participating in the synthesis's survey effort; instead, they pointed us to systems they knew of that had innovative/successful practices.
- Asking managers about their innovations produces few results; asking about successful practices (some of which are truly innovative) generates a significant response. Most transit managers do not think of their innovative projects as innovative. Instead, they say that their practice or program is just a "common sense" approach, "logical," or "seemed like the right thing to do."
- Some managers have difficulty grasping the definition of innovation. Furthermore, many rural transit managers do not see other system managers periodically or go to conferences regularly. Thus, they do not have a frame of reference for what might be innovative.

Entrepreneurial Spirit—Leadership

Perhaps more important than determining whether a rural transit agency has implemented an innovation or borrowed a creative idea from another transit agency is its organizational ability to make change happen. Changing demographics, technology, and of course economic factors play a major role in shaping rural transit systems. The real innovation is in the change and reinvention of the organization to meet these changing dynamics.

In the literature and the case studies in this synthesis, the key element to change in every case is a dynamic, entrepreneurial manager. Each of the innovators simply has an

entrepreneurial spirit—always looking for new partners, new service, and diverse funding sources. They manage their transit systems like a business. An interesting attribute found in the previous case studies was that when asked about barriers they encountered, all said there were no real barriers. One manager in a case study conducted through *TCRP Report 70* stated, "I am my own barrier." This was echoed by this selection of case studies, with few barriers noted.

The innovative attributes and ranking discussed in the case studies is a first step toward measuring a system's innovative/entrepreneurial spirit. Transit agencies can "score" themselves using the following criteria:

1. Serving as community agents of change,
2. Optimizing rural resources,
3. Embracing technology,
4. Acting as entrepreneurs,
5. Providing effective service, and
6. Maintaining fiscal diversity.

Communicating the Vision

The material reviewed for this report included a number of publications related to change and innovation both individually and organizationally. These publications are well documented in *TCRP Report 70*. One outstanding example of how change happens was articulated by Jennifer James in her book *Thinking in the Future Tense—A Workout for the Mind*. Among many other lessons, she describes the need to clearly communicate the vision, the spirit, and the intent of change:

> One of the difficult aspects of change, particularly when it is accompanied by complex technology and multiplying data sources, is the ability to give up an old story and develop a new one. The "story" is a common sense version that folds the data into a set of ideas about "the way things ought to be." Stories are often set up as myths, history or values when they may only be organizing systems for understanding reality. Leaders must be able to tell the "new story" if they expect their staff, constituency or client to accept their leadership or their product.

Each of the transit managers interviewed had a clear vision and a message or "story" to communicate to their board, staff, and political, business, and community leaders. They have mastered the skill and art of communication, which is a great part of their success.

AREAS FOR FURTHER RESEARCH

The synthesis case studies placed an emphasis on innovative and/or entrepreneurial spirit and an organization's ability to reinvent itself. Once the organization reinvents itself, innovation and change can occur as needed. It may be in the culture of change and innovation where future study in the area of innovation could take place. Focusing on the innovator and the conditions required for innovation is important. Further study can explore the attributes of an innovator and entrepreneur, how organizations are aligned, management and staff characteristics, and political issues. In addition, the transferability of an approach, succession planning to maintain the culture, branding and visibility, and other factors that can help a reader build this sort of organization might be explored as well.

As stated previously, it should make no difference whether a good idea is innovative or copied from elsewhere; a successful practice is a successful practice. Successful practices do not typically occur in isolated cases. There is value to a new successful practices guide to highlight operational and service design issues. Areas such as coordination and technology, although important, have been studied extensively through previous TCRP and other research. An emphasis on operations and, most important, on route design (other than expensive paratransit) would have a beneficial impact on the rural transit community.

GLOSSARY OF TERMS

Fixed-Route—Services provided on a repetitive, fixed-schedule basis along a specific route with vehicles stopping to pick up and deliver passengers to specific locations using rubber tire vehicles.

Flex-Route or Route Deviation—A type of transit service that operates as conventional fixed-route bus service along a fixed alignment or path with scheduled time points at each terminal point and key intermediate locations. Flex-route service is different from conventional fixed-route bus service in that the bus may flex from the route alignment to serve destinations within a prescribed distance (e.g., ¾ mile) of the route. Following an off-route deviation, the bus must return to the point on the route it left. Passengers may use the service in two ways:

a. If they want to be taken off route as part of a service deviation, they must tell the bus operator when boarding; or

b. If they want to be picked up at an off-route location, they must call the transit system and request a pickup, and the dispatcher notifies the bus operator.

Hybrid Service—Types of transit services that are a cross between fixed-route and paratransit. Typical hybrid designs include flex-route service and point-deviation service.

Immediate Response Dial-a-Ride—A form of paratransit in which the customer requests service about an hour before service is needed. It is similar to a taxi, but with grouping of trips to the maximum extent.

Intercity Bus—Regularly scheduled bus service for the general public, using an over-the-road bus, that—

a. Operates with limited stops over fixed routes connecting two or more urban areas not in close proximity, or connecting one or more rural communities with an urban area not in close proximity;

b. Has the capacity for transporting baggage carried by passengers; and

c. Makes meaningful connections with scheduled intercity bus service to points that are more distant.

Mobility Manager—Mobility management is a process of managing a coordinated community-wide transportation service network comprising the operations and infrastructures of multiple trip providers in partnership with each other.

a. Focus on moving people rather than vehicles;

b. Offer a full range of travel options to the single-occupant auto;

c. Focus on innovation, changing usual business practices;

d. Cultivating partnerships and multiagency activities;

e. Offer a single point of access for customers to multiple travel modes;

f. Apply advanced technologies;

g. Coordinate community-wide planning with transportation influencing land use and zoning decisions;

h. Ensure transit-friendly designs in long-range plans; and

i. Receive business community and voter support as well as local governmental support.

Nonemergency Medical Transportation—Transportation provided for persons on Medicaid, often the largest funding source for rural transit. Each state manages its program in its own way, resulting in many different models. Some states coordinate service with public transit and others do not.

Paratransit—Types of passenger transportation that are more flexible than conventional fixed-route transit, but more structured than the use of private automobiles; typically identified by its curb-to-curb or door-to-door service. Paratransit includes demand-response transportation services, shared-ride taxis, car-pooling, and vanpooling.

Section 5310 *(Elderly Individuals and Individuals with Disabilities)*—Financial assistance for purchasing capital equipment or purchasing service to be used to transport the elderly and persons with disabilities.

Section 5311 *(Nonurbanized or Rural Area)*—Financial assistance to enhance the access of people in nonurbanized (rural) areas for any needs and provide for the participation of private transportation providers in nonurbanized transportation [Section 5311(f) to the maximum extent feasible].

Section 5316 *(Job Access and Reverse Commute—JARC)*—The JARC program provides funding for developing new or expanded transportation services that connect low-income persons to jobs and other employment-related services, and to transport residents of urbanized areas and nonurbanized areas to suburban employment opportunities.

Section 5317 *(New Freedom)*—The New Freedom program provides funding to assist individuals with disabilities to access and use transportation services, including transportation to and from jobs and employment support services. Projects funded through the New Freedom program must be both new and go beyond the requirements of the Americans with Disabilities Act of 1990.

ACRONYMS

ACTR	Addison County Transit Resources
AOT	Vermont Agency of Transportation
ATCOG	Ark-Tex Council of Governments
AVL	automatic vehicle locator
CARTS	Capital Area Rural Transportation System
CTAA	Community Transportation Association of America
CTAI	Community Transit Association of Idaho
DOT	department of transportation
ETD	Estuary Transit District
ITD	Idaho Transportation Department
JARC	Job Access and Reverse Commute
KCAPTA	Kings County Area Public Transportation Agency
MDC	mobile data computer
MTA	Modoc Transportation Agency
ODOT	Oregon Department of Transportation
TVT	Treasure Valley Transit
TxDOT	Texas Department of Transportation

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APPENDIX A

Online Survey Form

Survey: TCRP Project J-7 Synthesis Topic SB-17 Innovative Rural Transit Services

Status: Launched

1. Page One

TCRP Transit Cooperative Research Program

The Transit Cooperative Research Program is conducting a synthesis review on innovative practices in rural transit and rural intercity bus services. As part of this effort, we are conducting a brief survey, searching for innovations in rural transit and intercity services. This is an opportunity to showcase innovative rural transit and intercity services in your area.

The term innovative can have many meanings. For this project, innovation is defined as:

- New, different, and unique techniques, practices or approaches that improve a part of the organization.
- Techniques, practices, or approaches that are newly applied to a rural transit setting, but not necessarily unique.
- Modification of a practice that has been previously implemented, but with a nuance or twist that makes it different or innovative.

The report will focus on six areas of innovation:

- Innovative agency characteristics
- Service responses to changing demographics
- Involvement in transportation planning process
- Alternative service modes
- Outreach, education, and training
- Leveraging funding opportunities

If you know of any transit or intercity bus innovations or a transit system that is consistently innovative, please fill out this brief survey. Please fill out separate surveys for each innovation.

1. Your Contact Information

Name of organization

Contact name

Title

Address

Email

Telephone

2. What transit system or intercity bus carrier will you be including in this survey?

Name of organization

Contact name

Address

Email

Telephone

3. Please check the category of the innovative rural transit or intercity bus practice in your area. Check all topic areas that apply:

- ☐ Innovative agency characteristics
- ☐ Service responses to changing demographics
- ☐ Involvement in transportation planning process
- ☐ Alternative service modes
- ☐ Outreach, education, and training
- ☐ Leveraging funding opportunities

4. Please describe the innovative practice

5. What were the results of implementing this innovative practice (i.e. labor or cost savings, customer service, etc.) in agency characteristics? (check all that apply):

- ☐ Organizational restructuring resulting in greater management efficiencies
- ☐ Coordination efforts that resulted in service improvements
- ☐ Community recognition
- ☐ Improved financial management
- ☐ Improved reports
- ☐ Reduction in operating personnel turnover
- ☐ Reduction in labor costs
- ☐ Other

6. What were the results of implementing this innovative practice in response to changing demographics? (check all that apply):

- ☐ Reaching out to new communities
- ☐ Engaging community leaders in new communities
- ☐ New service designs in response to changing demographics
- ☐ Increased ridership due to new service areas
- ☐ Other

7. What were the results of implementing this innovative practice in involvement in Transportation Planning Processes? (check all that apply):

- ☐ The organization has a seat at the planning table
- ☐ Transparent planning process
- ☐ Public involvement innovations
- ☐ Greater funding from typical and atypical sources
- ☐ Fulfilling a role in the community through planning efforts
- ☐ Other

8. What were the results of implementing this innovative practice in Alternative Service Modes? (check all that apply):

- ☐ New service design with improved service
- ☐ Greater connectivity between rural transit and intercity services
- ☐ Greater ridership
- ☐ Improved productivity
- ☐ Greater responsiveness to customers/improved frequency
- ☐ Cost effective/Lower cost per trip
- ☐ Safer and more secure services
- ☐ Greater convenience/better service for customers
- ☐ Politically helpful
- ☐ Other

9. What were the results of implementing this innovative practice in Outreach, Education, and Training? (check all that apply):

- ☐ Support from political and community leaders
- ☐ Greater community recognition
- ☐ New ways to gain community involvement
- ☐ Motivating the community to support and ride transit
- ☐ Innovative literature or website
- ☐ New how to ride guide
- ☐ New approach to training
- ☐ Coordinated training
- ☐ Reduction in turnover as a result of improved training
- ☐ Other

10. What were the results of implementing this innovative practice in leveraging funding opportunities? (check that apply):

- ☐ Increased federal funding
- ☐ Increased state funding
- ☐ Increased local funding and match usage
- ☐ Private sector funding
- ☐ Advertising
- ☐ Sponsorship programs
- ☐ Other

11. Please describe the challenges or barriers in the implementation of this innovative practice (check all that apply):

- ☐ Organizational
- ☐ Staffing knowledge
- ☐ Staffing numbers
- ☐ Institutional/Political
- ☐ Other "turf" issues
- ☐ Operational
- ☐ Staff resistance/capabilities
- ☐ Customer concerns
- ☐ Implementation issues
- ☐ Historical practices
- ☐ Transit image
- ☐ Other

12. Additional comments?

'Thank You'/Redirect Page

Thank you for your participation in this project.

For additional information please contact:
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APPENDIX B

List Of Respondents

Allegan County Transit, Allegan, MI

Ark-Tex Rural Transit District, Texarkana, AR

Baltimore CountyRide, Towson, MD

Butler Transit Authority, Butler, PA

City of Aspen, CO

City of Concord, NC

City of Eureka Springs, AR

City of Rio Vista, CA

COAST, Colfax, WA

Community Transportation Association of America, Washington, DC

Community Transportation Association of Idaho, Boise, ID

Estuary Transit District, Centerbrook, CT

Illinois Department of Transportation, Springfield, IL

Indian River Metropolitan Planning Organization, Vero Beach, FL

Kingman Area Regional Transit, Kingman, AZ

Modoc Transportation Agency/Sage Stage, Alturas, CA

Montana Department of Transportation, Helena, MT

New Mexico Department of Transportation, Santa Fe, NM

Northern Arizona Intergovernmental Public Transportation, Flagstaff, AZ

Oregon Department of Transportation, Portland, OR

Stanley County USA Transportation, Stanley County, NC

South Central Illinois Mass Transit, Centralia, IL

Treasure Valley Transit, Nampa, ID

University of South Florida, Center for Urban Transportation Research, Tampa, FL

Western Illinois University, Macomb, IL

Abbreviations used without definition in TRB Publications:

AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI–NA	Airports Council International–North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	Air Transport Association
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
SAE	Society of Automotive Engineers
SAFETY-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation

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ISBN: 978-0-309-14352-3