BEST PRACTICES AND MARKETING
TO INCREASE RURAL TRANSIT RIDERSHIP AND INVESTMENT

FINAL REPORT

Prepared for
NCHRP
Transportation Research Board

Of
The National Academies of Sciences, Engineering, and Medicine

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December 2018

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CONTENTS

Author Acknowledgments ........................................................................................................... v
Abstract .................................................................................................................................. vi
Summary ................................................................................................................................. vii
  Introduction ......................................................................................................................... vii
  Best Practice Research: Insights and Findings ....................................................................... vii
  Return on Investment: Insights and Findings ......................................................................... viii
  Lessons Learned From ROI Analysis ..................................................................................... ix

Chapter 1 ....................................................................................................................................... 1
  Introduction .............................................................................................................................. 1
    Overview ............................................................................................................................... 1
    Project Goals and Approach ............................................................................................... 2
    Research Methods ............................................................................................................... 2
    Report Organization .......................................................................................................... 2

Chapter 2 ....................................................................................................................................... 4
  Summary of Findings ............................................................................................................. 4
    Introduction ......................................................................................................................... 4
    Best Practice Research: Insights and Findings ..................................................................... 4
    Return on Investment: Insights and Findings ....................................................................... 6
    Lessons Learned From ROI Analysis .................................................................................. 8

Chapter 3 ..................................................................................................................................... 10
  Awareness and Marketing ..................................................................................................... 10
    Best Practice: Branding ...................................................................................................... 10
    Best Practice: Education and Outreach ............................................................................ 15
    Best Practice: Statewide Marketing .................................................................................. 18

Chapter 4 ..................................................................................................................................... 21
  Service Design ....................................................................................................................... 21
    Best Practice: Transit Service Planning ............................................................................ 21
    Best Practice: Regional Services ....................................................................................... 23
    Best Practice: Developing New Transit Services ............................................................. 27

Chapter 5 ..................................................................................................................................... 29
  Integration and Coordination ............................................................................................... 29
    Best Practice: Funding Partners ....................................................................................... 29
    Best Practice: Resource Sharing ....................................................................................... 33

Chapter 6 ..................................................................................................................................... 37
  Institutional Partnerships and Funding ............................................................................... 37
    Best Practice: Community Partnerships ........................................................................... 37
    Best Practice: Partnerships with Rural Health Care Providers ......................................... 43
    Best Practice: Partnerships with Universities ................................................................. 46

Chapter 7 ..................................................................................................................................... 49
  Financial Incentives .............................................................................................................. 49
    Best Practice: Fare Free .................................................................................................... 49
    Best Practice: Local Taxes ................................................................................................. 52
Chapter 8 ................................................................. 54
Emerging Mobility and Technology ................................................................. 54
   Best Practice: Flexible Trip Planners .......................................................... 54
   Best Practice: App-Based Trip Schedule and Dispatch .............................. 57

Chapter 9 ................................................................. 61
Rural Transit Policy ......................................................................................... 61
   Best Practice: Broad and Comprehensive Mission .................................... 61
   Best Practice: Performance Guidelines and Standards ............................ 62
   Best Practice: State Legislation ................................................................. 65

Chapter 10 ................................................................................. 67
Opportunities/Additional Research .............................................................. 67

Appendix A: Understanding Return on Investment Tools
Appendix B: Literature Review Summary
Appendix C: Survey Plan and Templates
Appendix D: List of Interviews Completed
LIST OF FIGURES AND TABLES

Figure 1 Douglas Rides Route Map ................................................................. 12
Figure 2 New THE BUS vehicle ..................................................................... 13
Figure 3 THE BUS Ridership, 2015–2018 ...................................................... 13
Figure 4 RTA Travel Training Materials ....................................................... 17
Figure 5 Go! Vermont Marketing Materials ................................................... 19
Figure 6 WSDOT Marketing Materials ......................................................... 20
Figure 7 JAUNT Service Area ....................................................................... 24
Figure 8 Integration and Coordination Steps ............................................... 29
Figure 9 Columbia Gorge Express ............................................................... 31
Figure 10 Mississippi RCT Groups ............................................................... 34
Figure 11 2018 Orange Line Schedule ......................................................... 40
Figure 12 Kern Transit Social Media Post .................................................... 47
Figure 13 Corvallis Transit System Ridership, FY 10/11 to FY 17/18 ............... 50
Figure 14 Columbia County Public Transportation Sales Tax Revenue, 2008–2016 53
Figure 15 DOT and Transit Agency Contacts ............................................. 106

Table 1 5310 and STF Funding Provided by Douglas County to Douglas Rides 2017–2019 11
Table 2 Columbia Gorge Express Funding, 2016–2020 .................................. 31
Table 3 Columbia Gorge Express Ridership ................................................. 32
Table 4 Delta Rides Ridership, FY 15/16–16/17 .......................................... 34
Table 5 Asotin County PBTA and LTS Ridership & Operating Costs, 2013–2016 ... 36
Table 6 Columbia County Public Transportation Ridership, 2014–2017 .......... 39
Table 7 Blooming Transit Paratransit Performance, 2015–2018 .................... 59
Table 8 Bloomington Transit App Based Software Cost Estimates ............... 59
Table 9 ODOT Statewide Transportation Improvement Fund Program .......... 66
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Abstract

This document reports on best practices and marketing to increase rural transit ridership and investment. Interest in the topic stems from the fact that transit ridership in the United States has been softening nationally. This trend has been having an impact on the transit sector overall as well as transit agencies operating in rural and small urban environments. The research identified, researched, and documented projects and investments that offer potential to help attract and retain riders in rural and small urban systems. Recognizing that increasing ridership almost always requires additional investments in service and capital projects, the research also explored methods and strategies used to evaluate the return on investment associated with rural transit investment. The analysis includes individual best practices and examples of ways to understand return on investment. Experiences and lessons learned are presented by topic, illustrated with case studies, and summarized across all examples.
Summary

Introduction

Interest in Task 73 stems from the fact that transit ridership in the United States has been softening nationally. This trend has been having an impact on the transit sector overall as well as transit agencies operating in rural environments. Task 73 is charged with looking for projects and investments that offer potential to help attract and retain riders in rural and small urban systems. The study recognizes that increasing ridership almost always requires additional investments in service and capital projects but also potentially marketing, branding, and information systems. A companion analysis to identifying best practices is to also provide guidance for making decisions between different projects, programs, and investments.

The study team conducted a literature review and interviewed more than 20 transit agencies and State Department of Transportations (State DOTs) about their experience and efforts to increase transit ridership. The study team combined this information to create the Best Practices Guide, which details individual strategies. As part of conducting this research, several themes emerged that underscore the importance of specific attributes associated with vibrant, successful, and cost effective rural transit agencies. These themes and lessons are presented as framework for increasing ridership. The framework is laid out in eight steps; six of the steps are oriented towards transit agencies and two steps offer insights for State DOTs.

Best Practice Research: Insights and Findings

Transit Agency Best Practices to Increase Transit Ridership

Several themes emerged that suggest a framework for attracting and retaining transit riders.

1. Strengthening community awareness and marketing transit service remains a critical part of attracting new riders.
2. Successful rural transit agencies actively manage their services.
3. “Old tricks” like regional connecting services, university pass programs, and free ride days are still important strategies.
4. “New” ideas and technologies are creating opportunities to grow rural transit ridership.
5. Partnerships are an essential part of successful rural transit services.
6. Transit agencies can maximize efforts to increase ridership by doing all of these things.

State DOT Efforts to Increase Transit Ridership and Return on Investment (ROI)

7. Active engagement from State DOTs can help rural transit services be successful.
8. State DOTs can play a leadership role in understanding and advancing ROI.
Return on Investment: Insights and Findings

Background

ROI is one of a handful of analytical tools used by investors and businesses to evaluate investment decisions and compare and contrast different projects. Other tools used by both the public and private sectors include benefit cost analysis, life cycle costs, and economic impact analysis. In a traditional environment ROI is defined as the ratio between the financial profits and costs that result from an investment, or:

\[
\text{Return on Investment} = \frac{\text{Gain from investment} - \text{Cost of investment}}{\text{Cost of investment}}
\]

(Investopedia 2018)

ROI is expressed as a ratio or percentage that shows the effectiveness of an investment. While the formula is simple, the complexity lies in defining and measuring costs and impacts. In a traditional private sector context, ROI can be estimated using the financial costs of the investments and expected financial gains with costs and benefits accruing to the investor.

Measuring ROI in a public transportation context, however, is complicated. There are rarely positive financial gains associated with an investment in rural transit services. Instead investments create a return in terms of benefits, such as 1) improved transit service efficiency or 2) benefits to the broader community.

Calculating ROI for rural transit projects also presents a measurement challenge. The success or struggle of a rural transit project can be significantly impacted by factors outside of the project sponsors’ control, like changes in gas prices and economic growth generally. In addition, there are differences between transit agencies; some communities have assets, like ski resorts or universities that make it easier to serve and attract riders, while other areas face more challenges associated with few concentrations of activities or limited external resources. Evaluating ROI and performance needs to account and balance differences between variables outside of a transit agency’s control and influence. Societal benefits are also notoriously difficult to measure and capture because they accrue to a cross section of individuals who may value the benefits differently.

Examples of Return on Investment Strategies

The literature and case study research had a clear focus on identifying if and how rural transit agencies and State DOTs use ROI or other evaluation tools to measure the impact of their projects and investments. This effort, however, produced only limited examples of true ROI calculations or structured, replicable methods of measuring, calculating, and describing the return on investment rural transit projects.

The research identified a handful of transit agencies and State DOTs that prepared reports and analysis on the economic benefits of transit. One example is provided by the Roaring Forks Transportation Authority (RFTA), which prepared an Economic Benefits Provided by RFTA to inventory benefits after the region supported a transit tax. The Wisconsin DOT (WisDOT) also produced a report on the economic benefits of rural transit. While the original study is dated (2003), WisDOT expressed an interest in updating the analysis. In both cases, the analysis takes a reflective, rather than predictive look at benefits. It is also not easily reproduced. However, the research and findings could be used to help develop a future tool or model because they do list out benefits and identify beneficiaries.

Other examples of more applied analysis are provided by a Cost-Benefit Models developed by the Easter Seals Project ACTION for Travel Training Programs; and a Cost-Benefit Analysis prepared as part of Northeast Oregon’ Public Transit’s Ride to Wellness Program. However, both models have limitations. The Easter Seals Project ACTION model could be used by a range of agencies to understand the benefit of their travel training program, however, the model is cumbersome to use and requires extensive data collection. It also speaks to the impact of a single strategy and does not facilitate comparison across strategies. The
Northeast Oregon Public Transit’s cost benefit model, while effective for that region, is project specific. It also has extensive data requirements and is not easily transferrable to other transit agencies or regions.

**Articulating Costs and Benefits to Transit Riders**

Another way of understanding the costs and benefits is to translate them into the impact on individuals. Regional transit services that carry riders long distances, for example, can result in significant benefits for riders. This can also be an important marketing strategy. The Skyline Link Express route that connects Bozeman Montana with the Big Sky resort, for example, travels 65 miles one-way. Traveling by private vehicle 250 days per year between Bozeman and the Big Sky Resort would add 25,000 miles to a car and cost between $8,318 and $13,281 per year, as compared with $800 to ride the bus (with seasonal passes) or $2,500 paying cash fares.

Translating costs and benefits to individuals is an effective marketing strategy because it demonstrates and articulates savings. Transit agencies can also use this type of cost benefit analysis to show economic development benefits associated with ensuring jobs are filled. In many cases, without a regional bus service, employees would need on-site housing or other types of compensation. Relative to these investments, transit service investments may be cost effective.

**Lessons Learned From ROI Analysis**

Despite not being able to identify specific methods of calculating ROI, or even other standardized strategies and tools, the study team gathered insights and identified lessons about rural transit agencies and State DOTs use of ROI and ROI-type evaluations.

1. **Measuring and documenting benefits resulting investments in rural transit services is an important strategy.**
   - Although ROI is not typically used among transit agencies, many agencies and State DOTs are interested in understanding the impacts of investments in terms of changes in ridership, system productivity, or service efficiency. Many transit agencies are accustomed to reporting on these measures and the availability of historic measurements means data on trends is likely available.
   - For a variety of reasons, rural transit service is perennially under-funded in the United States. Many of these reasons are beyond the control of individual rural transit agencies. At the same time, private and public funders want to put money towards projects, services, and investments that produce value. Part of attracting additional investment, therefore, involves demonstrating the benefits and gains achieved from additional investment.
   - Even if developing methods and tools is challenging, the analysis will benefit agencies in the longer term. The research suggests that rural transit agencies and State DOTs should measure, report, and demonstrate the value they bring to communities even if the measurement process is rudimentary or qualitative.

2. **Despite not having clear tools or resources, many transit agencies and State DOTs do attempt to measure ROI.**
   - Our research suggests that many rural transit agencies and State DOTs are interested in demonstrating the value that they bring communities and the value that results from recent projects and investments. In almost every case, rural transit agencies and State DOTs report back to stakeholders and funders about their success and accomplishments.
   - Some rural transit agencies also have success demonstrating the return on investment to individuals who chose to ride the bus instead of driving alone.
3. **Performance metrics are among the most common way to measure the benefits and impacts from projects.**
   - Performance measures help state DOTs and transit agencies understand and evaluate the impact of investments on ridership, service effectiveness, and service efficiency. As discussed, transit agency success can be impacted by exogenous variables, like the price of gasoline and economic growth, so a change in ridership or cost per rider cannot always directly or entirely be attributed to a single action. However, comparing performance measure data provides a clear and simple method for comparing and contrasting changes. It also leads to trend data that can help transit agencies tease out the impact of exogenous variables.
   - Performance measures can also be tracked statewide, for individual transit agencies and by service types. This allows agencies and State DOTs to compare and contrast performance across different programs and service types. By classifying services by type, transit agencies can frame productivity expectations and compare similar services against themselves.

4. **Articulating and measuring benefits and gains can help bring partners—and funding—to the table.**
   - Partners that can articulate their costs and “pain points” that they want transit to help solve are valuable. Transit agencies that can alleviate these problems can attract funds and investment to their services. Transit agencies can also use these examples to attract additional partners.
   - The examples of HealthTran and Feonix Mobility Rising are demonstrating that there can be a financial ROI for mobility as a service and mobility management services when calculations are able to capture benefits that accrue to partner organizations. HealthTran used grant funds to conduct a demonstration project and used those findings to articulate the benefits of the program and sign up additional partners. The ability to articulate the benefits and costs of this type of program is critical in attracting partners to the program and ensuring financial sustainability.

5. **Transit agencies “count” qualitative benefits as benefits and impacts.**
   - Many of the benefits associated with education and outreach are qualitative. It can be difficult to measure the impact of these benefits but qualitative measures, like comments from riders, calls to the help line, and the number of individuals who visit a website, or the amount of time an individual spends on a website can be measured to help understand ROI.
   - In some cases, transit agencies and State DOTs worked to measure impacts associated with “soft” programs like marketing and awareness efforts. In most cases, agencies reported that they cannot directly measure additional ridership or changes in productivity, but they can understand if the marketing campaign is generating interest.
CHAPTER 1

Introduction

Overview

Attracting and maintaining riders is a primary challenge facing rural transit systems around the country. Long distances between communities, low population and employment densities, and high auto ownership rates make it challenging to attract new and retain transit riders. Data from the Bureau of Labor Statistics Consumer Expenditure Survey (CE) found that 93% of rural households own or lease a vehicle compared to 87% of urban households. In rural areas, the lack of a household vehicle is usually a function of low income.

To understand the value of building ridership, one must acknowledge the general objectives of public transit. In addition to congestion mitigation and environmental benefits, public transit is designed to offer a transportation alternative and enhance mobility for a diverse set of markets including older adults, people with disabilities, people who cannot afford to drive, or have lost their driver’s license due to substance abuse. Serving these markets and ensuring access to a basic level of transportation for people who are unable or cannot afford driving alone is also a fundamental objective. Ultimately, however, carrying riders is at the core of what rural transit agencies and State Department of Transportations (State DOTs) are trying to accomplish.

For rural demand-response operations, an increase in ridership often requires more resources at an already relatively high marginal cost per rider. Many small and rural transit agencies that already have limited resources to provide services are likely to have even less to spend on marketing services to potential consumers or making service investments. This paradox of wanting to add new riders without additional funds is a challenge to many rural transit agencies and State DOTs. This core challenge is reflected in a variety of ways for rural operators:

- Ridership alone is often considered a measure of a transit system’s success in rural systems; many small transit systems only track and report monthly ridership to policymakers. In some cases, ridership is provided without information on related metrics, such as cost per passenger or passengers per hour, as if a steady ridership increase were enough to justify ongoing operations.
- Higher numbers of riders justifies a service’s operation and generates higher fare revenues, which may serve as a basis of state funding. In many states, rural transit providers are expected to meet performance standards to be eligible for ongoing state transit funding. Transit performance measures typically reflect service productivity (riders per hour/mile) and/or cost effectiveness (cost per rider or farebox recovery).
- Specific funding sources or local contributions are allocated to services for certain populations, such as older adults, youth, or individuals with disabilities. In many cases, these funders and programs place specific service requirements that make it difficult to share rides across different groups. These practices make it difficult for transit operators to realize operational efficiencies or lower the marginal cost of service.
- A successful transit operation can serve an economic development function for a rural community. This is often measured in terms of carrying riders to employers, shopping centers, educational
institutions, medical clinics and regional hospitals. Yet, rural transit agencies are rarely partners in the planning or development of these events, which can make it hard for them to efficiently and effectively serve them.

- For rural operations that provide fixed- or flex-route services, higher ridership on existing routes means greater productivity and lower subsidies per rider, demonstrating accountability to local taxpayers. But, in rural areas with less infrastructure these types of trips and services are more difficult to communicate to riders.

- High ridership in a rural community can provide a sense of local accomplishment. Bus drivers and dispatchers know their customers well, buses are paraded down Main Street on Independence Day, and a lack of empty buses is a sign of local progress. Michigan’s Delta Area Transit Authority’s motto is “Your ride is our pride” and this reflects the approach taken in many small communities.

**Project Goals and Approach**

The goals of National Cooperative Highway Research Program (NCHRP) 20-65 Task 73 are two-fold. The first is to identify and document best practices for rural transit agencies and State DOTs to attract and retain riders. The focus of this first goal is on marketing tools but also includes strategies and investment opportunities related to service design, building partnerships, and new technologies (among others). The second study goal is to assess the current state of practice using return on investment (ROI) tools to measure the outcomes of transit program investments.

**Research Methods**

The ICF and Nelson\Nygaard team (“the study team”) worked with the NCHRP Panel to prepare this best practices guide. The Panel guided and directed this effort by commenting on the research approach, and reviewing materials submitted including the literature review and draft materials.

The research process included a scan of the available literature on best practices, interviews with transit agencies, State DOTs, mobility managers and nonprofit organizations, and building on these resources to develop this best practice guide. All of the transit agencies interviewed as part of this research are classified as rural or small urban transit agencies; however, there is a range in the community size and population density of service areas. Additionally, in some cases transit agencies and especially State DOTs were profiled for more than one best practices. In these cases, agencies were advancing (or had advanced) multiple strategies and best practices to strengthen transit marketing or investment. In particular, the State DOTs at Oregon, Vermont, and Washington were cited for multiple best practices as were transit agencies in Bloomington Indiana and Columbia County, Washington.

Members of the study team also facilitated a discussion on strategies to encourage ridership at rural transit agencies and ROI at the Rural and Intercity Rural Bus Conference, in Breckenridge, Colorado. In total, the study team interviewed and collected data from over 26 individuals representing 25 agencies and organizations.

This Best Practices Guide is a draft report designed to provide a practical and applied version of the material. It focuses on the strategies and methods for increasing ridership at rural transit agencies. It also reflects tools and strategies related to communicating and documenting the benefits of these best practices.

**Report Organization**

The Best Practice Guide is organized around key themes from the research. This first chapter provides an overview of the study goals and research methods.
The first part of Chapter 2 provides a summary of key findings from entire research, identifying 10 overriding strategies and lessons for rural transit agencies and State DOTs interested in strengthening transit ridership. The remainder of the transit provides a discussion on Return on Investment and summarizes findings, opportunities, and recommendations for calculating and articulating ROI as part of investments in rural transit.

The next eight chapters (Chapters 3–9) are organized topically, with a full chapter devoted to each of the themes researched as part of Task 73. These seven chapters include:

- Chapter 3, Awareness and Marketing
- Chapter 4, Service Design
- Chapter 5, Integration and Coordination
- Chapter 6, Institutional Partnerships and Funding
- Chapter 7, Financial Incentives
- Chapter 8, Emerging Mobility and Technology
- Chapter 9, Rural Transit Policy

The appendices provide other project deliverables and materials that support the best practice guide including a project deliverable about the study team’s approach for understanding ROI (Appendix A), a summary of the literature review (Appendix B), a copy of the survey plan and templates (Appendix C), and a list of the completed interviews for this research (Appendix D).
CHAPTER 2

Summary of Findings

Introduction

Interest in Task 73 stems from the fact that transit ridership in the United States has been softening nationally. This trend has been having an impact on the transit sector overall as well as transit agencies operating in small urban and rural environments. Task 73 is charged with looking for projects and investments that offer potential to help attract and retain riders in rural and small urban systems. The study recognizes that increasing ridership almost always requires additional investments in service and capital projects but also potentially attention to marketing, branding, and information systems. A companion analysis to identifying best practices is to also provide guidance for making decisions between different projects, programs, and investments.

The study team conducted a literature review and interviewed more than 20 transit agencies and state DOTs about their experience and efforts to increase transit ridership. The study team combined this information to create the Best Practices Guide, which details individual strategies. As part of conducting this research, several themes emerged that underscore the importance of specific attributes associated with vibrant, successful, and cost effective rural transit agencies. These themes and lessons are presented as framework for increasing ridership. The framework is laid out in eight steps; six of the steps are oriented towards transit agencies and two steps offer insights for State DOTs.

Best Practice Research: Insights and Findings

Transit Agency Best Practices to Increase Transit Ridership

Several themes emerged that suggest a framework for attracting and retaining transit riders.

1. ** Strengthening community awareness and marketing transit service remains a critical part of attracting new riders. 
   - For a variety of reasons, rural transit agencies can be invisible to many residents and a lack of awareness is a persistent challenge. Successful rural transit agencies work to combat this challenge by developing, implementing, and updating marketing and education programs.
   - Marketing strategies can be low cost and highly effective at increasing awareness, building community support, and attracting riders. Examples include bus wrapping, lettering, attention grabbing branding, and marketing campaigns.
   - State DOTs augment local efforts with statewide awareness campaigns. Other State DOTs play a leadership on educating the broader population about transit, ride sharing, and other alternative transportation options.

2. ** Successful rural transit agencies actively manage their services. 
   - Rural communities are dynamic, land uses and community demographics change continuously. One of the easiest and most productive steps a transit agency can take to attract riders, therefore, is to regularly evaluate routes and services. Ongoing review of what is working well and what is not working ensures resources are productively deployed.
• Actively managing services, collecting data on agency and route performance also support ROI by encouraging transit agencies to document service trends. Finally, active management creates baselines against which changes can be measured.

3. “Old tricks” like regional connecting services, university pass programs, and free ride days are still important strategies.
• University pass programs have been around for several years, but are still an effective way to build ridership and strengthen services. In many communities, opportunities remain to work with universities and community colleges to develop pass programs or other joint strategies to encourage transit ridership.
• Longer distance, commuter style routes that connect smaller communities with regional service centers and employment markets are a mainstay service in many rural communities. Longer distance trips, especially express or limited stop service, minimize the inconvenience associated with transit (travel time differences) and maximize the benefits (cost savings, comfort, and safety) and thus are attractive to a wider portion of the traveling population.
• Transit agencies have been working with human service and medical providers to coordinate transportation services for many years. Yet opportunities remain to improve coordination among stakeholders and increase service efficiencies and increase the use of transit services.

4. “New” ideas and technologies are also creating opportunities to grow rural transit ridership.
• While traditional marketing strategies remain important, rural transit agencies are having success using new technologies and systems. For example, rural transit agencies use social media to communicate information about their service and/or attract attention to their services so they can recruit volunteer drivers.
• Rural areas are using technologies that support dynamic ride-hailing, including trip requests, dispatch and payment systems. These systems make it easier for users to request trips and for agencies to schedule and dispatch service.

5. Partnerships are an essential part of successful rural transit services.
• Notable in the research was the importance of partnerships in nearly every strategy related to increasing rural transit ridership. Transit agencies work with a broad diversity of community partners, ranging from community recreation departments and farmers markets to large institutions, such as universities and community colleges, employers, and medical centers. The research highlighted both the diversity of partnership types and the range in how rural transit agencies work with these partners. Best practice examples include rural transit agencies that formed productive partnerships with farmers markets, community centers, health care providers, and community colleges. Partnerships also span a range of arrangements. In some cases, partners provide funding to transit agencies in exchange for specific services or rides. In other cases, partnerships provide access to new or different grant funds, assistance implementing new technologies, and/or access to specific markets.
• Partners can have a major impact on transit agency operating efficiency by working on scheduling rider appointments from the same area at the same block of time or working with dispatchers to move appointments when rides are unavailable to times when transit can be used.

6. Maximizing the benefit by doing all of these things.
• The best practice research demonstrates that successful rural transit operators are working on several of these strategies and ideas simultaneously. Indeed many of the lessons are mutually supportive. For example, a transit agency that actively nurtures partnerships is more likely to be successful with university pass programs, regional commuter routes, and coordinating services with human service agencies.
State DOT Efforts to Increase Transit Ridership and ROI

State DOTs are rural public transportation partners and can help promote systems and services.

7. Active engagement from State DOTs can help rural transit services be successful.
   - There are numerous examples of how State DOTs help rural transit agencies that go beyond the traditional functions of administering grant funds. Examples of state leadership in rural transit service include creating statewide transit marketing efforts and tools and leading procurement for new technologies and systems.
   - State policies give State DOTs additional latitude and authority to be innovative and be more expansive about developing transit programs that benefit a wider constituent group, such as departments and agencies advancing environmental, health care, education, and energy goals.

8. State DOTs can play a leadership role in understanding and advancing ROI.
   - State DOTs are also well positioned to articulate the benefits (and challenges) associated with rural transit investments. The research shows that State DOTs armed with quantitative data on performance, productivity, and investment can be a valuable asset when preparing federal grants or advocating for resources from state legislatures.
   - As a key funder of rural transit services, State DOTs can promote a culture of evaluating ROI. They manage the distribution of federal and state funding programs and can tie access to funds to concrete measurements of success. With access to multiple project examples, State DOTs can also compare and contrast ROI across different program and investment types. They are also more likely to have access to a diversity of staff skills related to data analytics, measurement, and reporting.

Return on Investment: Insights and Findings

Background

ROI is one of a handful of analytical tools used by investors and businesses to evaluate investment decisions and compare and contrast different projects. Other tools used by both the public and private sectors include benefit cost analysis, life cycle costs, and economic impact analysis. In a traditional environment ROI is defined as the ratio between the financial profits and costs that result from an investment, or:

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\text{Return on Investment} = \frac{\text{Gain from investment} - \text{Cost of investment}}{\text{Cost of investment}}
\]

(Investopedia 2018)

ROI is expressed as a ratio or percentage that shows the effectiveness of an investment. While the formula is simple the complexity lies in defining and measuring costs and impacts. In a traditional private sector context, ROI can be estimated using the financial costs of the investments and expected financial gains with costs and benefits accruing to the investor.

Measuring ROI in a public transportation context, however, is complicated. There are rarely positive financial gains associated with an investment in rural transit services. Instead investments create a return in terms of benefits, such as 1) improved transit service efficiency or 2) benefits to the broader community.

Calculating ROI for rural transit projects also presents a measurement challenge. The success or struggle of a rural transit project can be significantly impacted by factors outside of the project sponsors’ control, like changes in gas prices and economic growth generally. In addition, there are differences between transit agencies; some communities have assets, like ski resorts or universities that make it easier to service, while others are harder to serve because distances are greater or regional institutions lack resources. Evaluating ROI and performance needs to account and balance differences between variables outside of a transit agency’s control and influence.
Societal benefits are also notoriously difficult to measure and capture because they accrue to a cross section of individuals who may value the benefits differently. More information on ROI and other strategies and methods used to measure the impact of transit service investments is provided in Appendix A.

Examples of Return on Investment Strategies

The literature and case study research had a clear focus on identifying if and how rural transit agencies and State DOTs use ROI or other evaluation tools to measure the impact of their projects and investments. This effort, however, produced only limited examples of true ROI calculations or structured methods of measuring, calculating, and describing the return on investment rural transit projects.

The research identified a handful of transit agencies and State DOTs that prepared reports and analysis on the economic benefits of transit. One example is provided by the Roaring Forks Transportation Authority (RFTA), which prepared an Economic Benefits Provided by RFTA to inventory benefits after the region supported a transit tax. The Wisconsin DOT (WisDOT) also produced a report on the economic benefits of rural transit. While the original study is dated (2003), WisDOT expressed an interest in updating the analysis. In both cases, the analysis takes a reflective, rather than predictive look at benefits. It is also not easily reproduced, but the research and findings could be used to help develop a future tool or model because they do list out benefits and identify beneficiaries.

Other examples of more applied analysis are provide by a Cost-Benefit Models developed by the Easter Seals Project ACTION for Travel Training Programs; and a Cost-Benefit Analysis prepared as part of Northeast Oregon’ Public Transit’s Ride to Wellness Program (see below). However, both models have limitations. The Easter Seals Project ACTION model could be used by a range of agencies to understand the benefit of their travel training program, however, the model is cumbersome to use and requires extensive data collection. It also speaks to the impact of a single strategy and does not facilitate comparison across strategies. The Northeast Oregon Rides to Wellness cost benefit model is project specific and not easily transferrable to other transit agencies. The model has extensive data requirements and is not easily produced.

Cost-Benefit Model for Travel Training (Easter Seals Project ACTION 2012)

The Easter Seals Project ACTION developed a Cost-Benefit Model for Travel Training Programs aimed at training individuals with disabilities to use fixed-route transit services. This “model” provides instructions for inventorying the elements to estimate costs and benefits, including 1) travel training program costs from the perspective of the provider and the trainee; 2) risks associated with not providing travel training, also from the perspective of the provider and the trainee; and 3) benefits that accrue to the transit agency, trainee, and the broader community.

The model provides guidance on monetizing up to 15 benefits, ranging from trainee income earned before and after travel training, increased ridership on fixed-route services, and taxes (for example). The model also provides a worksheet for calculating a variety of measurements including benefit cost ratios and net benefit calculations.

Northeast Oregon Public Transit’s Ride to Wellness Program: Cost Benefit Modeling (Ducote and Ducote 2016)

The Northeast Oregon Public Transit’s Ride to Wellness Program developed a cost benefit model that compared the cost of providing transit against the cost of patients seeking alternative treatments, or foregoing medical appointments all together. The model draws on previous research associated with Medicaid’s Non-Emergency Medical Transportation (NEMT) program; much of this research demonstrated
the positive return on providing transportation service as compared with the cost of forgoing medical treatments.

One of the fundamental variables to the cost benefit modeling was missed medical appointments and specifically the number of missed appointments due to a lack of transportation, however, this data is difficult to obtain due to patient privacy protections associated with Health Insurance Portability and Accountability Act (HIPPA). Consequently, they were not able to collect specific data on missed appointments and generalized information was incorporated into the analysis. The model was able to estimate costs and benefits associated with the local Rides to Wellness program, which showed a range of positive economic benefits. The study did not, however, produce a tool or model that could easily be adapted to other organizations.

Articulating Costs and Benefits to Transit Riders

Another way of understanding the costs and benefits is to translate them into the impact on individuals. Regional transit services that carry riders long distances, for example, can result in significant benefits for riders. This can also be an important marketing strategy. The Skyline Link Express route that connects Bozeman Montana with the Big Sky resort, for example, travels 65 miles one-way. Traveling by private vehicle 250 days per year between Bozeman and the Big Sky Resort would add 25,000 miles to a car and cost between $8,318 and $13,281 per year, as compared with $800 to ride the bus (with seasonal passes) or $2,500 paying cash fares.

Translating costs and benefits to individuals is an effective marketing strategy because it demonstrates and articulates savings. Transit agencies can also use this type of cost benefit analysis to show economic development benefits associated with ensuring jobs are filled. In many cases, without a regional bus service, employees would need on-site housing or other types of compensation. Relative to these investments, transit service investments may be cost effective.

Lessons Learned From ROI Analysis

Despite not being able to identify specific methods of calculating ROI, or even other standardized strategies and tools, the study team gathered insights and identified lessons about rural transit agencies and State DOTs use of ROI and ROI-type evaluations.

1. Measuring and documenting benefits resulting investments in rural transit services is an important long-term strategy.
   - Although ROI is not typically used among transit agencies, many agencies and State DOTs are interested in understanding the impacts of investments in terms of changes in ridership, system productivity, or service efficiency. Many transit agencies are accustomed to reporting on these measures and the availability of historic measurements means data on trends is likely available.
   - For a variety of reasons, rural transit service is perennially under-funded in the United States. Many of these reasons are beyond the control of individual rural transit agencies. At the same time, however, private and public funders want to put money towards projects, services, and investments that produce value. Part of attracting additional investment, therefore, involves demonstrating the benefits and gains achieved from additional investment.
   - Even if developing methods and tools is challenging, the analysis will benefit agencies in the longer term. The research suggests that rural transit agencies and State DOTs should measure, report, and demonstrate the value they bring to communities even if the measurement process is rudimentary or qualitative.

2. Despite not having clear tools or resources, many transit agencies and State DOTs do attempt to measure ROI.
Our research suggests that many rural transit agencies and State DOTs are interested demonstrating the value that they bring communities and the value that results from recent projects and investments. In almost every case, rural transit agencies and State DOTs report back to stakeholders and funders about their success and accomplishments.

Some rural transit agencies also have success demonstrating the return on investment to individuals who chose to ride the bus instead of driving alone.

3. **Performance metrics are among the most common way to measure the benefits and impacts from projects**
   - Performance measures help state DOTs and transit agencies understand and evaluate the impact of investments on ridership, service effectiveness, and service efficiency. As discussed, transit agency success can be impacted by exogenous variables, like the price of gasoline and economic growth, so a change in ridership or cost per rider cannot always directly or entirely be attributed to a single action. However, comparing performance measure data provides a clear and simple method for comparing and contrasting changes. It also leads to trend data that can help transit agencies tease out the impact of exogenous variables.
   - Performance measures can also be tracked statewide, for individual transit agencies and by service types. This allows agencies and State DOTs to compare and contrast performance across different programs and service types. By classifying services by type, transit agencies can frame productivity expectations and compare similar services against themselves.

4. **Articulating and measuring benefits and gains can help bring partners—and funding—to the table.**
   - Partners that can articulate their costs and “pain points” that they want transit to help solve are valuable. Transit agencies that can alleviate these problems can attract funds and investment to their services. Transit agencies can also use these examples to attract additional partners.
   - The examples of HealthTran and Feonix Mobility Rising are demonstrating that there can be a financial ROI for mobility as a service and mobility management services when calculations are able to capture benefits that accrue to partner organizations. HealthTran used grant funds to conduct a demonstration project and used those findings to articulate the benefits of the program and sign up additional partners. The ability to articulate the benefits and costs of this type of program is critical in attracting partners to the program and ensuring financial sustainability.

5. **Transit agencies “count” qualitative benefits as benefits and impacts.**
   - Many of the benefits associated with education and outreach are qualitative. It can be difficult to measure the impact of these benefits but qualitative measures, like comments from riders, calls to the help line, and visits or time spent on a website can be evaluated to help understand ROI.
   - In some cases, transit agencies and State DOTs worked to measure impacts associated with “soft” programs like marketing and awareness efforts. In most cases, agencies reported that they cannot directly measure additional ridership or changes in productivity, but they can understand if the marketing campaign is generating interest.
Marketing and outreach play a critical role in building public awareness and increasing public knowledge about the available transportation options in the community. To use the system people need to know that it exists, know how it works, and understand how it can meet their individual needs. Marketing and outreach is typically a lower cost option for attracting riders compared to buying new vehicles or adding additional service routes, however, it can be problematic for transit agencies with limited funding to prioritize investments in promotional materials. For the purposes of this research, the study team looked at how building awareness and investing in marketing can increase ridership on rural transit systems and how rural transit agencies measure the return on investment. Best practices include branding, education and outreach, and statewide marketing.

**Best Practice: Branding**

Transit agencies not only provide transportation service but also programs and projects to support mobility. Branding brings together all the different functions of a transit agency under one recognizable name, helping communicate to the public who the agency is and what they do.

**Overview**

Branding is one marketing tactic rural transit agencies can use to build a positive relationship with current riders and help attract new riders. A welcoming and appealing brand is important since the branding is typically the first thing people will see of a transit system and can leave a lasting impression.

A unified brand also helps develop name recognition amongst riders. They can easily identify vehicles, stops and stations, signage, and promotional materials. This can apply to both a single transit system that develops a brand or a group of service providers that develop a cohesive brand across multiple transit systems. The latter can reduce confusion amongst riders and make it easier for people to make connections between multiple service providers.

**Increasing Rural Transit Ridership**

The brand of a transit system directly influences peoples’ perception of transit, either deterring or attracting riders. A unique brand with positive messaging that resonates with the community has potential to draw people in and encourage them to give transit a try.

Branding alone can be a successful tool for attracting more riders to transit but the full effects of this strategy will only be realized if the system also provides sufficient service that meets customers’ needs.

**Return on Investment**

Branding has been shown to improve public perception and attract more people to transit. These benefits typically come at a lower cost than infrastructure or capital investments. While there has not been any
formal methodology for evaluating the ROI of branding, it has typically been viewed a success if the agency has been able to attract new riders or retain current ridership.

For some agencies, attracting new markets has been deemed a success. For example, in the case of Douglas Rides, the agency was able to shift the perception of their transit agency from a service that was only for older adults or persons with disabilities to a service available to the general public. Changing their brand name adjusted public perceptions and attracted new ridership markets which increased overall ridership.

Case Study: Douglas Rides (Douglas County, Oregon)

In 2012, eight providers joined together and united under one single brand, Douglas Rides. Providers decided on the name Douglas Rides because it conveyed that this was a public transportation system for everyone. The previous name, Douglas County Special Transportation, led to a common misconception amongst the public that the service was only for older adults or people with disabilities.

Douglas County serves as the grant manager for the funding distributed to the eight providers. This includes the Federal Transit Administration (FTA) 5310 and Oregon Special Transportation Fund (STF). The eight providers that are a part of Douglas Rides are listed below in Table 1, along with the funding each provider received from Douglas County in the 2017/2019 biennium.

<table>
<thead>
<tr>
<th>Service</th>
<th>5310</th>
<th>STF Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Sutherlin</td>
<td>$35,162</td>
<td>$22,324</td>
</tr>
<tr>
<td></td>
<td></td>
<td>($18,300 for call center)</td>
</tr>
<tr>
<td>Mercy Express</td>
<td>$85,243</td>
<td>$9,757</td>
</tr>
<tr>
<td>North Douglas Betterment (NDB)</td>
<td>$16,151</td>
<td>$1,849</td>
</tr>
<tr>
<td>Reedsport</td>
<td>$35,892</td>
<td>$4,108</td>
</tr>
<tr>
<td>Sunrise</td>
<td>$24,222</td>
<td>$2,772</td>
</tr>
<tr>
<td>City of Winston</td>
<td>$17,946</td>
<td>$2,054</td>
</tr>
<tr>
<td>Umpqua Homes for the Handicapped Inc. (UHH)</td>
<td>$148,579</td>
<td>$10,330</td>
</tr>
<tr>
<td></td>
<td>($58,324 for vehicle)</td>
<td></td>
</tr>
<tr>
<td>Umpqua Valley Disabilities Network (UVDN)</td>
<td>$94,618</td>
<td>$10,829</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$457,813</td>
<td>$64,023</td>
</tr>
</tbody>
</table>

Source: 2017-2019 Special Transportation Fund Program Formula, Douglas County 2017-2019 5310/STF Funding Recommendations
Case Study: Douglas Rides (Douglas County, Oregon) (cont’d)

As part of the rebranding, all eight providers now received the same training, had one call center, and developed a website. Several smaller city providers were understaffed. The training and the joint call center helped provide more support for these providers. The call center originally started with just one dispatcher but due to a dramatic increase in ridership demand, the call center now has three dispatchers. According to Douglas County staff, there was no additional advertising or promotions for Douglas Rides. The increase in ridership is directly attributed to the restructuring and rebranding across these eight providers.

Outcomes
- This rebranding effort increased ridership dramatically. Douglas rides had 30,000 rides in 2012. That number has more than tripled to 100,000 rides in 2018.

Lessons Learned
- The dispatch center tracks every single ride denial and Douglas Rides has made service changes as a direct response to that data. For example, Douglas Rides had several early morning ride denials for the provider in Roseburg because service was not available early enough. As such, Douglas Rides extended service hours earlier in the morning.

Contact
- Dennis Pinheiro, Transportation System Mobility Manager
  Douglas County

Figure 1  Douglas Rides Route Map
Source: Douglas Rides
In October 2016, the Capital Area Rural Transportation System (CARTS) rebranded the San Marcos Transit System. This included a name change from San Marcos Transit System to THE BUS, new bus stop signage, five new branded vehicles equipped with Wi-Fi that use ultra-clean diesel, and numerous outreach efforts. Promotions that coincided with this rebranding included a press release, posters, online video advertisements, new pockets maps, a feature in the San Marcos City Exchange Newsletter, and publicity from several other media outlets (i.e., KXAN, University Star, San Marcos, Daily Record, San Marcos Housing Authority Newsletter). Social media was also a key medium for promoting the rebranding. Facebook events, Facebook Live videos, and promotional video posted on Facebook helped CARTS reach nearly 26,000 people. New capital investments—bus stop signage and buses—doubled as promotional items, helping draw attention to the rebranded service.

THE BUS ridership has increased since the rebranding in October 2016. Ridership in September 2016—prior to the rebranding—totaled to 4,351. In November 2016—just one month after the rebranding—ridership had increased by 20% to 5,202. Since September 2016, ridership has increased by 51% to 6,582 in August 2018. Although ridership trends indicate an increase after the rebranding, it is difficult to solely attribute this increase to the rebranding effort as other external factors may have also played a role.

Note: Ridership data for August 2016/2017 was unavailable.

Source: CARTS
Outcomes

- THE BUS ridership increased from 4,351 in September 2016 to 5,202 in November 2016 to 6,582 in August 2018—an increase of 51% in total.

Lessons Learned

- An increase in ridership from rebranding and marketing is not always instantaneous—it can take time to see the impacts. Short-term solutions are not always best. Ongoing promotional efforts can help ensure that an increase in ridership is sustained for the long-term.

Contact

- Lyle Nelson, Chief of Staff
  Capital Area Rural Transportation System
- Dana Platt, Community Services Director
  Capital Area Rural Transportation System
Best Practice: Education and Outreach

Education and outreach programs help increase awareness and promote the use of transit services. This continues to be an important practice for all transit agencies as people age, people move, or socio-economic circumstances change.

Overview

Education and outreach is a strategic approach to connect with the community and inform them about their transit options. The audience may vary depending on the end goal. Transit agencies wanting to increase ridership across the system may conduct more widespread education and outreach while promotions of a specific service or route may be more focused in particular neighborhoods. A variety of mediums can be used for education and outreach, such as public meetings, a booth at local events, mailers, social media posts, or travel training programs.

Increasing Rural Transit Ridership

Education and outreach programs help potential transit riders understand what services are available and how they can use them. This strategy is not something that a transit agency should do once but rather it can be implemented continuously. Peoples’ circumstances change as they age or move to a new home, therefore, there are always new people to inform and educate.

The type of ridership gain from education and outreach can vary depending upon how it is conducted and how many people are reached. Targeted campaigns to a specific group of people have been shown to be effective at attracting new riders. To sustain an increase in ridership, transit services must continue to meet the needs of its riders. An increase in ridership from education and outreach will not last long if the quality of the transit service is poor.

Return on Investment

Many of the benefits associated with education and outreach are qualitative. It can be difficult to measure the impact of these benefits but several quantitative measures can be evaluated to help understand the ROI. For example, a Cost-Benefit Model for Travel Training was developed by Easter Seals Project ACTION, a technical assistance center operated by Easter Seals, Inc., to evaluate the impact of travel training programs (Easter Seals Project ACTION 2012). Travel training provides many qualitative benefits to program participants, but only costs, benefits, and risks with monetary values were included in the model. This model provides a worksheet template and detailed instructions for transit providers to evaluate the cost benefit of their own travel training programs.
Northern Transit Interlocal (NTI) provides transit service for Toole, Glacier, and Pondera counties in northern Montana. The region includes the Blackfeet Tribal nation, the eastern portion of Glacier National Park and shares a 126 mile border with Canada. Combined the three counties have a population of around 25,000 and cover 6,643 square miles, for a population density of less than four people per square mile making it one of the most remote and most rural regions in the country (U.S. Census 2017).

NTI operates as three subsidiary transit agencies: Toole County Transit (TCT), Glacier County Transit (GCT), and Pondera County Transit (POCT). Combined NTI offers a combination of fixed route and demand response services, all of which are fare free (by donation only). The fixed route bus service provides connections between communities in the region with most routes operating one or two days per week. The most frequent route runs two round trips a day, four days per week (Monday to Thursday). This route connects the Town of Shelby in Toole County with the Sweet Grass (also in Toole County) on the U.S. Canada border crossing. NTI’s ridership has increased dramatically over the last several years, growing from 3,500 to over 12,000 riders.

NTI credits its success in growing ridership to education and passenger information. In 2017, NTI they implemented a new website and started reaching out to their riders with information about their service through Facebook and Instagram. Their website also has a live chat and text messaging functions available to riders 24 hours a day seven days a week. People can use message NTI to schedule rides, learn more about fixed route schedules and receive information about exact pick up locations. The energy and momentum created by the new website and social media efforts has helped NTI grow their ridership tremendously. It has also helped them increase their ability to win grant funds. The grant funds, in turn, reduce local matching contributions from county and town governments, which strengthens NTI’s standing in the community.

**Outcomes**
- NTI’s success reflects a combination of making sure people are aware of their services and knowing how to use them. They support this approach by making it as easy as possible to interact with them, including with familiar social media platforms like Facebook, Instagram, and different text messaging options.
- NTI was voted Montana Transit Agency of the Year in 2018.

**Lessons Learned**
- Using social media is a relatively inexpensive way to reach a lot of people and has produced results for NTI. Staff estimates they spend between $300 to $500 per month on these systems but they have leveraged this success to increase grant funding by 480%.
- NTI has been successful using social media and technology to educate riders. These efforts are also supported and enhanced by significant work and effort on the part of agency leadership to build partnerships and engage stakeholders. NTI has active partnerships with five medical facilities and four senior centers as well as local governments.

**Contact:**
- David Irvin, Transit Coordinator
  Northern Transit Interlocal
Case Study: Travel Training (Riverside, California)

Travel training programs teach potential transit riders how to navigate public transportation, help new riders unfamiliar with public transportation understand the system, and help older adults and persons with disabilities regain independence.

Travel training programs in rural communities include some unique challenges, such as a lack of sustainable program funding, combating a negative stigma around relying on public transportation, and long trips and large service areas, which requires travel trainers to have flexible schedules. On the other hand, it is often easier for rural transit agencies to make connections and build community partnerships to support a travel training program.

Several successful travel training programs have been launched across the country. The Riverside Transit Agency (RTA) travel training program—known as Freedom to Go—is a free service available to people with disabilities and older adults who want to learn how to safely and independently use the transit system. The program began in 2012 and contributed to costs savings and increased ridership on fixed-route services. In the first year of the program’s operations, RTA documented $342,000 dial-a-ride costs savings. According to a report published in 2014, since the Freedom to Go program began in late 2012, 74% of participants continued to ride fixed-route transit after the training program (Menninger and Werly 2014).

Outcomes

RTA experienced $342,000 in dial-a-ride costs savings and increased ridership on its fixed-routes.

Lessons Learned

- Consider the context. Travel training programs in rural communities have some unique challenges (large service areas, long trip distances, rider misconceptions, lack of resources, etc.).
- Coordination is key. Reach out to local human service organizations with constituents that might benefit from the program.
- If possible, track real user data rather than estimating participation and ridership.

Contact

- Carol Wright Kenderdine, Assistant Vice President Mobility & Transportation
  Easterseals, Inc.
Best Practice: Statewide Marketing

Some rural transit agencies struggle to justify investments in marketing and outreach when they are already strapped for capital and operational funding. Statewide marketing efforts can help support transit agencies, making it easier for them to conduct marketing and outreach.

Overview

Spending time and resources on branding and marketing can be especially problematic for rural transit agencies because they tend to have less infrastructure and operate fewer services. Consequently, transit services are less visible in rural communities. Rural transit agencies are also challenged by a lack of resources, including funding, but also staff, to conduct large marketing efforts. State DOTs can help with rural transit marketing by playing a leadership role in the development and dissemination of marketing materials.

Increasing Rural Transit Ridership

Statewide marketing resources help increase transit ridership by providing resources and materials to encourage transit ridership. They can also promote the advantages and disadvantages of using transit generally and promote other ridesharing services like guaranteed ride home programs and carpool and vanpool programs. Statewide marketing resources can also create efficiencies of scale and develop resources that may not be feasible for individual transit agencies, like call centers, advertisement campaigns that encourage people to use transit, and promotional events.

Return on Investment

Drawing a direct line between marketing and transit ridership is challenging, especially on a statewide level. As described in the case study below, the Vermont Agency of Transportation (VTrans) measures usage of their resources, including calls made to the call center, usage of the guaranteed ride home program, clicks on their website, visits to their trip planner, and downloads of their materials. They are not able to understand if and where these interactions lead to additional riders, but the VTrans and its transit partners can directly measure the efficiencies associated with a statewide call center and other resources.
Case Study: Go! Vermont (Vermont)

VTrans developed and manages a resource, Go! Vermont, for use statewide to support transit and non-automobile modes. In total, Go! Vermont provides information on bus services, including both local and city-to-city routes; carpooling and vanpooling; carshare; park and ride lots; biking; ferries and train service; and electric vehicle charging infrastructure. As part of its services, Go! Vermont manages a call center, a statewide Guaranteed Ride Home program and manages a statewide trip planner.

Go! Vermont resources include a webpage and Facebook page. The program also conducts statewide periodic marketing campaigns with advertisements placed in a variety of media. Go! Vermont also publishes a “Resource Toolkit” that includes logos, posters, print ads, and email templates for interested stakeholders, including rural transit agencies. Some of the most popular resources include a series of videos that are fun, lively, and promote alternative modes. VTrans, through its work with Go! Vermont, supports rural transit operators with a statewide marketing campaign. Rural transit operators can actively use the resource to market their efforts, or they realize benefits from the statewide efforts without actively using the resources.

Outcomes
- Go! Vermont actively monitors its marketing campaign and measures webpage visits and the number of people who spend two minutes or more on the statewide trip planner. This information helps them adjust and refine both advertisement campaigns and materials offered.

Lessons Learned
- By taking a broader, more comprehensive approach to public transportation, VTrans is able to promote public transit as well as a wide variety of alternative transportation modes. This helps VTrans address mobility gaps and offer services outside of traditional transit services and by doing this, the Go! Vermont program supports the rural transit providers with marketing.

Contact
- Ross MacDonald, Public Transit Coordinator and Go Vermont Program Manager, Vermont Agency of Transportation
Case Study: Washington Department of Transportation (Washington)

Washington Department of Transportation (WSDOT) conducted a recent survey of transit providers which indicated that rural transit providers wanted to improve their public engagement and marketing skills. In response to these survey results, WSDOT developed a training about marketing for small and rural transit agencies. Transit agencies wanted this training in hopes of achieving a good turnout for their tax ballot measure; more engagement at public meetings; and name recognition as a provider for the general public, not just those paratransit eligible.

The initial training session included about 40 attendees. In addition to this training session, WSDOT did a presentation about marketing for small and rural transit agencies at the statewide Public Transit Transportation Conference in August 2018. WSDOT continues to provide marketing support to small and rural public transit agencies through:

- **One-on-one trainings**: If requested, public liaisons can accompany the community liaisons for a site visit to talk with transit staff about marketing awareness, branding, and strategies.
- **Group trainings**: A public liaison could accompany WSDOT Public Transportation Division staff to a training session for grantees.

**Outcomes**
- At this time, WSDOT has not done any follow-up with transit agencies to check on the impact or effectiveness of the trainings.

**Lessons Learned**
- Online trainings can help reach a wider audience and allow transit providers to access materials at any time. WSDOT does not offer the marketing training online but they offer online trainings for completing the application for their Consolidated Grants Program. Something similar for the marketing training may be offered in the future.

**Contact**
- Linda Howell, Community Liaison
  Washington Department of Transportation

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**Figure 6 WSDOT Marketing Materials**

Provides recommended marketing strategies such as tailoring the marketing approach for the agency (top) and using a consistent brand for multiple transit services (bottom).

Source: WSDOT
CHAPTER 4

Service Design

Rural transit agencies operate a variety of services ranging from fixed-route, deviated fixed-route, and demand response service. Fixed-route services can provide connections between residential areas and community activity centers, like shopping centers, hospitals, medical offices and other service centers, like schools and colleges. Some traditional transit services in rural areas have been losing riders over the past several years, while similar services in other areas have grown.

Our research underscores the importance of evaluating routes on a regular basis to be sure services reflect market needs, are simple and easy to understand and meet rider needs. Many agencies also operate special services that are targeted to specific markets or needs, like intra-city commuter routes, tourism services and/or shuttles. In some cases, special services can be among the most successful services operated by rural providers because transit agencies design them to meet specific needs.

Best Practice: Transit Service Planning

Rural communities are dynamic places. People move to the community, while others leave. Businesses and institutions also change; some relocate or close their doors while new businesses open doors. All of these changes affect the demand for transit and mean that transit agencies must adjust their services so they keep pace with changes and ensure services match needs.

Overview

There are many ways to improve service planning, but in most cases, transit agencies either evaluate their services as part of their standard practice or conduct periodic evaluations, through short-range transit plans, comprehensive service analyses, or other transit planning exercise.

State DOTs often support or manage rural transit planning efforts, recognizing that rural operators may lack staff to conduct evaluation exercises in house or funding to pay for external staff. State DOTs also set performance targets and measures for rural operators, which helps guide expectations and understand when improvement is required. In call cases, the focus on transit service planning is to improve the efficiency and effectiveness of transit services.

Increasing Rural Transit Ridership

Transit service planning increases rural transit ridership by better matching service investments with market needs. Reviewing and evaluating services regularly allows transit providers to understand which parts of their system and services are performing well and which ones could perform better. Adjusting services to match underlying community characteristics can be among the most effective strategies to attract riders and improve service productivity.
Return on Investment

The advantage of periodic evaluation of transit services is recommendations are likely to lead to service changes that will strengthen and improve transit agency performance, often with no additional investment. In this case, ROI could be expressed in transit agency productivity metrics, like cost per rider and riders per hour/mile.

Case Study: Cascades East Transit (Bend, Oregon)

In 2015, Cascades East Transit (CET) launched a three-year pilot project to increase transit service in Bend, Oregon. Funding for the pilot project included a combination of federal, state, and local sources, plus funding from local community college, university, and medical service partners. CET and its partners were interested in expanding transit access to college students, people seeking medical services, and commuters working at these institutions. Another goal of the pilot project was to test service concepts and understand the impact of different investments.

The pilot project involved three new fixed-route services, extending weekday service hours from 6:30 p.m. to 7:30 p.m. and increasing service frequency to 30 minutes on key routes. The pilot project also adjusted schedules to reflect a “clock face” schedule to make scheduled more intuitive and easy to remember.

Outcomes

- During the pilot project, CET operated 10 fixed-route bus services. Annual ridership increased by 6% between 2017 and 2018 and by 4% over the three-year period.
- While the goal of the pilot project was to increase ridership, it was also to try to attract a broader demographic and serve some new markets, including commuters, college students, and people needing access to medical services.
- Modest gains in ridership overall mask strong ridership growth in some routes, and significant ridership loss in others. The challenge for CET, therefore, was to adjust the network to minimize ridership impacts but strengthen the network productivity overall.

Lessons Learned

- On a monthly basis, CET evaluates services regularly and looks at ROI metrics like rides per revenue hour. Staff uses this information to adjust and refine the service to increase the attractiveness of services and maximize productivity.
- While focused on productivity, CET staff also balances different service trade-offs that have an impact on service efficiency, such as expanding service coverage and meeting partner needs. This type of active management of the service and understanding of choices is part of their success as an agency.

Contact

- Andrea Breault, Senior Transit Planner
  Cascades East Transit
**Best Practice: Regional Services**

Regional transit services that connect communities more than 10 miles apart can be attractive to rural residents. Regional transit routes offer advantages with cost savings over driving and convenience provided by safer and more comfortable travel.

**Overview**

Rural communities by definition have low population densities and dispersed land uses. At the same time, many rural areas are seeing community services centralizing, so that hospitals and medical services, shopping centers and educational facilities are concentrated in one area and designed to serve larger regions. This approach to providing services has advantages and disadvantages for rural communities and rural transit operators. Regionalizing services means rural communities have access to support larger facilities with more options, activities, and resources, but it can also create hardships for people located further from the regional center and who need to travel longer distances to get to work, attend school, or receive medical treatments.

**Increasing Rural Transit Ridership**

Case study research underscores the importance of tailoring services to meet market needs. If transit services are designed to serve employment, they need to match employment schedules and shift times. Likewise, rural transit operators can effectively serve shopping and medical service needs with trips that are regularly scheduled but not necessarily daily (see the Regional Rural Connector case study below). Best practices also suggest that offering intercity bus-type amenities such as padded seats and onboard Wi-Fi can also help attract riders.

**Return on Investment**

Rural transit agencies, as mentioned, have demonstrated success in attracting riders to services that provide connections between small towns and regional activity centers. Many rural connectors are high performing routes that can be the best performing routes in a rural agency’s portfolio. The Big Sky Transportation District operates a regional work, the Skyline Link that largely serves employees and skiers traveling to the Big Sky Resort (see Big Sky Transportation District case study). This route is responsible for nearly 75% of the agency’s total ridership. In addition, trips are also to essential services, like medical services. In other cases, regional routes transport people to work, creating reliable, affordable access to jobs and at the same time, ensuring employers have access to the local workforce.
Case Study: Regional Rural Connector (Central Virginia)

JAUNT is a regional public transportation system that provides service to residents in central Virginia. The agency serves a six county region—including Amherst, Buckingham, Nelson, Albemarle, Fluvanna, and Louisa counties—and provides connections to the City of Charlottesville, the largest community in the region. The Regional Rural Connectors provide a combination of weekday commuter services, inter-county services and local community and county circulators. Some commuter services operate as fixed route or deviated fixed route service and offer a handful of trips per day per direction. Vehicles are deployed to other markets, where needs are oriented around midday service. Most regional connector fares are either $3.50 or $4.00 for a one-way trip.

![Figure 7 JAUNT Service Area](image)

Source: JAUNT

The routes connect people living in rural and small towns with downtown Charlottesville and University of Virginia campus and medical center. The routes are designed around rural nodes to draw the greatest numbers of riders and most routes are direct or have limited stops between the origin and destination. The fare, at $3.50 or $4.00, reflect the longer distance travel, which ranges from 10 to 30 miles and constraints in downtown Charlottesville and the University of Virginia campus.
Case Study: Regional Rural Connector (Central Virginia) *(cont’d)*

**Outcomes**
- JAUNT’s ridership was higher for each month as compared to the previous year in fiscal year (FY) 18 (through April 2018). Year on year ridership (April 2017–April 2018) showed a 10% growth system wide and 24% increase on the commuter routes (JAUNT 2018).
- Year to date ridership grew in all commuter markets, although the pace of growth varied significantly by market. Some regions grew by more than 20%, while one grew much more slowly (2%).

**Lessons Learned**
- JAUNT focused its resources on connecting the rural nodes and towns with urban areas to ensure their resources are used as efficiently as possible.
- As they invested in regional connector routes, JAUNT also wrapped buses with local designs to help improve awareness of the service and increase support. Bus wraps are a low cost marketing strategy that ended up having a big payoff for them in terms of community pride and ridership.
- JAUNT also feels that some sort of capital investment or anchor that ties bus service to the community also create a sense of permanence for the service.

**Contact**
- Brad Cheffield, Chief Executive Officer
  JAUNT
Case Study: Big Sky Transportation District (Bozeman, Montana)

The Big Sky Transportation District serves Gallatin and Madison Counties in southwestern Montana. Gallatin County has a population of 108,000 people (U.S. Census 2017), with about 47,000 of the county population living in Bozeman, which is also the county seat and home to Montana State University. The adjacent Madison County has a population of roughly 8,000 people (U.S. Census 2017). Yellowstone National Park is at the southern end of Gallatin County and the Big Sky Ski resort, the largest ski resort in the United States, sits at the border of Gallatin and Monroe counties.

In 2006, the Big Sky Transportation District started the Link Express service that operates between Bozeman and Big Sky Resort. The transit route has been very successful (see outcomes) because it connects the population center of Bozeman with Big Sky Resort, which is a major tourist and employment destination. The bus also provides access to Wal-Mart and connections to intercity bus services. The service operates year-round but service levels vary by season. In the ski season, the Link Express operates 13 round trips per day and in the summer there are 6 round trips per day. The service within Big Sky is fare free, but the fare to travel the 65 miles between Big Sky and Bozeman is $5.00 one-way. They also sell a fare card that allows people to travel for $2.50 per one-way trip.

Outcomes

• Annual ridership on the Skyline Link Express in FY18 was 84,192, or roughly 12 riders per trip.
• The Skyline Link Express has seen ridership increase 133% since FY 10, and FY 18’s ridership was up 3.3% over FY 17.

Lessons Learned

• One of the ways that Big Sky markets the Skyline Link Express is by comparing bus fare with the cost of driving. Their analysis demonstrates that commuting 250 days per year between Bozeman and the Big Sky Resort would add 25,000 miles to a car and cost between $8,318 and $13,281 per year. This compared with annual costs of $800 (with seasonal passes) or $2,500 paying cash fares.
• Despite operating being a productive route, Big Sky says that keeping up with the route and actively managing funding and required capital investments is a critical part of making sure the route continues to grow and succeed. Funding is never guaranteed and success requires safe, reliable equipment.

Contact

• David Kack, Coordinator
  Big Sky Transportation District
Best Practice: Developing New Transit Services

There are different ways that rural transit agencies can adapt and refine their service offerings to better serve riders and communities. New services can generate enthusiasm for transit and attract new rides.

Overview

It can be difficult for rural transit agencies to implement new transit services, especially if existing services are not performing well or confidence in rural transit agency is low. In addition, funding for new services requires either 1) finding new or additional resources; and/or 2) diverting funding from an existing service. Neither of these options are easy. At the same time, new services can meet new and emerging needs, serve new markets and generate enthusiasm to agency resources.

Increasing Rural Transit Ridership

Establishing new services or increasing investments in existing services with stable ridership can be an effective way to increase transit ridership, especially if the new service offers an improvement over existing service levels or fills an unmet need in the existing network.

Return on Investment

For large investments, ROI need to be clearly established and articulated in order to attract support and funding. One of the advantages of transit services, however, is that service can meet a variety of goals. Roaring Fork Transportation Authority for example, was able to build support for a large transit project by setting project goals associated with providing access to employment plus reducing congestion and parking. While these goals directly relate to ridership, they are not financial performance measures, like cost per rider. In this way, the investment matched local needs and created a positive ROI from the perspective of the community and key partners.

Case Study: Roaring Fork Transportation Authority (Western Colorado)

The Roaring Fork Transportation Authority (RFTA) serves several Rocky Mountain communities in western Colorado, including the ski resort towns of Aspen and Snowmass Village. RFTA service covers a 70-mile area with a fleet of 106 buses. The agency provided just over 5 million passenger trips and is the largest rural transit system in the United States.

RFTA’s service area has a lot of visitors, both during ski season and also during the summer. Most of their riders, however, are employees commuting to/from work. Staff reports that ridership has been consistently strong and the last time they lost riders was in 2008, during the economic recession.

One of the major challenges in the RFTA service area is access to jobs. The cost of living in many of the resort communities prices out many residents and workers, yet the same communities have a lot of employment. The high visitor volumes and long employee commutes combined with concerns about traffic and parking led to a need and opportunity for transit.

RFTA was extremely successful developing commuter service between communities. In 2008, they provided under 5 million annual trips and operated 30-minute service during peak hours. As demand continued to grow, RFTA felt they could and should expand and improve their service. The success and desire to improve service led to a bus rapid transit (BRT) project. RFTA implemented BRT service (“VelociRFTA”) in September 2013 along a 40-mile segment of Highway 82 between Aspen and Glenwood Springs.
The BRT service travels between the West Glenwood Park and Ride (with connections to local bus service and regional service to Denver) and travels on local roads to Highway 82. Once on Highway 82, the BRT service stays on the interstate except to serve park and ride lots. It stops at the Aspen-Pitkin Airport and ending (beginning) at the Rubey Park Transit Center in downtown Aspen. Travel time between Aspen and Glenwood is about an hour, which is comparable to driving time and during peak periods, buses come every 12 minutes or less. Buses are equipped with Wi-Fi and BRT stations offer protected waiting areas with real-time passenger information, ticket vending machines, and public Wi-Fi.

The service cost $46 million to implement. Funding was provided through a combination of a 4/10 cents sales tax applied to all RFTA member jurisdictions. They also received a Small Starts grant ($25 million). Ridership increased by about 30% on the corridor and several park and ride lots were at capacity the first day the service opened.

**Outcomes**
- In 2011, RFTA provided 4.1 million rides and an estimated 53.7 million passenger miles. By 2018, after the BRT opened, RFTA provided 5.5 million rides and 60 million passenger miles, a 34% increase in ridership and 12% increase in passenger miles (Toor 2018).
- RFTA conducted a travel pattern study in 2014 that showed transit usage in their service area is 3 times the national average.

**Lessons Learned**
- Economic benefits are estimated at between $67 million and $88 million with community benefits attributed to fuel savings from reduced driving; time and fuel savings from reduced congestion; income generated by accessibility to jobs; public benefits saved due to employment and savings from reduced parking demand (Toor 2018).
- The largest of economic benefit are attributed to reduced parking infrastructure and making employment accessible (Toor 2018).
- RFTA is looking for the next opportunity to improve transit service and make it more attractive to more people. One of their upcoming demonstrations is an electric bus pilot project in Aspen.

**Contact**
- David Johnson, Director of Planning
  Roaring Fork Transportation Authority
CHAPTER 5

Integration and Coordination

Integration and coordination can help rural transit agencies extend the reach of resources—including staffing, funding, or capital—through improved resource management. Transit agencies can reduce costs and increase service effectiveness by working together to achieve joint objectives. External and internal factors can compel transit agencies to consider regionalizing their organizations through integration and coordination. External factors may include growth of within or outside of existing service areas, changing demands for transit, or external funding constraints. Internal drivers for change may include desires to consolidate roles to improve efficiencies, wanting to plan at a regional level, or desires to present the regional community with a single service offering and set of operating policies.

However, initiating integration or coordination requires substantial staff time and dedication to implement. It can be challenging to overcome turfism, competing expectations, or political issues. The level of integration can range from simple communications around common issues to full integration and consolidation of all functions into a single entity. Best practices from this research include funding partners and resource sharing.

![Integration and Coordination Steps](image)

**Figure 8 Integration and Coordination Steps**  
Source: TCRP Report 173, Improving Transit Integration among Multiple Providers

**Best Practice: Funding Partners**

Funding for rural transit agencies can be particularly challenging with limited resources and high operating costs. Partnerships are one coordination opportunity for transit agencies to consider in order to increase funding.
Overview

Funding partnerships can increase the amount of available funding for transit providers to improve service. This can be a particularly useful strategy for rural transit providers who typically have higher operating costs due to long trip distances. Funding partnerships reduce the financial burden for the transit agency by leveraging resources from other organizations.

Targeting organizations that transit agencies provide access to is most often how these funding partnerships come to fruition. These organizations may be willing to contribute funding to the transit service if several visitors are using transit to access their location. This not only benefits the transit provider but can also help community partners leverage this partnership to better support their constituents.

Increasing Rural Transit Ridership

Multiple organizations funding public transit service can reach a wider range of riders. Each funding partner can publicize the service to attract more riders. If the funding agreement includes service to new destinations, transit agencies should be prepared to accommodate an influx of riders to help ensure any increased ridership is retained. An increase in funding also provides opportunity to attract more riders through service enhancements such as, expanded service area or hours.

Return on Investment

Funding partnerships can provide measurable impacts including reduced costs per passenger and potentially economic benefits. If additional funding partners expand the service area to serve new destinations (e.g. local businesses and community services), those destinations may see some economic benefits. This could be measured by the number of employees who rely on the service to access their job or in the form of revenue. Although there is this opportunity to measure return on investment, it can be difficult to directly attribute these economic benefits directly to transit service and the funding partnership.

The partnerships themselves can provide both costs and benefits. It can be difficult to initiate and maintain the interagency relationships, however, these relationships can prove fruitful in more ways than one. They not only provide additional funding for transit service but can be leveraged to support future projects or initiatives as well.
Case Study: Oregon Department of Transportation (Columbia River Gorge)

The Oregon Department of Transportation (ODOT) coordinated with thirteen other federal, regional, and local agencies to launch the Columbia Gorge Express—a bus service connecting Portland, Oregon with Rooster Rock State Park, Multnomah Falls, Cascade Locks, and Hood River. Partners include:

- Western Federal Lands Highway Division of the Federal Highway Administration
- U.S. Forest Service Columbia River Gorge National Scenic Area
- TriMet
- Columbia Area Transit
- Mid-Columbia Economic Development District
- Travel Oregon
- Travel Portland
- Friends of the Columbia Gorge
- Oregon State Parks and Recreation Department
- City of Cascade Locks
- Port of Cascade Locks
- City of Hood River
- Port of Hood River

The service previously operated seasonally from May to September 2016 on Fridays, Saturdays, Sundays, and holidays but began its first fall season service of the Columbia Gorge Express on October 8, 2018. The Columbia Gorge Express connects to TriMet in Portland as well as Columbia Area Transit (CAT) and Mt. Adams Transportation Services (MATS) in Hood River. The route primarily serves locals and tourists who visit the recreational areas along the route or travel between Hood River and Portland.

![Columbia Gorge Express](image)

**Figure 9** Columbia Gorge Express

Source: Columbia Gorge Express

Funding for the service between 2016 and 2020 has included a mixture of sources shown in Table 2. The majority of funding (68%) for the Columbia Gorge Express service is provided by the Western Federal Lands Highway Division of the Federal Highway Administration. ODOT’s Region 1—the region where the service is located—and Columbia Area Transit (CAT)—Hood River’s County Transportation District—provide local match funds. Additional non-match revenue includes Federal Transit Administration (FTA) funding, ODOT staff time, and fare revenue.

**Table 2** Columbia Gorge Express Funding, 2016–2020

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Amount</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Lands Access Funds</td>
<td>$2,262,000</td>
<td>68%</td>
</tr>
<tr>
<td>Local Match)</td>
<td>$259,000</td>
<td>8%</td>
</tr>
<tr>
<td>Additional non-match revenue</td>
<td>$795,000</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td><strong>$3,316,000</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: ODOT
Case Study: Oregon Department of Transportation (Columbia River Gorge) (cont’d)

Columbia Gorge Express ridership has increased since the service launched in 2016. As shown in Table 3, total boardings increased but service days more than doubled in 2018. Average daily boardings is therefore a more accurate measure of changes in ridership.

Table 3 Columbia Gorge Express Ridership

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total boardings</td>
<td>28,767</td>
<td>27,272</td>
<td>87,352</td>
</tr>
<tr>
<td>Total service days</td>
<td>60</td>
<td>49</td>
<td>129</td>
</tr>
<tr>
<td>Average daily boardings</td>
<td>505</td>
<td>556</td>
<td>677</td>
</tr>
</tbody>
</table>

Source: ODOT

Outcomes
- ODOT has seen increased accessibility and mobility as ridership increased. Total boardings and average daily boardings has increased by 34% from 505 in 2016 to 677 in 2018.

Lessons Learned
- Coordination between multiple partners required tremendous effort but was crucial to the success of the service. It required engagement from multiple parties and leveraging existing interagency relationships helped ODOT engage multiple parties.
- Trying to meet the expectations of all the different partners can be difficult. Identifying common desires right up front can help develop overarching goals for the entire project.

Contact
- Jason Kelly, Region 1 Regional Transit Coordinator
  Oregon Department of Transportation
Best Practice: Resource Sharing

Resources sharing is one coordination opportunity for transit agencies to consider in order to improve operational efficiency, reduce costs, and provide customer service.

Overview

Integration and coordination through resource sharing can help improve service efficiency. While funding partners may include partnerships between a transit provider and any other organization, resource sharing typically includes multiple transit providers. It may range from transit providers developing a unified call center, removing duplicate service, or sharing storage or maintenance facilities. This can be a particularly useful strategy for rural transit providers who may have limited staffing or funding. Targeting connecting transit agencies is a common approach to establishing a resource sharing partnership. Both agencies work jointly to improve service efficiency for their customers and reach their objectives.

Increasing Rural Transit Ridership

Multiple transit providers sharing resources and working in tandem can help attract a wider range of riders. Each partner can promote the service and if the cost savings allow, they may be able to expand the reach of their services to new destinations. With additional promotions and expand service areas, many transit providers that share resources see an increase in ridership.

In some cases, this integration and coordination effort helps provide clarity to customers about what travel options are available to them. For example, in the case of Delta Rides, many customers call the integrated call center to make a trip reservation for one provider but learned that there was another transit provider that better served their trip. This would not be possible without the shared call center.

Return on Investment

Measuring the return on investment for resource sharing can be challenging as it is difficult to quantify the time and effort that goes into building interagency relationships. It can be time consuming to initiate and maintain these partnerships, however, they can provide both short and long-term benefits. In the short-term, they can provide measurable benefits including reduced operational costs and increased ridership. In the long-term, they can be leveraged to support future projects or initiatives. Case studies described below did not have any formal methodology in place for measuring costs and benefits but spoke positively about their experience sharing resources.
Case Study: Delta Rides (Delta Region, Mississippi)

In response to limited transportation funding in 2006, Mississippi Department of Transportation (MDOT) encouraged the regionalization of transportation providers. Delta Rides is one of these six Regional Coordination Transportation Groups. Delta Rides is certified non-profit organization that covers a 20 county area in the Mississippi Delta Region. Over twenty partners—which includes transportation providers, state agencies, transportation consumers, non-profit agencies, for-profit organizations, and faith-based organizations—are a part of Delta Rides. Transportation providers include:

- Aaron E. Henry Community Health Center
- Bolivar County Council on Aging
- Mississippi Valley State University
- Delta Buslines
- Mississippi Christian Family Services
- Warren-Washington-Issaquena-Sharkey Community Action Agency (WWISCAA)

As shown in Table 4, ridership for most of these agencies has increased between FY 2015–2016 and FY 2016–2017. Total ridership for all Delta Rides agencies has remained fairly steady with a slight increase of 1%. FY 16–17 ridership for WWISCAA was not available at the time this report was written.

Table 4  Delta Rides Ridership, FY 15/16–16/17

<table>
<thead>
<tr>
<th>Transit Provider</th>
<th>FY 15–16</th>
<th>FY 16–17</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aaron E. Henry Community Health Center</td>
<td>137,632</td>
<td>139,650</td>
<td>1%</td>
</tr>
<tr>
<td>Bolivar County Council on Aging</td>
<td>134,581</td>
<td>135,701</td>
<td>1%</td>
</tr>
<tr>
<td>Mississippi Valley State University</td>
<td>37,086</td>
<td>35,697</td>
<td>-4%</td>
</tr>
<tr>
<td>Delta Buslines</td>
<td>69,037</td>
<td>71,573</td>
<td>4%</td>
</tr>
<tr>
<td>Mississippi Christian Family Services</td>
<td>7,950</td>
<td>8,703</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>386,286</strong></td>
<td><strong>391,324</strong></td>
<td><strong>1%</strong></td>
</tr>
</tbody>
</table>

Note: WWISCAA is not included in this table since FY 16–17 ridership was not available for the agency.
Source: Delta Rides

Figure 10 Mississippi RCT Groups
Source: Mississippi Department of Transportation
Increasing ridership has not been a key metric for Delta Rides—these organizations have been primarily focused on lowering costs and improving efficiency. Delta Rides members are confident that this regionalization has saved them a lot of time and effort but they have not yet been able to quantify this benefit.

To help improve efficiency, Delta Rides developed a joint information call center, which has helped meet customer needs. For example, some customers call Delta Rides to schedule a ride with one transit provider only to learn that there is another provider that is closer to them. This call center is housed at and staffed by Bolivar County Council on Aging.

Delta Rides partners continue to meet regularly (about once a month) to maintain their interagency relationships and coordination efforts.

**Outcomes**
- Vehicles are better utilized rather than sitting idle for most of the day.
- Most transit providers (four out of six) have experienced an increase in ridership between FY 2015–2016 and FY 2016–2017.
- A lot of partnerships were developed which not only made moving people easier but organizations have helped each other maintain vehicles and with driver training.

**Lessons Learned**
- With so many different agencies involved, turfism was the biggest challenge. Each Delta Rides members had to coordinate with one another while maintain the identity of their own organization.
- Regionalizing transit service required providers to shift their approach from moving people from city to city to moving people from county to county.
- Delta Rides does not have any staff—partners have to carve out time to maintain coordination efforts.

**Contact**
- John Johnson, Chairperson
  Delta Rides Regional Transportation Group, Inc.
- Antoinette Gray-Brown, Transportation Director
  Aaron E. Henry Community Health Services Center, Delta Rides Partner
**Case Study: Asotin County Public Transportation Benefit Area (Asotin County, Washington)**

The Asotin County Public Transportation Benefit Area (PTBA) and the Lewiston Transit System (LTS) provide fixed-route and demand response transit services in the Lewis Clark Valley. These two providers cross the state border connecting Washington communities—Asotin, Clarkston, and Clarkston Heights to Lewiston, Idaho.

Each transit provider manages the day-to-day operations of their services with the exception of the demand response dispatch. In 2013, Asotin County PBTA contracted with LTS to manage a joint call center and dispatch for their demand response service. Asotin County PBTA helps fund with call center with an annual payment. In 2014, Asotin County provided LTS with $36,148 in exchange for dispatch services. This has increased to $57,000 in 2018. The agencies also split the costs of licensing fees for RouteMatch dispatching software.

This agreement contributed to reduced operating costs for Asotin County PBTA. Passenger trips, operating costs, and operating costs per passenger trip for Asotin County PBTA and LTS are shown in Table 5. Comparatively, Asotin County has lower operating costs per passenger than LTS. Asotin County PBTA has also seen an increase in demand response trips from 6,990 in 2013 to 7,410 in 2016.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asotin County PBTA</td>
<td>Passenger trips</td>
<td>6,990</td>
<td>7,940</td>
<td>7,950</td>
<td>7,410</td>
</tr>
<tr>
<td></td>
<td>Operating expenses</td>
<td>$193,860</td>
<td>$265,220</td>
<td>$179,530</td>
<td>$226,400</td>
</tr>
<tr>
<td></td>
<td>Operating expenses per passenger trip</td>
<td>$27.73</td>
<td>$33.40</td>
<td>$22.58</td>
<td>$30.55</td>
</tr>
<tr>
<td>LTS</td>
<td>Passenger trips</td>
<td>5,754</td>
<td>5,523</td>
<td>4,863</td>
<td>4,030</td>
</tr>
<tr>
<td></td>
<td>Operating expenses</td>
<td>$277,864</td>
<td>$328,735</td>
<td>$352,174</td>
<td>$302,735</td>
</tr>
<tr>
<td></td>
<td>Operating expenses per passenger trip</td>
<td>$48.29</td>
<td>$59.52</td>
<td>$72.42</td>
<td>$75.12</td>
</tr>
</tbody>
</table>

Source: Federal Transit Administration National Transit Database

**Outcomes**
- Comparatively, Asotin County has experienced an increase in demand response trips from 6,990 in 2013 to 7,410 in 2016 and lower operating costs per passenger than LTS.

**Lessons Learned**
- A joint call and dispatch center required Asotin County PBTA to adjust some of their Dial-A-Ride policies. For example, both agencies now have the same reservation window and cancellation policy.

**Contact**
- Greg Gill, Operations Manager
  Asotin County PTBA
CHAPTER 6

Institutional Partnerships and Funding

Rural transit agencies typically have higher costs due to the type of services they provide. Demand response services and regional fixed-route services, which are common in rural areas, have higher service costs due to their service design. Longer distance services, for example, have higher operating costs, such that even in cases where ridership is stronger the cost per trip will be higher as compared with shorter distance trips. Demand response service is also expensive to provide, even if the service is well designed and meets a critical need.

Given the inherent challenges in operating rural transit service, funding and partnerships with regional institutions are important to successful rural transit operations. Partnerships with community institutions are useful and helpful to rural and small urban transit agencies by participating in service design, providing additional sources of funding, and strengthening local support for services. Institutional partnerships are also assets in helping transit agencies market their services, attract riders, and understand and articulate return on investment. The research highlights examples of partnerships with community groups, health care organizations, and universities.

Best Practice: Community Partnerships

Partnerships with local organizations can help rural transit agencies build relationships and reach a wider network of riders. Community partnerships take time and effort from rural transit agency staff but are an effective way to increase an agency’s profile in the community and in the long run, offer a low cost approach to increase ridership.

Overview

Community partnerships can help transit agencies establish a financial incentive for transit riders. There are several different options to consider for a community partnership. It may include but is not limited to funding partnership, dedicated service to a single destination, or discounted fares for a particular group of transit riders. The partnership provides some mutual benefit for both parties involved. For example, some organizations may be willing to contribute funding to transit service if they experience an influx of visitors.

Establishing these partnerships can be more straightforward for rural transit agencies due to the smaller size of the community. Making connections is easier when there are fewer organizations and fewer people. Community partnerships can also be more impactful for rural areas. A partnership in a rural community that provides a financial incentive for riders has potential to affect a larger percentage of the population than a bigger city.

Increasing Rural Transit Ridership

Working with other partners in the community can help increase ridership in more ways than one. Some community partners may be willing to contribute funding to provide their constituents with a financial incentive to ride public transit. Alternatively, community partners may not provide funding but promote the
public transportation options available to their visitors. Both of these approaches have potential to increase ridership for rural transit agencies.

**Return on Investment**

Measuring the return on investment of community partnerships can be problematic. It is difficult to quantify the monetary value of the time and effort required to establish these partnerships. The case studies below use both qualitative (e.g., community feedback) and quantitative (e.g., ridership) to measure the impact of their community partnership.

There is opportunity for rural transit agencies to further leverage their community partnerships to measure return on investment. For example, community partners may be able to track revenue or number of visitors to determine whether the partnership with a rural transit provider contributed to a positive return on investment.
Case Study: Columbia County Public Transportation (Columbia County, Washington)

Columbia County Public Transportation (CCPT) provides on demand transportation to anyone traveling within Columbia County and to or from Waitsburg and Dixie located in adjacent Walla Walla County. In an attempt to increase attendance, the Walla Walla farmers market contacted CCPT to request free transportation to the market for senior seniors participating in the Senior Farmers Market Nutrition Program (SFMNP). This partnership would result in a loss of revenue funds so CCPT reached out to the Columbia Rural Electric Association (REA). REA agreed to reimburse CCPT for the cost of these trips. Seniors could pick up a SFMNP voucher at the Dayton Senior Center and then receive a free ride from CCPT to the market by showing their voucher.

In the summer of 2018, CCPT also partnered with the Prescott Swimming Pool in the summer of 2018 to provide service to the pool while the Dayton swimming pool was closed for repairs. Prescott is located in Walla Walla County, outside of CCPT’s normal service area. CCPT contacted the Prescott Pool to confirm if they could provide service to their location between June and August. CCPT provided about 650 to 680 rides for the three months at no cost to the rider. Expenses for these trips were deducted from grant funding.

As shown in Table 6, CCPT experienced a decline in ridership from 2014 to 2015. By 2017, ridership started trending upward again. CCPT has leveraged several community partnerships to try and increase ridership but it’s difficult to directly attribute any one partnership to an increase in ridership.

Table 6  Columbia County Public Transportation Ridership, 2014–2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Unlinked Trips</th>
<th>Percent Change from Previous Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>50,633</td>
<td>N/A</td>
</tr>
<tr>
<td>2015</td>
<td>46,573</td>
<td>-8%</td>
</tr>
<tr>
<td>2016</td>
<td>46,561</td>
<td>-0.03%</td>
</tr>
<tr>
<td>2017</td>
<td>48,748</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: National Transit Database

Outcomes
- CCPT has developed partnerships with multiple community organizations.
- Ridership has been increasing but that gain cannot be directly attributed to the community partnerships.

Lessons Learned
- Consider making connections and partnerships with organizations outside of the service area in neighboring communities.
- The benefits rural transit agencies provide is unmeasurable. Many people who use these services would have no other way to get around and no access to a regional center.

Contact
- Dwight Robanske, General Manager
  Columbia County Public Transportation
Case Study: North Central Montana Transit (Hill and Blaine Counties, Montana)

North Central Montana Transit (NCMT) provides fixed-route transit to the Hi-Line communities of Hill and Blaine counties. Opportunity Link, a regional non-profit, operates the service which include four year round routes and one seasonal route. The agency experiences an influx of riders when this seasonal route, known as the Orange Line, is in operation during the summer months. The Orange Line connects the local Boys and Girls Club to parks community parks. The Boys and Girls Club provides NCMT about $2,000 for this service.

NCMT has no formal methodology for measuring return on investment but community members strongly support the service. With this regional transportation service, people have been able to remain living in their communities rather than moving closer to school or work. Community members have shown their appreciation of NCMT through letters of support that were presented to City Council in the summer of 2015 to fund the transit system. Key quotes from these letters are provide below.

- “Before I began riding the transit I was spending $60 a week commuting to and from work. I am father of three young children so being able to save $200 a month makes a huge difference.”
Case Study: North Central Montana Transit
(Hill and Blaine Counties, Montana) (cont’d)

- “Fuel savings for those who commute to outlying areas is significant. The 60 mile round trip commute to Rocky Boy and 100 mile roundtrip to Fort Belknap is often a deal breaker for those considering employment on our neighboring reservations. Many Healthcare providers and educators currently commute to those communities.”
- “Before I took the job as a Dental Hygienist at Rocky Boy Dental Clinic, my parents informed me about the transit. I was concerned about the gas money, wear and tear on my vehicle and driving on the winter roads every day to work and back. Knowing I had the transit to ride played a huge factor in moving back from Arizona.”

Outcomes
- NCMT’s partnership with the Boys and Girls club contributes to an increase in ridership each summer.
- NCMT has strong support from the community for their services.

Lessons Learned
- There has been a reduction in funding for human service agencies—they do not have the resources to cover the cost of transportation for those individuals. Keeping track of the number of missed appointments could be a useful stat for measuring return on investment.
- Leverage social media to keep people more informed about the routes that are available and a better understanding of how the system works.

Contact
- Barb Stiffarm, Executive Director
  Opportunity Link
Case Study: Nnee Bich’o Nii Apache Transit (San Carlos Apache Tribe, Arizona)

The San Carlos Apache Tribe established Nnee Bich’o Nii Apache Transit in 2008. The Tribe combined their Temporary Assistance for Needy Families (TANF) program and San Carlos Apache Tribe’s Public Transit under one single name—Nnee Bich’o Nii, which translates to “helping the people.”

Nnee Bich’o Nii provides public transportation service on the San Carlos Apache Reservation and to surrounding cities, such as Globe and Safford. The focus of the TANF program has been on employment, education, and training rather than welfare. Transportation is essential part of this approach, providing access to jobs, educational institutions, and training facilities. Community partnerships play a key role in ensuring Nnee Bich’o Nii successfully gets people to these destinations.

For example, Nnee Bich’o Nii operates a route from Bylas to San Carlos to the Apache Gold Casino Resort in Globe. This route is not open to the general public is only available for casino employees. The San Carlos Apache Tribe also worked with Freeport-McMoRan, Inc. to develop the San Carlos Training Institute (SCTI). It is difficult for Freeport-McMoRan, Inc. to find employees with the appropriate skills to work in more remote locations. The SCTI allows Freeport-McMoRan, Inc. to build their employee pool and provides training, education, and jobs to San Apache Tribe members. Training programs focus on operations and maintenance of heavy equipment and fixed plants, electrical and instrumentation, and welding. As part of this partnership, the Tribe provides the SCTI facility, review applications, selects the students, and provides transportation to the facility. Freeport-McMoRan, Inc. provides instructors, coursework, equipment, and stipends to the students (Business Roundtable 2017). To help make riding transportation more convenient, Nnee Bich’o Nii Apache Transit allows SCTI students to pay for a month of transit rides through a payroll deduction that is taken directly from their stipend.

Outcomes
- Nnee Bich'oo Nii provides transportation for key community partners including Apache Gold Casino Resort employees and (SCTI) students.

Lessons Learned
- Successful community partnership depend on Nnee Bich’o Nii Apache Transit. Without transportation, San Carlos Apache members would have difficulty reaching jobs, educational facilities, and training opportunities.

Contact
- Bernadette Kniffin, Director
  Nnee Bich’o Nii
Best Practice: Partnerships with Rural Health Care Providers

Rural transit agencies, as local and regional transportation service providers, have had success creating partnerships with hospitals and healthcare services. Access to medical services is a challenging issue for rural communities because medical care is provided regionally, which can make travel distances long and expensive for patients, visitors, and staff.

Overview

Access to healthcare is a persistent problem for many individuals, including rural residents where travel distances can be long and travel costs high. Challenges with accessing health care increase for individuals with chronic conditions needing to travel to medical facilities frequently. Hospitals and health care providers want their patients and clients to receive the care they need. It is especially important because not receiving care can exacerbate medical problems, making them more complicated and more expensive to treat.

By working directly with hospitals and health care providers, transit agencies can help organize and find transportation to meet specific individual needs. Hospitals and health care providers can provide specific information about needs, provide traveler referrals and potentially contribute funding. In some cases, healthcare provider work through a mobility manager to ensure their clients can find transportation. Transit agencies can play the mobility manager role, or they can work directly with the mobility manager as a service provider (see HealthTran case study). Other examples include rural transit agencies working directly with hospitals with commuter services.

Increasing Rural Transit Ridership

Partnerships with health care providers, either directly or through mobility managers can help increase transit ridership by sending individuals to available fixed-route or demand response services. Mobility managers encourage riders to travel using the lowest cost mode possible, which in almost all cases is fixed-route transit. Experience from the case study suggests that once individuals begin riding public transit, they continue to use the service for other trips. Working closely with hospital and health care organizations can also improve transit agencies understanding of local needs and encourage them to adapt services to meet those needs.

Return on Investment

The case study research shows examples of partnerships with Federally Qualified Health Centers (FQHC) and private hospitals where these institutions pay the cost of both mobility management services and direct transportation costs. The partners are willing to pay these costs because the return on their investment in mobility management and transportation costs is realized by lower health care costs achieved in part through avoided ambulance rides and trips to the Emergency Room (ER). FQHCs, in particular, are required to meet wellness performance measures that include avoiding readmission to the hospital. Data collected from HealthTran (see below) shows that one participating facility in Missouri spent $139,000 providing 3,366 rides and at the same time, realized a revenue increase of $1.3 million in Medicare reimbursements for services provided. This translated into about $10 in health care service delivery reimbursement for every $1 spent on transportation (Health Outreach Partners 2017).
Case Study: HealthTran (South Central, Missouri)

HealthTran is a consortium of multiple organizations dedicated to improving the health status of residents in nine counties in South Central Missouri and understanding the relationship between rural health care and transportation. The consortium started in response to growing awareness that the lack of transportation was impacting health care outcomes. HealthTran got its start with a grant from the Missouri Foundation for Health, which covered the cost of program development, administration, and direct costs of transportation.

Organizations (partners) participating in the original HealthTran’s consortium included:

- Missouri Rural Health Association (MRHA)
- Missouri Public Transit Association (MPTA)
- Transit Providers: SMTCs, Inc. OATA Inc., South Howell Medical Transport Operations, City of West Plains, Licking Bridge Builders, Inc. and Preventative Healthcare Transport
- Ozarks Medical Center and its Rural Clinics and Specialty Clinics
- Community Health Centers: Southern Missouri Community Health Centers (SMCHC), Ozark Medical Center (MOCH) and Jordan Valley Community Health Center (JVCHC)

HealthTran used grant funds to provide mobility management services, using a case manager-style approach to solving transportation needs. Regional hospitals and health care providers refer patients to HealthTran, and HealthTran helps these individuals find transportation. The approach is time-intensive, but provides significant benefits to individuals, transit agencies, and partner organizations.

After the grant funds ran out, HealthTran relaunched itself in partnership with the Missouri Rural Health Association. HealthTran’s new business model is membership based. Members subscribe to the HealthTran program for $37.50 per month, which includes 20 one-way trips. Additional rides cost $3.00 plus the direct cost of transportation service. Healthcare providers, including medical service providers, but also pharmacies and potentially community centers, partner with HealthTran because the cost of a ride and treatment is less than the cost of not receiving the treatment. For example, paying the cost of a ride and a flu shot is less than the cost of an ER visit and an ambulance ride.

Outcomes

- Between August 2014 and May 2016, HealthTran arranged 4,729 rides. The direct transportation costs were approximately $147,850 or about $31.27 per ride. Roughly 37% of these trips were provided by public transit operators. Private transportation operators provided the remaining 63% of the trips (Martin 2016).
- Surveys show that 72% of the patients using HealthTran services had not been readmitted to the hospital and 75% of the participants had not been admitted to the ER in the past six months.
- HealthTran is using QRyde a new app based trip dispatch system that streamlines the trip request and scheduling process.
Case Study: HealthTran (South Central, Missouri) (cont’d)

**Lessons Learned**

- HealthTran started with a narrow focus: individuals with heart conditions and diabetes and didn’t get any referrals. They broadened their eligibility to include individuals who: 1) needed a ride; 2) lived in their service area; and 3) had an appointment with one of their partners. Healthcare workers are busy. The project was successful because HealthTran made it easy for healthcare workers to refer patients.

- A challenge identified in Missouri is that a single rural hospital or medical provider may not generate enough trips to pay for administration and overhead costs associated with mobility management services. Models that combine multiple partners, however, are more likely to be sustainable.

**Contact**

- Mary Gordon, Missouri Rural Health Association
  HealthTran
Best Practice: Partnerships with Universities

Transit agencies have been partnering with universities for decades. These partnerships continue to be one of the best and most effective ways to increase ridership.

Overview

There are many reasons why universities and colleges have transportation issues. Campus parking is often in short supply and shrinking, as campus development builds on surface parking lots. Some schools have large commuter populations or rely on off-campus housing; these students need affordable, reliable access to get to and from campus. Other universities face local constraints on growth, have a commitment to sustainability or otherwise constrained in their ability to accommodate demand for vehicle parking. Consequently, universities and transit agencies have formed successful partnerships that not only help universities address transportation concerns and help transit agencies grow ridership and funding.

One of the most common best practices used by transit agencies and universities is some sort of bus pass program that give students, faculty and staff access to low cost or free bus passes. Universities are willing to help pay for bus pass programs because people who ride the bus to campus don’t need a parking pass. Transit agencies benefit because reduced fares help attract riders to their services. Partnerships between transit agencies and universities can also include operating on-campus bus services.

Increasing Rural Transit Ridership

Universities and colleges, especially in rural areas, are activity centers with a strong need for commuter transportation and in some cases, campus circulation. Transit agencies that work with transit agencies often negotiate university bus pass programs that subsidize transit fares for students, faculty, and staff (see Kern Transit case study). Lower fares help encourage ridership.

Return on Investment

University pass programs, like other partnerships, can demonstrate a positive ROI by leveraging partner goals and needs. In the case of a university, an investment in transit service can be the lowest cost option to help them achieve goals. For example, a university that needs to reduce parking demand on campus may compare the cost of an investment in transit service with the cost of building a parking structure. This calculation may result in a positive cost benefit ratio. Factoring in other goals of the university, such as reaching a more diverse student population or employment pool may further strengthen the cost benefit ratio.
Case Study: Kern Transit (Kern County, California)

Kern Transit provides public transit in Kern County, a county in California’s central Valley. Kern County is the third largest county in California and covers more than 8,000 square miles. The entire county has a population of roughly 900,000 individuals (U.S. Census 2017) but given the size, population density is about 100 people per square miles (U.S. Census 2017). Bakersfield, a city of about 400,000 is the county’s largest city and the county seat. It is also the hub for much of Kern Transit’s service.

Using ridership and farebox revenue as measures, Kern Transit feels that their ridership has remained consistent. However, they have also been aggressive about working on initiatives to grow ridership, including updating their marketing materials, adding bus stops and purchasing new buses. Another recent initiative involved a Bakersfield College. This program, which was just announced in the summer of 2018, allows all college students enrolled at Bakersfield College to ride Kern Transit’s 100 numbered bus routes for free. Funding for the program was provided by a grant from the Low Carbon Transit Operations Program, which provide operating and capital assistance for transit agencies to reduce greenhouse gas emission and improvement mobility, with a priority of serving disadvantaged communities. Social media posts on Facebook were used to help publicize the new program.

Bakersfield College is a community college that serves 33,000 students. The main campus is in northeast Bakersfield, but also includes smaller campuses located around Bakersfield and Kern County. Enrollment at the college has been increasing steadily, growing by 697% per year between 2013 and 2017. Eighty percent of the student body are members of minority groups and more than half receive some financial aid (Bakersfield College, 2017).

Outcomes

- Within the first four weeks of the program, Kern Transit recorded a 50% increase in the number of boardings associated with college students.

Lessons Learned

- Bakersfield College attracts students from across the county. Students who attend Bakersfield College travel from all over Kern County. Providing low cost transit service that travels a long distance helps make transit a more desirable choice over driving.

Contact

- Bob Neath, Transit Manager and Office Engineer
  Kern Transit
- Norma Quintero, Office Service Technician
  Kern Transit
Case Study: Bloomington Transit (Bloomington, Indiana)

Bloomington Transit operates in Bloomington Indiana, a city of about 85,000 residents (U.S. Census 2017). Bloomington is the home to Indiana University, the flagship campus of the Indiana University system. IU has nearly 50,000 students. Most of Bloomington Transit’s service is within the City of Bloomington. Outside of Bloomington, Monroe County had 147,000 residents. The county covers 411 square miles and the population density is roughly 347 people per square mile (U.S. Census 2017).

Ridership on Bloomington Transit has been decreasing for the last four years, which is a reversal of prior trends. Bloomington Transit attributes declining ridership to a variety of factors including low fuel costs, the increase in mobility options, like bike share and electric scooters and the increase in housing downtown.

A large number of riders on Bloomington Transit are students. Bloomington Transit has a university pass program with Indiana University. The university charges students $65 per semester and Bloomington Transit allows anyone with a university ID card to ride for free. The partnerships raises a lot of revenue for Bloomington Transit and helps support service to the university campus.

Outcomes

• Student ridership increased from about 1 million riders per year in 1999 to nearly 3 million riders in 2017.

Lessons Learned

• It has been important for Bloomington Transit to activity manage their partnership with Indiana University. Both students and the university administration are constantly facing financial challenges so demonstrating value and staying in touch with both groups has helped keep the partnership active and productive.

Contact

• Lew May, General Manager
  Bloomington Transit
CHAPTER 7

Financial Incentives

Riding transit has been proven to be a significantly cheaper mobility option to owning a car and driving alone. Expenses for driving (i.e., gas, parking, insurance, maintenance, etc.) quickly add up, making transit a more affordable option. Even with these cost savings, some choice transit riders may need additional financial incentives to be convinced to take transit. Financial incentives not only attract potential riders but also can help support low-income transit riders who may greatly benefit from a discounted fare.

Transit agencies, however, run the risk of losing revenue with financial incentives. This can be particularly risky option for rural transit agencies that may be strapped for funding. Some rural transit agencies have been able to successfully provide riders with financial incentives and increase transit ridership while maintaining a steady revenue stream. Best practices include community partnerships and fare free transit service.

Best Practice: Fare Free

Fare free transit removes barriers for people to ride public transit. This can be challenging for rural transit agencies to adopt but are most successful when they are completed with the implementation of a new revenue source.

Overview

Some transit agencies have made fare free transit a permanent reality. This is most successful for fixed-route transit systems that serve a smaller area, transit agencies that have an alternate funding source to replace fare revenues, and the necessary critical mass. Achieving these conditions may not be possible for many rural transit agencies but a temporary fare free option might be attainable. Temporary fare free transit rides can encourage people to give transit a try. If the system can adequately meet their needs, they may continue to ride transit even when the fares are reinstated.

Increasing Rural Transit Ridership

If all other factors were equal, people are likely to select a transportation options that is the most affordable. People often choose driving over transit because it is more convenient and time efficient. Significantly lowering the cost of transit can help the benefits of affordability outweigh convenience and travel time. Fare free transit removes the financial barrier that may deter some people from riding transit. It also helps remove any confusion associated with fares. People do not have to worry about having the right amount of money on hand—they just hop on transit and they are ready to go. Fare free transit has potential to dramatically increase transit ridership, however, it can be a difficult for rural transit agencies to implement permanently. A temporary fare free can encourage people to try transit and potential shift their everyday travel to transit.
Return on Investment

Costs of fare free transit are high due to the loss of fare revenue. Transit agencies considering fare free transit should explore additional funding sources to cover this cost. Rural transit agencies may be able to establish a community tax that is dedicated to transit or receive additional support from the state (see Chapter 6 about funding). If a transit agency can make up for the loss in revenue, the benefits of fare free transit have potential to outweigh the costs. Fare free transit can shift more trips to transit, increase transit ridership, and reduce the number of people driving. These benefits can contribute reduced transportation costs for community members, less greenhouse gas emissions, and reduced wear and tear on roadways.

Case Study: Corvallis Transit System (Corvallis, Oregon)

Corvallis Transit System (CTS)—the public transportation service for the City of Corvallis—has provided free fixed-route transit service within the city since February 2011. The idea of fare free transit in Corvallis was developed by the Corvallis Sustainability Coalition in 2008. After holding a series of community meetings to gather public input, they proposed fare-free transit to the City Council to increase transit access for seniors, youth, and low-income, increase transit ridership, and reduce pollution and greenhouse gas emissions. With no fares and no increase in service hours, CTS ridership increased by 28% in its first year from 884,900 in FY 2010–2011 to 1,131,800 in FY 2011–2012 (Figure 13). The success of this fare structure has been attributed to the relatively small size of the city and the fact that it is home to Oregon State University (OSU) (Volinski 2012).

Figure 13  Corvallis Transit System Ridership, FY 10/11 to FY 17/18

Source: Corvallis Transit System
Case Study: Corvallis Transit System (Corvallis, Oregon) (cont’d)

CTS has been able to offer fare free service and remain financially stable with the Transit Operations Fee (TOF). In February 2011—the same month that fare free transit service was implemented—the City established a local funding source, the City’s TOF. Residents and businesses pay an additional fee each month that is added to their utility bill. TOF is solely dedicated to CTS operations and has become the City’s second largest source of transit funding. Establishing the TOF freed up property tax funding that was previously dedicated to transit to be allocated to other city services such as police, fire, library, parks and recreation, and community planning.

Outcomes
- Annual transit ridership increased by 28% from 884,900 in FY 2010–2011 to 1,131,800 in FY 2011–2012.
- The City of Corvallis implemented the TOF to replace revenues gained from fares.

Lessons Learned
- The relatively small service area and critical mass of riders from OSU contributed to the success of Corvallis’ fareless transit system.
- Simultaneously implementing an additional revenue source (TOF) with fare free transit helped CTS maintain financial stability.

Contact
- Tim Bates, Transit Coordinator
  City of Corvallis
Best Practice: Local Taxes

Overview

Local taxes can come in several different forms, such as property taxes, sales taxes, or utility taxes. Garnering support for a local tax can be somewhat challenging. It typically must be approved by voters and community members may be hesitant to elect to tax themselves. Transit agencies must focus their attention on communicating the benefits of public transit as well as the potential financial benefits that a local tax could bring. Community members may be more open to a local tax (county or city wide) than a statewide tax because they are more likely to directly benefit from the funding. A critical piece of this strategy is having at least a portion of the tax being dedicated to public transit. Writing this into policy helps ensure that this revenue will not be reallocated to other uses.

Increasing Rural Transit Ridership

With any additional funding source, including a local tax, rural transit agencies will have the opportunity to make enhancements to the existing system. These improvements can help retain existing riders and attract new riders. A local tax can also encourage more people to ride transit and take advantage of the system that they are paying into.

Return on Investment

Local taxes can have a high return on investment. The time and effort needed to adopt a local tax could potentially be costly but having additional funding on hand to improve the transit system is a huge benefit to the transit agency as well as the surrounding community. Revenue from local taxes could be used to operate, maintain, or expand the system connecting more people to jobs, school, community services, and medical care. The costs per capita is for a local tax are usually quite small and have potential to generate a large sum of funds for a rural transit agency. As described in the following section, Columbia County Public Transportation has been able to generate over $300,000 per year on average from a 0.4% sales tax.
Case Study: Columbia County Public Transportation  
(Columbia County, Washington)

In 2005, Columbia County Public Transportation (CCPT) established a 0.4% sales tax levy to support the public transportation system. The tax required voter approval and can be used for operation, maintenance, and capital needs of transit districts. CCPT uses these revenue funds to help offset match on grants, which allows the agency to have higher match rates than some other rural transit agencies. The agency matches maintenance and operations grants at 22% and capital grants at 20%. Figure 10 shows the revenue amounts CCPT has received from 2008 through 2015 as well as an estimated amount for 2016. The revenue amount spiked in 2014, reaching almost $2 million due to certain projects occurring in the County at that time, however, much of that money ($1,182,150) was returned to the Department of Revenue under a state tax credit program. As a result, CCPT retained just over $777,000 of the sales revenue in 2014. In the future, this tax could be increased, but Washington limits transit sales taxes to a maximum of 0.9% (Wisconsin State Legislature 2018).

![Figure 14 Columbia County Public Transportation Sales Tax Revenue, 2008–2016](source)

**Outcomes**
- CCPT has received an average of $329,800 per year for transit operations, maintenance, and capital needs.
- Sales tax revenue is used to off-set match on grants, allowing CCPT to match maintenance and operations grants at 22% and capital grants at 20%.

**Lessons Learned**
- In order to establish local taxes as a revenue source, the community has to see the benefits of the public transit system. Public transit service is needed in rural America. It gives people who have no other transportation option independence and mobility. Rural transit agencies need to communicate these benefits to the public so they can understand why it is important to pay into this system.

**Contact**
- Dwight Robanske, General Manager
  Columbia County Public Transportation
Emerging mobility refers to new ways of providing transportation by using technology to allow individuals to share rides and vehicles. It includes ride-hailing services such as Uber and Lyft that connect riders with drivers, and services that allow people to share bikes, cars and electric scooters, like Zipcar, Car2Go, and Lime (for example). The systems that support sharing modes and rides are similar. They use a combination of sensor, automatic vehicle locators, and geographic information systems to track transportation suppliers (drivers, vehicles and bikes) and connect them with potential riders. Other technologies allow emerging mobility providers to track usage, allow passengers to pay fares and produce other accounting systems.

One of the defining characteristics of emerging mobility is that it is dynamic, with new ideas both appearing and disappearing in response to consumer reaction, regulations and organization financial sustainability. Local and regional organizations, including public transit have been—and continue to be—interested in integrating emerging mobility strategies and systems into their systems. Emerging mobility offer potential to complement traditional transit services, especially in markets where transit has struggled to be cost effective such as low density, high need markets. As the systems and services become more widespread, transit agencies are responding by testing concepts and strategies to integrate new modes, scheduling technologies and other systems into their networks.

Emerging mobility is coming to rural areas with developers creating systems specifically designed to address the challenges faced by rural transit providers. The literature and survey research suggests that emerging mobility has potential to help attract riders to rural transit systems by:

- Sharing information about available services and providing new ways to connect consumers (riders) with transportation providers.
- Making it easier—and less expensive—to schedule, pay, track and measure service, for consumers and providers.

As part of exploring best practices to increase rural transit ridership and investment, the study team sampled rural transit operators are using emerging mobility technologies and services to expand and augment their services. For this section, our team focused on how rural transit agencies and State DOTs are using emerging mobility technologies and strategies to increase mobility in their communities by making it easier to connect riders with transit services.

**Best Practice: Flexible Trip Planners**

The Vermont Agency of Transportation (VTrans) developed an online and mobile trip planner that shows flexible transit services, including bus routes with flag stops, deviated fixed-route service areas and demand response service areas. The tool helps people see a larger range of travel choices so that transit is an option for more travelers.
Overview

Trip planning tools, like Google maps, have changed the way people plan travel. They are a staple part of transit traveler information because they provide information about trip choices and present it in ways that are easy to understand and compare. Trip planners, for example, provide information about departure/arrival times, trip costs, distances to/from transit services and other information. Online trip planning tools took a big step forward with the release of Google transit in December 2005 and then significantly advanced importance again with the launch of the Apple iPhone, which supported Google maps on a mobile phone (Edson et al. 2010).

Transit trip planners are built using general transit feed specification (GTFS) data, a standard data protocol that is based on a common public transportation schedules formats and traditional geographic information systems. Transit agencies provide GTFS data to Google, who includes it with Google maps (free of charge), so people searching for travel options will see available transit services when they use Google maps. Transit agencies can also use GTFS to develop their own trip planners and/or share information publicly to allow private app developers to create their own custom or tailored trip planners. Generally speaking, the technology is widespread and many transit agencies, including small urban and rural ones, have GTFS data and show up on Google maps. Trip planners provide static information because they reference published information, which makes them distinct from real-time information that tracks live bus movements.

While trip planners have transformed how people learn about transit services, to date, they have been focused on scheduled, fixed-route services. This focus disadvantages rural transit because it misses non-fixed service options, like flag stop service, deviated fixed-route and demand response services. GTFS data is also limited to transit services that are within roughly one-half mile of a traveler’s destination and origin (CNT). This also disadvantages rural transit because some rural trips span longer distance, so using transit for part of the way can make a trip possible.

Increasing Rural Transit Ridership

Flexible trip planners help travelers discover transit options in rural communities. Online and mobile trip planners are a commonplace tool used by people when planning trips, so including flexible options will increase awareness of transit options. The planners also make transit more accessible to people who have trouble reading transit schedules and/or get most of their information online.

Return on Investment

Vermont’s GTFS-flex trip planner project cost roughly $600,000 with funding provided through a FTA’s Mobility on Demand (MOD) project, plus state resources. The return on investment for the trip planner tool has not been estimated. VTrans does, however, measure time spent on the trip planner to track changes in response to marketing campaigns as well as use overall.

The return on investment for the trip planner is increased travel on transit. The high development costs of the trip planner, however, combined with the small population in Vermont makes it unlikely that Vermont will recoup total investment costs in the short-run. In the long run, however, the trip planner will keep rural transit services current with the prevailing technology and ensures the full suite of options is available to people needing rides. In addition because the trip planner was designed as a prototype and partially funded with federal resources, the investment will benefit other rural providers around the country. State DOTs and regional transit authorities in Maine, Idaho, and Iowa have expressed an interest in the technology.
Case Study: Flexible Online Trip Planners (Vermont)

VTrans applied for and received grant funding from the FTA’s Mobility on Demand project to develop a flexible transit trip planner or GFTS-flex model. Vermont’s goal with development of the trip planner was to broaden awareness of rural transit options and improve “trip discovery” for people exploring travel options within Vermont and using Google Maps to plan travel in Vermont. The trip planner currently shows fixed-route services, including local and intercity bus, rail, and ferry options, flexible transit services, including routes with flag stops, deviated fixed-routes, demand response and areas with dial-a-ride. Vermont hopes to add other travel options, including carpool and vanpools in future iterations of the tool.

The trip planner on Go! Vermont can be viewed here: https://plan.govermont.org/ or explore choices offered by transit for destinations within Vermont on Google maps.

Outcomes
- VTrans developed GTFS-flex data to create a statewide trip planner that includes a broader range of travel options, including modes operated by their rural transit operators.
- The GTFS-flex trip planner has been live as a “soft launch” since March 2018. VTrans accepted comments for a handful of months and is preparing for a broader launch in January, with the addition of ridesharing modes (carpool, taxi, and vanpool).
- Since March, the Vermont trip planner has received between 120 and 170 searches per week. This is measured as someone spending two minutes or more on the trip planner website.

Lessons Learned
- None yet.

Contact
- Ross MacDonal, Public Transit Coordinator and Go Vermont Program Manager
  Vermont Agency of Transportation
Best Practice: App-Based Trip Schedule and Dispatch

App-based systems are making it easier for transit operators (or mobility managers) to see available services and schedule rides based on costs and needs. Systems can be simpler and easier to use for rural transit agencies to understand available choices and costs.

Overview

Under the Americans with Disability Act (ADA) transit agencies are required to provide complementary paratransit service to individuals who cannot use fixed-route bus or rail service because of a disability. Most transit agencies request riders schedule a trip at least 24 hours in advance and are typically assigned a 30-minute trip window for their pick up time. Many rural transit agencies extend these practices to all demand response services because they allow time for transit agencies to create daily travel manifests for drivers. The system works but limits flexibility. As a result, demand response services are nearly always expensive and cumbersome for travelers and providers. Despite these inefficiencies, demand response transportation remains the one of the most cost effective and appropriate way to provide public transportation in rural communities.

One of the challenges and opportunities facing transit agencies is adapting efficiencies piloted by private mobility technologies to publically funded demand response services. Rural transit agencies have expressed an interest in ride-hailing systems to reduce costs and/or streamline operations for riders and transit agencies. Technologies are need because while ride-hailing services, like Uber and Lyft, are increasing their coverage in the United States, low demand for ride-hailing services means that Uber and Lyft, while available are often expensive and/or require long waiting times (Pierson 2017).

Some rural transit providers are using technologies behind ride-hailing services to meet demand response needs in urban markets. HealthTran in Missouri for example, uses an app-based ridesharing technology designed for rural communities (QRyde, see call out box) as a mobility management tool to find rides for individuals. In the case of HealthTran, local transportation providers, including public transit agencies, taxi companies, private ride-hailing companies, and medical transportation providers list services, costs, available and service details (accessible vehicle, etc.). Mobility managers will review the options and arranges the ride based on rider needs and costs. In practice, HealthTran says they assign trips to fixed-route public transit whenever possible because it is the lowest cost service.

Increasing Rural Transit Ridership

Transitioning rural transit agencies and mobility managers to use computer or mobile apps to book and schedule rides should lead to increased ridership. Transportation service apps benefit transit agencies because their services will appear to anyone—including health and human service providers, but also individuals—using the app to schedule rides. Transit is always the lowest cost service, so will be a logical choice.
choice for cost sensitive travelers (or organizations). Indeed, HealthTran said they assigned rides to their rural transit providers whenever possible. They also reported anecdotally that once individuals tried transit, they were more likely to use it in the future.

Transit agencies also stand to benefit from owning and controlling app based scheduling because they can help agencies provide a higher level of service that is more responsive and flexible. For example, the app based scheduling systems shows the available trips, costs and service restrictions and allows transit agencies and mobility managers to understand options. App systems can also be cost effective and more dynamic outside of traditional service hours.

App based trip scheduling systems are also more convenient for riders and for volunteer drivers. Riders benefit because they can track their ride on their computers or mobile phones. Riders also benefit because the scheduling of trips can be more dynamic and require less advance planning. Volunteer drivers often prefer app based scheduling systems because the opportunity for a ride is dispatched electronically, together with the payment and any restrictions. Drivers can confirm the trip or opt out of it instantaneously.

Return on Investment

The return on investment for ride-hailing apps like QRyde is not well understood. Investment costs for app based scheduling services are low and in some cases, paid by the transportation provider. In addition, app based scheduling systems have potential to improve trip scheduling, dispatch and data collection, which will reduce administrative costs. Lower costs are also likely through increased competition generated by the ability to compare and contrast the cost associated with different providers. These potential benefits suggest generating a positive return on investment is possible.

Data on the return on investment generated by ride-hailing apps is limited and not well researched. For example, HealthTran led a mobility management demonstration project in southern Missouri, primarily to serve medical transportation. As part of this project, they used ride-hailing technology to assist with trip assignments and recorded an average per trip costs (overall) of $31.27. The costs include direct expenses only, without the administrative costs associated with providing mobility management service.
Case Study: Bloomington Transit (Bloomington, Indiana)

In 2016, Bloomington Transit contracted HB Software Solutions (HBSS) for a new paratransit scheduling platform called QRyde. Bloomington Transit began using the new technology January 1, 2017. As shown in Table 7, Bloomington Transit saw an increase in paratransit ridership of about 1,000 trips from 2016 to 2018. The new technology helped improve efficiency with an increase in both passengers per revenue hour and revenue mile in 2017. Bloomington Transit attributes this improved performance directly to the adoption and implementation of QRyde.

Table 7  Bloomington Transit Paratransit Performance, 2015–2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue Hours</th>
<th>Revenue Miles</th>
<th>Passenger Trips</th>
<th>Pass. per Rev. Hr.</th>
<th>% Change</th>
<th>Pass. per Rev Mile</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>15,980</td>
<td>144,300</td>
<td>33,840</td>
<td>2.12</td>
<td>N/A</td>
<td>0.23</td>
<td>N/A</td>
</tr>
<tr>
<td>2016</td>
<td>15,010</td>
<td>136,980</td>
<td>33,970</td>
<td>2.26</td>
<td>7%</td>
<td>0.25</td>
<td>6%</td>
</tr>
<tr>
<td>2017</td>
<td>13,970</td>
<td>138,260</td>
<td>34,910</td>
<td>2.50</td>
<td>10%</td>
<td>0.25</td>
<td>2%</td>
</tr>
<tr>
<td>2018*</td>
<td>11,680</td>
<td>103,670</td>
<td>26,900</td>
<td>2.30</td>
<td>-8%</td>
<td>0.26</td>
<td>3%</td>
</tr>
</tbody>
</table>

Note: 2018 reflects January to September only.
Source: Bloomington Transit

Five year costs for the technology are shown in Table 8. This includes one-time capital costs of start-up and additional modules as well as annual operational costs. Total start-up costs were just under $100,000. Operational costs are about $20,000 per year with additional capital costs for any additional modules added to the platform. In 2018, Bloomington Transit added the Interactive Voice Response (IVR) Module to allow for automated notifications (e.g., reservation reminders, cancellations, etc.). Next year (2019) the agency plans to add another module which will allow passenger to make reservations online.

Table 8  Bloomington Transit QRyde Cost Estimates

<table>
<thead>
<tr>
<th>Year</th>
<th>Capital Costs</th>
<th>Operational Costs</th>
<th>Total Annual Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>$92,400 (Initial Start-up Software and Hardware)</td>
<td>$6,900</td>
<td>$99,300</td>
</tr>
<tr>
<td>2018</td>
<td>$3,400 (Add IVR Module)</td>
<td>$15,300</td>
<td>$18,700</td>
</tr>
<tr>
<td>2019</td>
<td>$7,000 (Add Online Reservation Module)</td>
<td>$19,200</td>
<td>$26,200</td>
</tr>
<tr>
<td>2020</td>
<td>N/A</td>
<td>$19,800</td>
<td>$19,800</td>
</tr>
<tr>
<td>2021</td>
<td>N/A</td>
<td>$20,400</td>
<td>$20,400</td>
</tr>
</tbody>
</table>

Source: Bloomington Transit
### Case Study: Bloomington Transit (Bloomington, Indiana) (cont’d)

**Outcomes**

With the adoption of QRyde in 2017, paratransit:

- Ridership increased by 3%.
- Passengers per revenue hour increased by 10%.
- Passengers per revenue mile increased by 2%.

**Lessons Learned**

- Overall Bloomington Transit claimed to have a positive experience with QRyde. The agency had to make some adjustments to daily activities, such as having their drivers now use tablets to review their schedule rather than paper schedules.
- Make sure to have a contact at the software company who can respond to any tech support questions.
- Be sure to test out all the features before the official launch. For example, make sure the reporting function provides the data in the desired format (e.g., daily totals, monthly totals, annual totals, etc.)

**Contact**

- Lew May, General Manager
  Bloomington Transit
- Eli McCormick, Customer Service Manager/BTaccess Manager,
  Bloomington Transit
CHAPTER 9

Rural Transit Policy

State Department of Transportations (State DOTs) support rural transit agencies with funding and technical assistance. Federal rules and regulations require that state DOTs administer Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) grants for rural and small urban transit operators. These grants fund transit operations, capital investments and technical assistance according to rules set out in federal transportation legislation and supporting rule making. Many states also contribute state resources to support rural transit and in almost every case, state DOTs also distribute these resources and programs. Beyond these mandated roles, state DOTs play different roles in leading and supporting rural transit services.

State DOTs—especially in states where state funds are used to support transit—as they answer to state legislatures have a unique role in ensuring cost-effective transit services and directing investments to produce clear, tangible benefits to tax payers. Our analysis identified State DOTs playing a leadership role helping rural transit agencies in two critical ways: 1) adapt and respond to changing circumstances and 2) identifying and securing dedicated funding.

Best Practice: Broad and Comprehensive Mission

Some of the successful DOTs interviews for this project are working towards a broad and comprehensive vision for rural public transit that includes transportation goals, but also environmental, human service and energy goals (for example). This broader perspective helps State DOTs build broader coalitions and funding streams.

Overview

Some State DOTs are supported with broad missions that encourage collaboration across multiple agencies. In some developing the mission and goals for State Departments of Transportation generally and Public Transit Divisions generally, the mission is determined by the Secretary of Transportation. In other states, the mission and goals are set by the State Legislature and codified in State Statutes. In both cases, adopting a broad, comprehensive mission that identifies public transportation generally and rural public transportation specifically as a key component of accomplishing other state transportation-related goals, like energy conservation, environmental protection, education and human services gives State DOTs more flexibility to support rural transit agencies.

Increasing Rural Transit Ridership

State DOTs provide leadership and guidance as well as funding. They also bring partners to the table to understand client transportation needs and the potential to match these need with rural transit providers. State DOTs can also set statewide policies and programs that maximize state investments in rural transit operations to meet other state goals. This leadership role helps rural providers attract riders to their system.
Return on Investment

Several of the State DOTs interviewed – Washington, Wisconsin and Vermont – the State DOTs were innovative both in what they thought rural transit agencies could accomplish and their expectations for rural transit agency performance. This dual directive that both provide flexibility and set expectations provides a basis for understanding and communicating return on investment.

Best Practice: Performance Guidelines and Standards

Tracking and measuring transit service performance can be an effective way to understand rural transit services, including trends and changes in ridership, but also the efficiency of service operations. Ongoing measurement of performance also allows State DOTs and transit agencies to track and understand the impact of different transit projects and investments.

Overview

Transit agencies, as directed by the FTA, report data on a handful of performance measures to understand their service productivity, efficiency and cost effectiveness. As part of accepting funds from the FTA, most transit operators report to the National Transit Database (NTD), which creates a national database of individual transit agency, their services and costs. The metrics ensure transit agencies measure inputs (i.e., service hours, miles), the cost of each input (i.e., cost per hour/mile of service) and outputs (i.e., passengers, fare revenue, passenger miles). These data points support an analysis of service efficiency, effectiveness and productivity. They can also be useful for understanding the return on investment for new projects and investments.

While NTD report can be complicated for rural transit agencies with small staff, the real challenge is using the data to understand the impact of different strategies and programs on performance standards like cost per hour of service or passenger trips per revenue hours. Some State DOTs actively work with rural and small urban transit agencies to track and manage performance measures to improve and strengthen service.

Increasing Rural Transit Ridership

Performance measures are an excellent way to understand changes in ridership, service productivity and value for money associated with different service investments. Instituting and using these measures, however, can be challenging for rural transit agencies who are often concerned that external audiences lack a true understanding of the costs and benefits of providing rural transportation services. The cost of providing a ride, for example, can be high. However, the value of providing the ride, especially if it brings someone to work, medical appointments or school, is not be fully captured by traditional performance measures.

The Vermont Agency of Transportation (VTrans) successfully uses performance measures to monitor rural transit ridership, and guide and direct investment. They have been monitoring and evaluating transit service by route. Data is reported to the state legislature before the state budgeting process. VTrans also uses it to work with transit agencies to help implement programs to help revitalize routes that are losing riders or otherwise not meeting performance targets.

Return on Investment

Performance measures also help state DOTs and transit agencies understanding and evaluate the impact of service changes on ridership, service effectiveness and service efficiency. Transit service success is impacted by many exogenous variables, like the price of gasoline, so a change in ridership or cost per rider
that results from a specific program or investment cannot always directly or entirely attributable to a single action. However, comparing performance measure data provides a clear and simple method for comparing and contrasting changes.

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**Case Study: Vermont Public Transit Route Performance Reviews (Vermont)**

The Vermont Agency of Transportation (VTrans), as directed by the Vermont Public Transit Policy Plan, prepares an annual report that documents the performance evaluation of public transit services across Vermont. The report establishes a “successful” and “acceptable” standard for each category of transit service (urban, small urban, demand response, etc.) and measures performance according to a “successful” and “acceptable” standard. VTrans defines the “successful” standard as 80% of the all routes in the classification and “acceptable” as either half of the successful category (for productivity thresholds) and twice the successful category for cost effective measures.

VTrans has been collecting data on public transit route performance since 2007. The agency uses both target assistance and ensure investments in transit are productivity and efficient. In cases where routes are underperforming, VTrans will work proactively work with transit providers to determine what, if any, strategies may help increase route performance. If the route continues to underperform for a period of six months after modifications are made, VTrans may redirect funding from that route to another more productive route, either within the same transit provider’s system or elsewhere in the state. Resources may also be targeted to different modes, including vanpools.

**Outcomes**

- VTrans and the State Legislature actively measures and monitors the productivity of investments in transit services. The data provides insights into trends, opportunities and challenges within the network.
- Transit agencies also actively monitor the performance of their individual routes and are invested in ensuring routes meet productivity standards.

**Lessons Learned**

- VTrans values access to a detailed performance audit of individual transit services. It helps them explain and document the value of transit investments to the state legislature and helps build support for funding.

**Contact**

- Ross MacDonald, Public Transit Coordinator and Go Vermont Program Manager
  Vermont Agency of Transportation
Case Study: Wisconsin Department of Transportation (Wisconsin)

Rural public transit areas in Wisconsin have been experiencing growing demand. In the last five years, rural transit ridership has increased by approximately 4%. Capital funding sources have been struggling to keep pace, creating some challenges for transit providers across the state. WisDOT provides state aid operating assistance for rural areas but there is no state capital funding program in place. Transit providers rely on federal resources for capital investments and these funding levels have been insufficient in recent years to meet demand. WisDOT has been able to keep track of this funding as well as transit agency performance through the annual Cost Efficiency Analysis. This analysis is required by state statute and includes an evaluation of six key performance indicators that are used to compare cost and service efficiency of the transit systems that receive state funding. These measures include:

- Operating expenses per revenue hour
- Operating ratio (revenue/expense ratio or “farebox recovery”)
- Operating expenses per passenger
- Passengers per revenue hour
- Passengers per capita
- Revenue hours per capita

If a community is falling below a certain threshold based on this analysis, WisDOT provides assistance to that transit provider to help them modify service and improve efficiency. Thresholds are based on the mean of all transit agencies being evaluated. Compliance is defined as being within one standard deviation of the average of the given performance measure (Wisconsin State Legislature, 2018).

In addition to this efficiency analysis, WisDOT also conducts Management Performance Audits every five years. This review—also required through state statute—looks at the agency’s management structure and provides recommendations about how to improve performance. Local agencies are receptive to this review and recommendations but following up on these recommendations has been challenging (Wisconsin State Legislature, 2018).

Outcomes
- Rural transit ridership has increased in the last five years by 4%.

Lessons Learned
- Annual performance reviews help WisDOT support agencies that are falling behind.
- Establishing a formal process for follow-up would be helpful. Following through on the Management Performance Audits has been challenging for WisDOT.
- Including these procedures in legislation holds the state accountable for conducting these assessments.

Contact
- Ian Ritz, Chief, Transit Section
  Wisconsin Department of Transportation
Best Practice: State Legislation

Overview

Establishing a funding mechanism through state legislation helps ensure that the revenue will be dedicated to transit and not allocated to other uses. For rural transit agencies, funding is often a primary concern. Support from the state helps take some of the pressure off local and regional governments and agencies. A consistent statewide funding structure that secures funding for public transportation shows support for a statewide transportation network. Rural transit systems play a key role in the transportation networks across the country, connecting rural communities to regional centers and larger transit networks.

Increasing Rural Transit Ridership

State legislation that provides funding to local transit agencies provides rural communities with the opportunity to make enhancements to the existing transit system. These improvements can help retain existing riders and attract new riders.

Return on Investment

Similar to local taxes, statewide legislation for transportation funding requires a high level of time and effort to develop and implement the legislation as well as to regularly distribute funding to regional and local agencies. Cost for individual community members will vary depending on how the legislation is structured. Oregon’s House Bill (HB) 2017, Keep Oregon moving, includes a 0.1% payroll tax, which is a low cost per capita with a potentially high return on investment. This HB also requires measures to maintain accountability, transparency, and efficiency. For example, public transportation providers who receive funding from this HB will be required to report on their use of the funds through financial and program audits. It also requires ODOT to complete benefit-cost analyses for large highway capacity expansion projects to ensure that these funds are being put towards projects that will provide a strong return on investment. There may be opportunity to apply this same benefit-cost analyses to public transportation projects as well.
Case Study: Oregon Department of Transportation (Oregon)

Keep Oregon Moving (HB 2017) is estimated to produce $5.3 billion in funding over the next 10 years for highway and non-highway funding. Over $100 million per year will be dedicated to improving public transportation in rural and urban communities through a new 0.1% employee payroll tax included in the HB. The revenue generated from this payroll tax will be deposited into the Statewide Transportation Improvement Fund (STIF) program and distributed across four different funds (Table 9). All of these funds will likely benefit rural transit agencies with additional financial and technical resources which can potentially contribute to an increase in rural transit ridership. No actual results about how these funding programs have impacted rural transit agencies are available at this time since they were still being implemented.

Table 9  ODOT Statewide Transportation Improvement Fund Program

<table>
<thead>
<tr>
<th>Fund</th>
<th>% of STIF Revenue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula Fund</td>
<td>90%</td>
<td>Formula allocation to mass transit districts, transportation districts, counties without a mass transit or transportation district, and federally-recognized tribes.</td>
</tr>
<tr>
<td>Discretionary Fund</td>
<td>5%</td>
<td>Competitive grant allocation to public transportation service providers.</td>
</tr>
<tr>
<td>Intercommunity</td>
<td>4%</td>
<td>Competitive grant allocation to public transportation service providers to improve public transportation between two or more communities.</td>
</tr>
<tr>
<td>Fund</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Resource</td>
<td>1%</td>
<td>ODOT will use this funding program to establish a statewide public transportation technical resource center to assist public transportation providers in rural areas and to support administering the STIF.</td>
</tr>
</tbody>
</table>

Source: Oregon Department of Transportation

Outcomes
- Over $100 million per year will be used to improve public transportation in both urban and rural communities.

Lessons Learned
- None to date. At this time the STIF funding program is still being implemented.

Contact
- Jason Kelly, Region 1 Regional Transit Coordinator
  Oregon Department of Transportation
Opportunities/Additional Research

In addition to researching best practices, NCHRP 20-65 Task 73 included a goal of identifying opportunities for additional research. The research suggests two critical ways that NCHRP could support rural transit operations with additional research and information. The first is development of a return on investment model that could be used by State DOTs and rural transit agencies to weigh different investment decisions. The second is an analysis of the costs and benefits associated with new trip request scheduling and dispatch systems, such as QRyde.

Development of a Return on Investment Tool

The literature and case study research had a clear focus on identifying if and how rural transit agencies and State DOTs use ROI or other evaluation tools to measure the impact of their projects and investments. This effort, however, produced only limited examples of true ROI calculations or structured methods of measuring, calculating, and describing the return on investment rural transit projects. Indeed the examples identified were limited in scope and application for rural transit operations generally. At the same time, the research also documented a clear interest in understanding ROI as well as several ways that transit agencies and State DOTs attempted to quantify and articulate how investments in rural transit produce tangible benefits for both riders and the broader community.

A potential research effort, therefore, would be to develop strategies and tools to help State DOTs and rural transit agencies 1) understand the ROI impacts of different investment opportunities and 2) to articulate the benefits and cost effectiveness of investments in rural transit services. The research would be challenging because understanding benefits associated with rural transit vary considerably and are difficult to quantify. Nonetheless, advancing this conversation is important to the continued relevance of transit services in rural areas.

Costs and Benefits of Using Ride Hailing Dispatch Programs for Rural Transit

A host of stakeholders—transit agencies, State DOTs, state legislators, transit riders, and members of the public—are interested in how technology can help improve transit service delivery. Indeed the private sector has offered numerous examples of apps and services that attempt to increase the efficiency of ride sharing in lower density, rural communities. A handful of these technologies, like QRyde, have proven robust enough to encourage multiple agencies to try them out. To date, participants are optimistic that the new technologies can increase the supply of transportation options, lower the cost of scheduling, and dispatching service, and make it easier for people to get rides. However, there has not been a comprehensive, third party assessment of these demonstration projects. The timing is optimal for delving into existing experience to understand and document the costs, benefits and opportunities associated with using QRyde and other similar technologies in rural communities.
References


APPENDIX A

Understanding Return on Investment Tools
MEMORANDUM

To: Velvet Fitzgerald  
From: Bethany Whitaker, Nelson\Nygaard  
Date: July 16, 2018  
Subject: NCHRP 20-65 Task 73, Best Practices and Marketing to Increase Rural Transit Ridership and Investment

Background

NCHRP 20-65 Task 73 has two goals: 1) identify and document strategies that can help increase ridership on rural transit systems and 2) inventory and evaluate tools to measure the impact of different investment strategies on rural transit ridership, such as return on investment (ROI).

Interest in Task 73 stems from the fact that transit ridership in the United States has been softening nationally. This trend has been having an impact on the transit sector overall as well as transit agencies operating in small urban and rural environments. Task 73 is charged with looking for projects and investments that offer potential to help attract riders. The study recognizes that increasing ridership often requires additional investments in service and capital projects but also potentially marketing, branding, and information systems. A companion analysis to identifying best practices is to also provide guidance for making decisions between different projects, programs, or investments.

Research Methods

The ICF and Nelson\Nygaard team approach for conducting NCHRP 20-65 Task 73 involves identifying strategies and best practices through a literature search and using survey tools to collect more detailed information on individual strategies and methods. The team will prepare a handful of interim products working towards a final Best Practices Guide that provides guidance and direction on increasing rural transit ridership and investment.

ROI is specifically called out as an investment tool that would be explored as part of the literature search and defined more clearly through the survey research. As part of the project kick-off meeting, the NCHRP 20-65, Task 73 panel requested clarification and more information on this task, specifically asking the research team to confirm:

1. Approach/Method for defining ROI, especially the need to differentiate between ROI and traditional Cost Benefit Analysis approaches.
2. Identification of ROI tools.
3. Clarify the separation between increasing ridership and return on investment – increased ridership is not necessary.

This technical memo is intended to further articulate the research team’s definition of ROI and describe our approach to measure ROI on rural transit investments.
Investment Decision Tools: Definitions

ROI is one of a handful of analytical tools used by investors/businesses to evaluate investment decisions and compare/contrast different projects. Other tools used by both the public and private sectors include benefit cost analysis, life cycle costs, and economic impact analysis.

Return on Investment (ROI)

In a traditional environment ROI is defined as the ratio between the financial profits and costs that result from an investment, or:

\[
\text{Return on Investment} = \frac{\text{Gain from investment} - \text{Cost of investment}}{\text{Cost of investment}}^1
\]

ROI is expressed as a ratio or percentage that shows the effectiveness of an investment. While the formula is simple, like other performance measures, the complexity is associated with defining and measuring costs and impacts. In a traditional private sector investment context, ROI can be estimated using the financial costs of the investments and expected financial gains. Financial costs and benefits will usually accrue to the investor.

Measuring ROI in a public transportation context is more complicated. Since there are rarely positive financial gains, gains are typically expanded to include other impacts and in most cases the benefit and cost of societal impacts. Quantifying and measuring these impacts is further challenged because, by definition, societal impacts accrue to a broader audience rather than the investor. Further, the impacted audience will value the impacts differently.

Defining and measuring non-financial gains creates advantages and disadvantages. The advantages are that ROI can be used to reflect values and policy goals in addition to financial impacts. Disadvantages are that the process of monetizing impacts can be challenging and variable, which in turn can undermine the robustness of the ROI calculation.

Other Investment Decision Tools

The public sector uses a handful of other economic and financial tools to evaluate investment decisions. Many of these tools — cost benefit analysis, life cycle costs, and economic impact analysis — are both similar and dissimilar to ROI. The common elements of all of these tools is that they 1) try to consider a variety of project impacts, 2) require monetizing impacts, and 3) are tools to compare and contrast investment decisions or options, rather than evaluate the performance of a single investment.

Cost Benefit Analysis (CBA) or benefit cost analysis is a framework from comparing costs and benefits. The analysis answers the question, “will we come out ahead” and is often used to compare projects rather than evaluate a single project and/or to estimate the benefits of completed projects. CBA tools frequently interact with ROI because the process for measuring costs and benefits is often the same. Once measured, the inputs can be used in a CBA framework or ROI equation.

Life-cycle costs analysis is a method for assessing the total cost of a project overtime, inclusive of costs associated with purchasing, owning, operating/maintaining, and disposing an investment. Like ROI and CBA, life-cycle costs are typically used to compare and contrast

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1 "Return On Investment – ROI", Investopedia as accessed 8 January 2013
different investment decisions. Life-cycle cost analysis is different from a ROI calculation because it does not include an assessment of "gain" or impact and instead focuses solely on the costs of the project. However, some ROI estimates use life-cycle costs as part of the understanding the cost of an investment.

**Economic Impact Analysis** seeks to measure the impact of an event or project on the local or regional economy. Impacts are measured in terms of direct impacts (jobs associated with transit operations), indirect impacts (jobs supported by transit operations), and induced impacts (additional jobs and spending resulting from the direct and indirect impacts)\(^2\). Economic impacts are not typically included in an ROI analysis. Most economic impact analysis is calculated using models such as the Local Economic Assessment Package (LEAP), Transportation Economic Development Impact Systems (TREDIS), or other tools\(^3\).

**Performance Measures** are widely used in the transit industry, including among rural operators to measure performance and productivity. The most commonly used transit performance measures track ridership (total ridership or riders per trip), operating efficiencies (passengers per mile or hour of service or cost per passenger) and service quality (on-time performance). Performance measures can be used to track performance over time and/or compare productivity across services, programs or agencies, among other things\(^4\). In the context of ROI, performance measures can help transit agencies or other organizations define the "gain" or impact in the ROI calculation.

**Rural Transit Investment Decision Making Tools**

As discussed, the goal of NCHRP 20-65 Task 73 is to identify best practices and strategies for increasing transit ridership in rural communities. The research effort is also looking for tools that will provide guidance on the expected impact for different investments as well as tools to evaluate which strategies and methods will work best given local the local operating environment.

Our approach for identify best practices for ROI – and other investment decision making tools – will be to advise state DOTs and transit agencies how they can estimate and evaluate the impact of different projects and strategies. We will approach this question in two ways:

**Project Level Decision Making Tools:** Identify methods to understand models and tools used by transit agencies to evaluate the impact and outcomes of projects. For this case, we will focus on project impacts in terms of increasing transit ridership at the agency or community level. Our best practices will provide guidance on how to evaluate differences between projects or strategies (i.e. $1 invested in marketing, produces x gains in ridership).

We will do this by looking for predictive models and financial evaluation models that estimate impacts resulting from different actions. We recommend tools and methods to estimate the impacts in terms of changes in transit performance measures, such as ridership, operating efficiency or service quality. While ROI can provide an evaluation framework, our initial research suggests that the challenge will be identifying predictive models or other methods for estimating impacts and outcomes. However, the research also suggests that even a high-level framework

\(^2\) Cost-Benefit Analysis of Rural and Small Urban Transit, National Center for Transit Research, July 2014
\(^3\) Best Practice Methodology for Calculating Return on Investment for Transportation Programs and Projects, NCHRP Report 8-36, Task 61 September 2008
will be beneficial to many transit operators. We will use the survey research to collect information on users’ experience with the decision making tools, including the ease of developing and using them, their accuracy (perceived and otherwise), and recommendations for next steps.

**Economic and Community Impact of Rural Transit:** Offer best practices and describe models for estimating the economic and community impacts that result from investing in small urban and rural transit systems (i.e. $1 invested in rural transit produces x impacts). Impacts or benefits will be more broadly defined as compared with project level decision making tools and may include impacts related to the local economy and impacts associated with access to transit.

Examples will be more suited for agencies and organizations, like State DOTs interested in making the case for investment in rural transit. These models are more standardized as compared with project level decision-making tools, largely because they are developed by adapting accepted methods of calculating economic impacts. In most cases, these models will be economic impact assessments and cost benefit analysis rather than ROI. The best practices guide will explore how these higher-level models can be used to inform project level decision-making tools. We will use the survey research to collect information on users’ experience with the models (i.e. how State DOTs and advocacy organizations use these models, how easy they are to replicate and how they help support rural transit agencies).
Appendix A: Key Findings from Literature Review

ROI is frequently, if not widely, used by the transportation sector to evaluate projects and guide investment decisions. However, the majority of the materials identified and reviewed are oriented around investments in urban areas and focused on rail or other fixed-guideway systems. The literature also includes several studies that explain and discuss methods for capturing changes in land values generated by investments in fixed guideway systems. Several of the studies reviewed identified similar challenges facing this study, namely the ability to easily quantify and measure project impacts. The most common and most universally identified impacts relate to travel time savings, vehicle operating cost savings, and safety benefits. These impacts are among the most consistently measured and evaluated measures used in transportation ROI and other financial/economic evaluation tools.

Cost Benefit Analysis of Rural and Small Urban Transit
National Center for Transit Research (NCTR), North Dakota State University,
July 2014

The study analyzed the costs and benefits of fixed route bus and demand response service in small urban and rural areas across the United States. Costs were estimated with National Transit Database (NTD) data and used to estimate a per trip cost for fixed-route and demand response. The study also estimates benefits from transportation costs savings (cost of next available mode), plus benefits (avoided costs) from being able to make the trip. The study does not assume travel time cost savings or emissions savings because of the low vehicle volumes. Safety benefits are also not included for demand response trips. The information is combined to create a benefit cost ratio.

The benefit cost ratio is assumed conservative because it does not capture all potential benefits. The results suggest that for every $1 invested in public transportation results in $1.35 in output, $0.57 in value added, and $0.37 in earnings. The study also scales the impact to local funds generated and tests the findings using sensitive analysis.

Key Findings

The findings suggest that the benefits provided by transit services in rural and small urban areas are greater than the cost of providing those services.

Impacts for Task 73

The NCTR study shows how cost benefit analysis can be used to make the case for increased investment in transit services for both small urban and rural communities. The data is calculated for each state individually using readily available data (NTD), which means it can be updated.

The study provides an evaluation of the decision to invest in rural transit generally. It assumes that each $1 invested in transit will produce similar results in terms of its ability to attract riders and suggests the impact transit performance measures (cost per trips, passengers per trip, cost per hour of service) is the same.

Best Practice Methodology for Calculating Return on Investment for Transportation Programs and Projects
NCHRP Report 8-36, Task 62, September 2008

The study identifies best practices and develops recommendations for the development of standards for calculating ROI for transportation programs and projects. The research focuses on four concepts: 1) life-cycle costs, 2) travel time reliability, 3) economic development and growth, and 4) public private partnerships into ROI evaluations. The report provides clear definitions of these concepts and how they apply to transportation projects. It makes recommendations for
how ROI is used in practice by transportation professionals and how the public sector’s estimation of ROI needs to be standardized to satisfy the needs of the private sector and to facilitate public-private partnerships.

**Key Findings**

Using ROI to evaluate transportation projects, especially in the context of public private partnerships, such as toll roads, presents a unique set of perspectives, opportunities, and constraints. Among the most significant of these is that the public sector is interested in net social benefits while the private sector is interested in a financial return on investment.

**Impacts for Task 73**

The NCHRP report focuses on large highway projects and in particular projects interested in attracting private sector funding. These projects and level of investment under consideration is significantly higher than ones contemplated by the rural transit sector. However, the study provides relevant definitions and identifies some of the challenges associated with standardizing tools and models.

**Assessing Return on Investment in Minnesota’s State Highway Program Projects**

**Smart Growth America, November 2013**

Smart Growth America (SGA) profiled the Minnesota Department of Transportation (MnDOT)’s work with the State Highway Program that uses ROI measures, such as life cycle costs and benefit/cost measures. MnDOT is also looking to expand ROI evaluation to include broader economic, social, and environmental criteria.

According to the information produced by Smart Growth America, MnDOT uses ROI as a tool to examine the impacts of different policy goals on investment decision making. In this way, the tool is not strictly used to evaluate investment decisions but instead is used to show how decisions can be guided by different criteria. SGA defines ROI components and procedures in terms of:

- **Criteria** – Measurable criteria that corresponds with the matters of concerns and links to policy objectives, statutory requirements, engineering standards, and established methods of measurement.
- **Weighting** – Placing a value or weighting on individual criteria to reflect the fact that some criteria may be valued more heavily than others.
- **Metrics** – method to quantify or measure each criteria.
- **Scoring/Ranking** – Application of metrics to each projects including estimating the “score” and then using the score to rank a series of projects
- **Vetting** – Initial scoring often leads to questions regarding the application of criteria, weighting and scoring. It is necessary to review the method in light of the results.

Public sector ROI estimates are typically based on traditional benefits (travel time savings, operating costs savings, and safety benefits) and costs (capital costs, operating and maintenance costs). MnDOT expanded the traditional benefit and cost factors, to include social (safety, health impacts, noise), economic (travel time, reliability, vehicle operating costs, life cycle costs and loss of agricultural land) and environmental (emissions, wetland effects, and runoff). SGA used this approach with two test examples.

**Key Findings**

SGA’s findings include:
A more comprehensive ROI can help document broad based, multi-dimensional benefits or multimodal projects.
- Monetizing livability and public health impacts requires nuanced case specific analysis.
- The accuracy of the ROI could be improved with more/better data on outcomes associated with similar projects.
- Monetary value of social/community factors such as historic preservation and public health are highly dependent on the size of the affected populations. Additional considerations may be necessary for poor, under-served, rural communities.

**Impacts for Task 73**

The SGA study demonstrates that traditional ROI tools can be reconfigured to capture different policy goals and values. One these types of criteria are set, then ROI may be a useful tool to assess the impact of similar projects intended to meet the same need.

The SGA study also makes the point that benefits that accrue to society overall are heavily determined by the size underlying population. Projects that create public health benefits or reduce congestion, for example, will not produce many benefits if the number of people benefiting is small.

**Regional Transit System: Return on Investment Assessment**
**ITASCA, Minneapolis Minnesota (March 2013)**

This study, commissioned by ITASCA, a local nonprofit organization, asked three questions about regional transit investment, all of which included an assessment of the return on investment:

1. A built-out regional transit system would require substantial investment. *What would be the return on that investment?*
2. Investments can be made more or less quickly. *Would accelerating build out change the return on investment?*
3. Many communities with developing transit systems experience more growth near transit stations. *Would such expectations for growth change the return on investment?*

The study examined transit improvement scenarios for the Minneapolis urban area. The investment costs associated with each scenario included capital investments (vehicles, etc.) and operating and maintenance costs. For the investment gain (or loss), the study estimated impacts for six factors: 1) vehicle operating costs, 2) travel times and travel reliability, 3) shippers and logistics costs, 4) emissions, 5) safety costs, and 6) road pavement conditions. The analysis compared and contrasted the cost and value of impacts for four scenarios: the base case and three different transit investment scenarios.

All of the impacts evaluated were positive as compared with base case. Most of the value was generated through travel times savings and reliability, which largely accrues due to reductions in congestion. The second major impacts were associated with vehicle operating costs savings the results from increased transit ridership.

**Key Findings / Impacts for Task 73**

Task 73 is focused on rural areas, while the ITASCA study was conducted for an urban area. It is also worth noting that the positive ROI is generated by claiming value that is attributed to society overall (less congested corridors, fewer emissions, safety benefit) and individuals or individual groups (lower shipping costs, lower vehicle operating costs).
Other Research Reviewed

Bacon, Kevin and David Green, Perkins+Will Research Journal 2012, Volume 04, 01, “Projecting Returns on Transit Investment: A Research Proposal for Analyzing and Evaluating Investments Made in and Around MARTA Stations and Projecting the Returns”


“Creating Value: Assessing the Return on Investment in Complete Streets” webinar, Smart Growth America, March, 2017


Soneji, Sonali and Aida Olkkonen, Calculating the Return on Investment of Transportation Demand Management for Physical Activity in Arlington Virginia, March 2014
APPENDIX B

Literature Review Summary
NCHRP 20-65 Task 73: Best Practices and Marketing to Increase Rural Transit Ridership and Investment

Presentation Overview

- 90 minutes for meeting
  - Literature Review (25 minutes)
  - Return on Investment (25 minutes)
  - Survey Plan (25 minutes)
  - Next Steps (10 minutes)
  - Review Meeting Notes (5 minutes)
- Three scheduled breaks for discussion and comment
  - Literature Review
  - Return on Investment
  - Survey Plan
  - Discussion as part of Reviewing Meeting Notes
Presentation Agenda

- Background
  - Recap Issues, Needs, and Objectives
  - Review Task 1.1
- Literature Review
  - Strategies to Increase Ridership
- Return on Investment (ROI)
  - Strategies and Models
- Draft Survey Plan
- Next Steps
  - Review Task 1.2
  - Proposed Survey Plan
  - Discuss ROI Technical Memo and Different ROI Models
  - Review Project Schedule

BACKGROUND

Recap Issues, Needs, and Objectives
Review Task 1.1
Issue

Rural Transit provides a valuable community resource

- Public transit provides mobility for rural communities.
  - It enhances mobility for a diverse set of markets, including older adults, people with disabilities, and people who cannot afford to drive.
  - It is an essential community resource for rural populations.

- Transportation needs in rural communities are increasing.
  - Veterans living in rural areas make up 33% of the veteran population enrolled in the VA health care system.\textsuperscript{12}
  - By 2060, the senior population (65+) in the U.S. is projected to more than double from 46 million to 98 million.
  - Senior’s share of the total population will rise from 15% to nearly 24%.\textsuperscript{1}
  - In many rural communities older adults are staying in their homes longer and aging in place.\textsuperscript{1}
  - Rural residents with disabilities take about 50% more public transit trips than unimpaired people do.\textsuperscript{12}

Issue

Transit Ridership in Rural Communities

- Rural Transit ridership grew from 2007 to 2015 despite population decline.
  - Public transit’s affordability and demographic makeup of rural communities make transit desirable for rural and small town populations\textsuperscript{12}.
  - Growth demonstration importance of mobility options to populations in small towns and targets need among key demographic groups, older adults, veterans and persons with disabilities.
  - However, despite showing some growth, growth rate is small (8%\textsuperscript{12}) and is measured against a small base.

- Continued investment in rural transit requires continued ridership growth and demonstration of relevance to rural communities.
Research Needs

Actively increasing ridership requires resources.

- Why do transit agencies want to attract more riders?
  - Higher numbers of riders justify a service’s operation and generate higher fare revenues, which may serve as a basis of state funding.
  - Specific funding sources or local contributions are allocated to providing services for certain populations, such as older adults, youth, or individuals with disabilities.
  - A successful transit operation can serve an economic development function for a rural community.
  - For rural operations that provide fixed- or flex-route services, higher ridership on existing routes means greater productivity and lower subsidies per rider, demonstrating accountability to local taxpayers.
  - High ridership in a rural community can provide a sense of local accomplishment.

- Paradox of service delivery: More riders leads to higher costs, especially for demand-response services that have a relatively high marginal cost per rider.

- Limited resources means many small and rural transit agencies are reluctant to spend resources to market services and may not actively seek to grow their ridership.

Study Objectives

Document effective approaches to increasing ridership in rural and small transit agencies

- Explore what transit agencies are doing to increase transit ridership
- Highlight best practices and innovative approaches
- Evaluate what’s working to increase ridership (for example):
  - Access to sufficient resources to provide transit service
  - Offer incentives for the public to use the service
  - Effective communication
    - Tools and strategies that attract, inform, and maintain transit riders and communicate the value of public transit in a community.
    - Marketing strategies, such as branding and advertising, public meetings, community advisory groups, social media, and word-of-mouth communications from existing riders.
Study Objectives
Evaluate methods and strategies used by transit agencies to evaluate Return on Investment (ROI)

- Inventory the state of the practice for using ROI tools to measure the impacts and outcomes of rural transit program investments.

- Effective practices to track and measure ROI include, but are not limited to:
  - A set of goals and measurable objectives that can be quantified; and
  - The ability to measure progress in meeting ridership goals.

LITERATURE REVIEW
Strategies to Increase Ridership
- Awareness and Marketing
- Service Design
- Financial Incentives
- Capital Investment
- Rural Transit Policy
- Integration and Coordination
Research Plan

Task 1  Identify Innovative Approaches and Practices

Task 1.1 Literature Review and Identification of Practices

- **Task Goals**
  - State of the practice on how rural transit agencies are using investments and marketing to increase ridership
  - Understand existing approaches to evaluate return on investment for rural transit investments

- **Approach**
  - Review external and internal literature sources
    - Transportation Research Information Services (TRIS)
    - Relevant synopses of proceedings from recent conferences and meetings of American Public Transit Association (APTA) and Transportation Research Board (TRB) and various regional transit marketing conferences
    - Internal review: Nelson/McGard produced rural transit service performance standards and cost-benefit assessments

- **Results**
  - Inventory of range of existing practices to increase ridership:
    - Awareness and Marketing
    - Service Design
    - Financial Incentives
    - Capital Investment
    - Rural Transit Policy
    - Integration and Coordination
  - Inventory of existing approaches to understanding return on investment (ROI) for rural transit investments

- **Deliverables**
  - PowerPoint Summary of Literature Review and Identification of Practices

Overview

Each strategy will include the following subsections:

- **Why is this important?**
  - Explains the purpose of the topic and how the topic is relevant to increasing ridership.

- **What are the strategies?**
  - Define the topic by describing some of the strategies for increasing ridership.

- **Examples**
  - Case studies about where the strategies have been successfully implemented.
Strategies to Increase Ridership

Awareness and Marketing

Why is this important?

- Low-cost and cost-effective marketing strategies may be crucial to the viability transit agencies.
- Active marketing efforts have several benefits, including:
  - Raise awareness of public transit in the community;
  - Dispel misconceptions (e.g., service is only for seniors);
  - Increase ridership;
  - Influence the community to support public transit; and
  - Satisfy funding requirements.
- Consistent, ongoing communication with current riders, potential riders, and the community at large builds awareness, support, and ridership.
- Potential riders are more likely to ride transit when they understand how transit can meet their mobility needs. Effective marketing helps potential riders:
  - Become aware of the transit system;
  - Understand what the system does and how it works; and
  - Develop a positive image of transit.

Strategies to Increase Ridership

Awareness and Marketing

What are the Strategies?

- Marketing should be considered in a variety of contexts.
  - Development and planning: How will the organization market the routes and schedules?
  - Distribution: How will people identify transit stops and vehicles? Where will fares be sold?
  - Pricing: What will the fares be and what discounts will be available?
  - Promotion: How will people become aware of and understand the service?
- Branding (e.g., name, logo, vehicle graphics, signage at stops, shelters)
- Passenger Information (e.g., Printed guides, at the bus stops, website, real time information, rider alerts, telephone support)
- Leverage Free Communication Channels (e.g., Public presentations, press releases, radio public service announcements, social media, videos, website posts, email blasts, get involved in local events)
- Leverage Paid Communication Channels (e.g., Advertise on transit vehicles, local newspapers, TV, direct mailers, flyers/posters throughout town, online ads)
- Targeted marketing (e.g., Mailers, presentations, new resident promotions, cooperative promotions, individualized marketing campaigns)
- Partner with community organization (e.g., employers, educational institutions, social services, etc. that have access to potential transit-user groups)
Strategies to Increase Ridership

Awareness and Marketing

Examples

- The Caro Transit Authority of Caro, Michigan, which operates the Caro Thumbody Express, published a quarterly newsletter called "Thumbody Express-ions." The newsletter is distributed to businesses, schools, and area organizations, providing information about public transportation, community events, as well as articles and information submitted by community members. This newsletter helped the Caro Thumbody Express maintain ridership and transform its image as from a bus for persons with disabilities to a general public transit service.³

- The MOOver system in Deerfield Valley, Vermont has a distinctive service name and the agency's transit vehicles are wrapped in a Holstein cow skin design that the agency advertises as being "easy to spot."⁵

- Prairie Hills Transit in rural eastern South Dakota promotes its local and region services to youth as "safe, reliable transportation between home, school, activities or daycare through outreach events, its website, and partnerships with schools."⁶

- The City of Durango involved community members in developing a new brand for the transit system. The result was immediate buy-in and increased visibility for the system.²

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Strategies to Increase Ridership

Awareness and Marketing

Examples

- The demand response transit services in Douglas County, Oregon, changed its name from "Douglas County Special Transportation" to "Douglas Rides". The name is easier to use and avoids limiting the perception of who can use the services, which are open to the general public.²

- Knoxville Area Transit (KAT) of Knoxville, Tennessee and the Knoxville Museum of Art (KMA) negotiated a cooperative promotion for a summer art exhibit by the artist Red Grooms. KAT provided a red wrapped bus with the exhibit logo for display at the museum as well as other community events. The bus also served as a rolling billboard when it was used for shuttling and excursions. In return, KMA provided the transit agency with recognition as a sponsor in printed brochures, invitations, newsletters, and media advertising. The promotion provided a mutual benefit for both organizations.³
Strategies to Increase Ridership

Service Design

Why is this important?

- Factors that typically influence the quality of service and consumer choices include:
  - Convenience: The level of effort required to access and navigate the transportation network.
  - Service reliability: How predictable the travel time and travel experience is from day to day. 4
  - Transit service reliability is essential to attracting and retaining riders. 7
  - User confidence in transit service can diminish over time if service is inconvenient, unreliable, and increases travel times. This can lead to a decline in ridership. 7

What are the Strategies?

- Service changes that can impact ridership:
  - **Shared service delivery**: Connect with other transit services to expand coverage and travel opportunities. 13
  - **Flexible fixed-schedule services**: Fixed-schedule type of service that picks up passengers who reserve a ride. 13
  - **App-Based Demand Response Services / Transportation Network Companies**: New services and service models that offer flexible, convenient, cost effective service. 25

Strategies to Increase Ridership

Service Design

Examples

- Addison County Transit Resources in Middlebury, Vermont partners with transit agencies to the north (Green Mountain Transit) and south (Marble Valley Regional Transit District) to offer regional connections. Service is either shared (i.e. trade off providing round trips) or scheduled to meet half way. This model has greatly expanded coverage along one of Vermont’s primary travel corridors and provides regional connections between the state’s largest cities. 13
- JAUNT in Charlottesville, Virginia operates a “connector” service that has fixed departure and arrival times, fixed stops and allows people to schedule a door-to-door pick up within established zones. Services are used to support commuting and regional travel. 14
- Coastal Bend Center for Independent Living in Corpus Christi, Texas has contracted with Liberty Mobility Now to provide on demand transportation service in small towns and rural communities throughout the Coastal Bend Region. People can request a ride from a local driver through a mobile app or a more traditional call center. 25
Strategies to Increase Ridership

Financial Incentives

Why is this important?

- Prices do matter. While out-of-pocket costs are less important than travel time, other factors being equal, people will choose the least expensive alternative. 4

What are the Strategies?

- **Incentives/Pricing promotions**: Free rides, discounts on passes, fare discounts during off-peak hours, distribution of coupons good for free or reduced fare rides, and merchant discount programs.3
- **Specialized Fare media**: Fare media that are designed around the needs of specific types of riders can encourage greater use by those target groups. 2
- **Fare programs**: Most common with colleges and universities but also have been implemented with employers, apartment complexes, and neighborhoods. 2
- **Deep Discount fare strategy**: Fare prepayment correlates with more trips, stable trip rates, and longer periods of ridership. The deep discount fare strategy uses prepayment incentives to get more riders to purchase prepaid fares and display these ridership behaviors. This strategy can raise ridership and also offset ridership loss during fare increases.7
- **Trip subsidies**: Organizations (e.g. employers) may help cover the cost of transit services. 27, 26

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Strategies to Increase Ridership

Financial Incentives

**Examples**

- **Bloomington Transit of Bloomington, Indiana** offered a special promotion called "Here's the Scoop"—a campaign aimed at addressing a decline in Saturday ridership. Cash fares were lowered from $0.75 cents to $0.10 cents each Saturday in the month of July and riders were given a coupon for a free ice cream at a local ice cream store. During the month of this campaign, Bloomington Transit estimated a 20-25% increase in Saturday ridership. 3
- **Panhandle Trails, Nebraska** offers a fare rate that offers discounts for advance notice (i.e. 72 hours) and allows riders to both book and pay for their fares online. 25
- **The 89er North, operated by Randolph's Stagecoach Transportation Services**, connects Montpelier to Randolph. Several organizations in the area, including Vermont Technical College, Gifford Medical Center, and Vermont Law School, have agreed to assist employees using the service by paying part of the fare to ride the bus. 27, 28
- **HealthTran in rural southern Missouri**, uses a membership model in which health care providers pay a fee for service and prefund rides for their patients. As the service provider, HealthTran both provides the service and also uses software to track which patients need rides and helps medical offices schedule appointments when transportation is most available. 33
Strategies to Increase Ridership

Capital Investment

Why is this important?

- As previously mentioned, marketing can be a useful strategy for increasing ridership but it cannot be a fix for inadequate service. The existing service must have adequate capital investments to meet the needs of the community being served. Marketing efforts will be ineffective if services fail short (e.g., buses break down). ⁴
- Comfort and convenience often have a significant impact on consumer choices. ⁴
- The factors that typically influence the quality of service and consumer choices include comfort and security. ⁴
- Mobile Real time passenger information (RTPI) can significantly affect the journeys of rural passengers. More specifically, RTPI has positively affected the perceived control that the passengers have over their journey, the perceived waiting time, their willingness to pay for the information. It made the service easier to use, improved the perceptions towards the service, and impacted their decision making. ¹⁰
- Some studies have attributed an increase in ridership—between 5 and 10%—to real-time passenger information. ¹⁰

What are the Strategies?

- Implement computerized scheduling/dispatch system. ¹⁷
- Implement Automatic Vehicle Location (AVL) and Mobile Data Terminals (MDT) ¹⁷
- Ensure effective preventative maintenance practices. ¹⁷
- Provide shelters for inclement weather conditions. ¹⁸
- Provide convenient user information (i.e., transit route, schedule, and fare information). ¹⁸
- Provide wayfinding to help passengers travel to local destinations. ¹⁸
- Provide convenient and safe pedestrian access. ¹⁸
- Apply Universal Design at stops and stations. ¹⁸
- Ensure stops and stations are visible and have adequate lighting. ¹⁸
Strategies to Increase Ridership

Capital Investment

Examples

- The Capital Area Rural Transportation System (CARTS) in the greater Austin uses technology for reservations, scheduling, dispatching, and operations of its system. CARTS serves 123 communities across nine rural counties providing fixed-route transit, inter-county, commuter, and on-call services. About 75% of all trips are paratransit trips, on-call services for senior citizens and persons with disabilities. A two-way radio system and computer-assisted scheduling allow CARTS to provide more efficient scheduling and a high level of customer service.11

- In Maryland, Baltimore County’s specialized transportation program, CountyRide, uses their Trapeze computerized scheduling/dispatch system in a unique way. The transportation program takes trip requests in advance, but trips are scheduled in real time. Trips are digitally dispatched to the drivers which helps optimize scheduling.13

Strategies to Increase Ridership

Rural Transit Policy

Why is this important?

- Rural transit policies can set clear priorities, identify needs, set expectations for service delivery, and create a framework to community success and challenges. Consistent and clear communication helps attract additional funding.34

- Rural transit policies can also require coordination across key funding sources and service programs.

What are the Strategies?

- Statewide Coordinating Councils – creates policy support, direction and potentially requirements for coordination across programs that fund transportation.

- Technical support – state agencies provide support help support local transit agencies.

- State Transit Policy Plans – define the role of public transit in a state and can set guidance and expectations for transit agencies. Plans are periodically updated so they can be adjusted to reflect state priorities and needs.

- Transit Agency Performance Measures – set guidelines for transit service performance. Measures track and report on impact of investments made in rural transit and can be used to build support for additional funding.
Strategies to Increase Ridership

Rural Transit Policy

Examples

- The Minnesota Department of Transportation and Human Services is working with the Metropolitan Council and other local governments and organizations to create Regional Transportation Coordinating Councils (RTCCs) throughout Minnesota. Coordination between transportation providers and service agencies is a strategy that can help fill transportation gaps by providing more rides using the same or fewer resources, making transportation easier to use and giving customers more options of where and when to travel. 19

- Florida Department of Transportation provides technical assistance at a level unmatched by any other state. In addition to driver safety training and CPR, Florida provides first aid training, driver sensitivity training, and passenger assistance training. For coordination officials, Florida provides management training, planning guidelines, contract management guidelines, quality assurance reviews, operational reviews, financial evaluations, employee drug testing programs, and assistance with Federal guidelines. 20

- The State of Washington has established a comprehensive, easily understood set of guiding principles for its coordination effort. These principles set a uniform standard of quality and service for the statewide transportation network, and the standard was established in the legislative process and written into the legislation. All subsequent coordination activities and decisions have been governed by these principles. The first principle is simply stated but carries a great deal of weight. It states that “Organizations serving persons with special transportation needs share responsibility for ensuring that their customers can access services.” This guiding principle sets the tone for the entire coordination effort in Washington State by putting the needs of the client above any operational issues. Officials can point to it anytime there is a “turf” dispute or whenever there is an argument over responsibility. 21

Strategies to Increase Ridership

Rural Transit Policy

Examples

- Transit Policy Plans

  - The Vermont State legislature requires development of a Public Transit Policy Plan every five years. It serves as the primary guidance for continued development of public transit in the State. It reviews and updates policies needed to achieve Vermont's transit goals including funding levels and sources, capital investments, service coordination, interface with land use planning, and regional connectivity and intercity bus plans. 34

- Performance Measures

  - The State of California tracks performance metrics for rural transit agencies using service availability, service delivery, community impact and financial performance (among others). Performance data is helpful to transit agencies and rural transportation planning organizations as they plan, delivery and adjust service. 13

  - The Vermont Agency of Transportation publishes an annual “Public Transit Route Performance Review” that examines the performance for each transit route in the state. Routes are classified by type and scored against themselves. Routes that fall below acceptable standards are candidates for technical and marketing assistance. Continued under performance may lead to discontinuation of the service. 34
Strategies to Increase Ridership
Integration and Coordination

Why is this important?

- Many transit agencies coordinate transit service due to increase ridership.  
- More centralized control and management of resources can provide higher quality and more cost-effective services.
- Coordinated services can make existing transportation services more visible to consumers and access to these services less confusing.

What are the Strategies?

- Integration can range from simple communications around common issues to full consolidation of all functions into a single entity.

Additional Strategies

- Leverage the National Network for the Transportation Workforce to coordinate transportation workforce programs.
- Electronic payments: Allows for cost sharing options, can provide additional system revenue, and generate more ridership.
- Automatic vehicle locators: Helps ensure transit adheres to schedules which can contribute to greater vehicle utilization and lower capital costs.
- Automated dispatching and routing: Optimizes trip assignments which can contribute to greater vehicle utilization and lower capital costs.
Strategies to Increase Ridership
Integration and Coordination

Examples

- Torrington and Winchester, Litchfield County, Connecticut, united and formed the Northwestern Connecticut Transit District to expand service beyond older citizens and people with disabilities. Funding from the Connecticut Department of Transportation enabled the service to purchase vehicles. The Rural Transit system created five transit routes operating on a flexible-route structure and resulting in steadily increasing ridership. 11

- Gallatin County and Bozeman city leaders created a plan for system upgrades that combined city, county, and university investments with increased funding from the state’s rural transit program. The service upgrade and expansion also established a new intercity route to connect Big Sky with Bozeman. The new expanded route also included new buses and a rebranding of the system aimed at making transit accessible and desirable to Bozeman and Gallatin County residents. The result is first-class, fare-free transportation that substantially boosted ridership and received positive feedback from students, residents and tourists alike. 11

- R.Y.D.E. (Reach Your Destination Easily) is a transit service that emerged from coordination between 20 different agencies in the City of Kearney and Buffalo County, Nebraska. R.Y.D.E. saw rapid ridership growth in the first year of operations from 11,000 rides to 33,000 rides. 20

- Alger County Transit Authority (Altran) in Munising, Michigan attributes its 8% annual growth in ridership to effective coordination. Since 1997, transit providers in 15 counties in the Upper Peninsula of northern Michigan have been coordinating transportation services among themselves. 20

- The Oregon Department of Transportation (ODOT) coordinated with thirteen other federal, regional, and local agencies to launch the Columbia Gorge Express—a new bus service connecting Portland, Oregon with Rooster Rock State Park and Multnomah Falls. The service operates from May to September 2016 on Fridays, Saturdays, Sundays, and holidays. Daily boardings has increased from 605 in 2016 to 557 in 2017. 2018 service has been expanded and now serves Portland, Rooster Rock State Park, Multnomah Falls, Cascade Locks, and Hood River. 20

Research Plan

Discussion: Best Practices Included in Survey Research

Depth vs. Breath

- Literature Review considered six overall strategies
  - Awareness and Marketing
  - Service Design
  - Financial Incentives
  - Capital Investment
  - Rural Transit Policy
  - Integration and Coordination

- Should Survey Research Reflect All Six Measures or Focus on Sub-Set
  - Survey sample size estimated at 20 interviews, including ROI.
  - If sample all six strategies, expect 2-3 examples per topic
  - If sub-sample is reduced to three, expect at least 5 examples per topic
LITERATURE REVIEW

Return on Investment (ROI)

Return on Investment (ROI)

Strategies and Models

Why is this important?

- ROI communicates the anticipated value from planned investments to decision makers and the public. ROI can be determined for each individual project, but results can also be combined to estimate the overall impact of multiple projects. 23

- A significant amount of the benefits measured by the public sector comprise nonmonetary value that cannot be considered revenue for the public agency. For example a tolling project may provide travel time savings. This benefit may not be considered by a private firm or investors as part of the revenue stream used to calculate ROI—they would focus on the projected future stream of toll revenue. This disparity has led to public and private sectors using different models—the public sector using benefit/cost analysis and the private sector using ROI for evaluation. 24

- The FTA defines efficiency as the ratio of outputs (riders) produced per unit of input (investment or service hours/miles) and effectiveness is defined as the output consumed (riders) per unit of output produced (hours or miles) or per unit of input (investment). 15
Return on Investment (ROI)

Strategies and Models

What are the Strategies?

- There are different models and approaches to measuring ROI and different approaches to understanding the cost effectiveness of transit investments.
  - ROI can be measured to understand the impact of transit investments to the local economy and community.
  - ROI can also be used to guide project level decision making.
- Experience with both approaches to using ROI is limited.
- Other strategies include:
  - Cost Benefit Analysis
  - Life-cycle Cost Analysis
  - Economic Impact Assessment
  - Transit Performance Measures

Return on Investment (ROI)

Strategies and Models

Examples

- California Life-Cycle Benefit/Cost Analysis Model (Cal-B/C). Cal-B/C is a tool developed by Caltrans used for preparing analyses of both highway and transit projects. Input data includes the type, scope, and resource cost of the project. The model then calculates the following performance measures:
  - Life-cycle costs [dollars]
  - Life-cycle benefits [dollars]
  - Net present value [dollars]
  - Benefit/cost ratio [benefits divided by costs]
  - Rate of return on investment [percent return per year]
  - Project payback period [years]
  - Calculated benefits [dollars]
    - Travel time savings
    - Vehicle operating cost savings
    - Accident cost savings
    - Emission cost savings
- The model has Highway Capacity Manual (HCM) computation capabilities to estimate project benefits, which can be useful to rural counties that do not maintain travel demand models (TDMs)
Return on Investment (ROI)

Strategies and Models

Examples

- HealthTran, Missouri is a regional agency designed to improve health by reducing transportation barriers. Liberty coordinated 2,470 rides for HealthTran and worked with HealthTran to track nearly $7.68 in billable reimbursement for every $1.00 invested in transportation. 30, 31

- PennDOT Benefit/Cost Analysis (BCA). The Pennsylvania DOT (PennDOT) has developed a spreadsheet tool to assist in the BCA of alternative pavement designs. A focus of the tool is on comparing concrete and bituminous pavement alternatives. PennDOT has a policy requiring this type of analysis for interstate highway projects with initial costs greater than $1 million and all other projects with initial costs greater than $10 million. The tool enables users to estimate initial agency costs by estimating quantities and specifying unit costs. It assists users in estimating future agency costs by incorporating common maintenance strategies. For example, when estimating the future agency costs of a bituminous pavement, users are prompted to consider the cost of seal coating shoulders in year 5. 24

- Washington Transit Life-Cycle Cost (LCC) Model. The Washington State DOT has developed an LCC tool to assist in analyzing alternative maintenance strategies for public transit vehicles and facilities. The tool helps structure estimates of initial agency costs and future agency costs for two maintenance strategies. Users enter unit costs for a number of common activities, such as tire replacement, engine repair, and brake service. They then specify the number of times these activities are required each year to estimate future agency costs. 24

Return on Investment (ROI)

Strategies and Models

Examples

- Recommended Core Performance Measures for fixed-route transit services serving a population under 50,000:
  - Service coverage
  - Route Coverage
  - Frequency
  - Hours of Service
  - Missed trips Complaint rate
  - Route directness
  - Personal economic impact
  - Road calls
  - Average spare ratio vs. scheduled spare ratio
  - Ridership
  - Productivity
  - Cost-effectiveness
  - Percent positive drug/alcohol tests 25
Return on Investment (ROI)

Strategies and Models

Examples

- Recommended Core Performance Measures for demand responsive services:
  - Availability Measures
  - Service coverage
  - Span of service
  - Service hours
  - Revenue hours
  - Service delays
  - Service Monitoring Measures
  - On-time performance
  - Missed trips (e.g., trips that are more than 1 hour late)
  - Complaint rate (e.g., per passenger, per mile, or per service hour)
  - Percentage of missed phone calls
  - Response time to inquiries
  - Community Measures
  - Welfare-to-work accessibility
  - Personal and community economic impacts
  - Provision of transportation service to human and social service agencies (e.g., number of trips made, number of persons served, or number of agencies contracted with).
  - Travel time measures
  - Travel time
  - System speed
  - Safety and security
  - Accident rate
  - Maintenance and construction measures
  - Road calls
  - Economic Measures
  - Ridership
  - Cost efficiency
  - Cost effectiveness
  - Productivity
  - No shows and late cancellations
  - Identification of alternate funding sources

Research Plan

Discussion: ROI

- Distinct models identified in literature:
  - Project Decision Making Models
    - Financial based decision making models — evaluate the expected outcomes associated with different investment decisions
    - Less experience in industry
  - Measuring Value of Rural Transit Investment
    - Economic and financial models used to estimate the impact of investments in rural transit system.
    - More widely used and accepted
  - Both models have application to Task 73. Which offer the most benefit to this project?
References


References


References


References


31. Missouri Rural Health Association (HealthTraD)


33. Mobility and Aging in Rural America: The Role for Innovation An Introduction for Funders, Grantmakers in Aging (GIA), The Center for Information Technology Research in the Interest of Society (CITRIS), and the Banatao Institute at the University of California, Berkeley. May, 2019. https://www.giaaging.org/documents/190524_GIA_Rural_Mobility_Funding_Guide_FINAL.pdf

NEXT STEPS

- Review Task 1.2
- Proposed Survey Plan
- Discuss ROI Technical Memo and Different ROI Models
- Review Project Schedule

Research Plan

Task 1  Identify Innovative Approaches and Practices

Task 1.2 Follow-Up Survey

- **Task Goals:**
  - Collected examples of innovative strategies to increase transit ridership
  - Research reasons for investment in ridership-building efforts
  - Understand tools for calculating return on investment
- **Approach**
  - Conduct survey with at least 20 transit agencies and four state Departments of Transportation (state DOTs)
    - Contact agencies by telephone to request participation and schedule interview time and date
    - Will send interview guidelines in advance of scheduled interview
  - Survey materials will be shared with NCHRP Panel for review and comment
  - Will provide initial survey results within 30 and 60 days of closure date
- **Results**
  - Examples of innovative strategies and reasons for investments in ridership building efforts
  - Sufficient detail to support case study documentation
  - Examples of tools and methods for calculating the return on investment
- **Deliverables**
  - Draft and Final Survey and Questionnaire
  - PowerPoint Summary of Survey Findings. Will hold webinar on survey findings if desired.
Survey Research Plan

Approach

- Identify list of potential agencies and organizations for participation
- Draft survey / interview guidelines
  - Survey will vary by topic (best practices and methods to evaluate return on investment)
  - Interview will be completed within 30 minutes
  - Draft surveys will be available for Panel review by August 9th
- Contact agencies by email to request participation by phone and schedule interview
  - Send copy of interview guidelines prior to interview
- Schedule and hold interview
- Compile findings and results

Survey Research Plan

Proposed Agencies and DOTs

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| Work in Progress |       |      |      |        |           |         |          |          |
| Deliverable |       |      |      |        |           |         |          |          |
APPENDIX C

Survey Plan and Templates
MEMORANDUM

To: Velvet Fitzpatrick and NCHRP 20-65 Task 73 Panel
From: Bethany Whitaker and Maggie Derk, Nelson\Nygaard, James Choe, IFC
Date: August 9, 2018
Subject: NCHRP 20-65 Task 73 Best Practices and Marketing to Increase Rural Transit Ridership and Investment, Task 2.1 Follow-Up Survey

TASK 1.2 FOLLOW-UP SURVEY

Task Goals

- Collect detailed examples of innovative strategies to increase transit ridership that fall under the following categories:
  - Awareness and Marketing
  - Service Design
  - Financial Incentives
  - Capital Investment
  - Rural Transit Policy
  - Integration and Coordination
- Research reasons for investment in ridership-building efforts
- Understand tools for calculating return on investment

Approach

- Conduct survey with at least 18 transit agencies and six state Departments of Transportation (state DOTs)
  - Send an email the agency contact to introduce ourselves and ask if they are interested in participating.
  - Follow-up with a call to schedule an interview and conduct a phone interview.
  - Will send interview guidelines in advance of scheduled interview.

CONTACTS

Instructions for the panel: Figure 12 lists all potential DOTs and transit agencies that will be interviewed. If you have a contact for any of these agencies, please provide their information in the “Contact Information” column.
## Figure 15  DOT and Transit Agency Contacts

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**INTERVIEW GUIDE**

**Instructions for the panel:** Please review the interview guide below and provide comments, if applicable.

**Background**

We are developing a National Cooperative Highway Research Program (NCHRP) best practice guide for rural transit agencies that provides:

- Examples of innovative strategies for building ridership; and
- Tools for understanding the costs and benefits of projects designed to improve rural transit services, including methods of evaluating the return on investment (ROI).

Your organization has been identified as a best practice in terms of [insert best practice topic]. We are interested in learning more about how you conceived of this project, your experience implementing it and what was accomplished.

We appreciate your input and participation! We are working to create a resource that we hope you and your staff as well as your rural transit peers across the country will be able to reference in the future.

**Questions**

*(Note to Panel: Nelson\Nygaard and ICF will test the interview guide in the field before executing the survey.)*

1. Confirm the interviewees title/role

*Note: The following questions will be asked in reference to a specific topic area but all interviewees will be asked about multiple topic areas.*

2. Please describe the [topic area] strategies that were implemented at your organization.
3. Why were these strategies being implemented? What was the driving force? What did you hope/expect to accomplish with this investment?
4. Did you experience any challenges implementing these strategies? Do you know how much the investment cost?
5. What were the anticipated/target outcomes?
6. What were the actual outcomes?
7. Did you track the impact on ridership? Do you know if it led to an increase or decrease in ridership?
8. Did you measure the impact of this investment?
   a. If yes, how?
b. Is this an established methodology that can be applied to other strategies/projects?
c. Are there any examples/samples you could share with us that illustrate your methodology?

9. Are there any additional lessons learned about this experience that you can share with us?

10. Are there any other agencies that you’d recommend we look at for this best practice research? Do you have contact information?

11. Have you been involved with any other projects or strategies that helped increase your ridership? If yes, what are they? We’re interested in projects or strategies that pertain to these topics:
   a. Awareness and Marketing
   b. Service Design
   c. Financial Incentives
   d. Capital Investment
   e. Rural Transit Policy
   f. Integration and Coordination

If yes, repeat question 2 through 10.

INITIAL EMAIL

Instructions for the panel: This email will be the initial point of contact for our potential interviewees. Please review the draft email below and provide comments, if applicable.

Hi [INSERT CONTACT NAME],

I am working with the National Cooperative Highway Research Program (NCHRP) to develop a best practice guide for rural transit agencies that provides:

- Examples of innovative strategies for building ridership; and
- Tools for understanding the costs and benefits of projects designed to improve rural transit services, including methods of evaluating the return on investment (ROI) made.

We’re surveying rural transit agencies and state DOTs across the country and your transit agency has been identified as a best practice for your recent work with [INSERT TOPIC AREA].

We would like to interview someone at your agency based on your recommendation. Would you or someone else be available for a 30 minute interview on September [INSERT DATE]? I’ve attached our interview guide to provide a bit more context about what questions we’d like to answer. Please reply to this email and I will follow-up with a phone call to schedule an interview.

Thank you,

[Insert signature]
APPENDIX D

List of Interviews Completed
### Service Providers

<table>
<thead>
<tr>
<th>#</th>
<th>Agency</th>
<th>Contact</th>
<th>Date Interviewed</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Asotin County PTBA</td>
<td>Greg Gill, Operations Manager</td>
<td>10/04/2018</td>
</tr>
<tr>
<td>2</td>
<td>Big Sky Transportation District</td>
<td>David Kack, Coordinator</td>
<td>9/24/2018</td>
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<tr>
<td>3</td>
<td>Bloomington Transit</td>
<td>Lew May, General Manager</td>
<td>9/21/2018 and 10/29/2018</td>
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<tr>
<td></td>
<td></td>
<td>Eli McCormick, Customer Service Manager/BTaccess Manager</td>
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<tr>
<td>4</td>
<td>Capital Area Rural Transportation System</td>
<td>Lyle Nelson, Chief of Staff</td>
<td>9/7/2018 and 12/5/2018</td>
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<tr>
<td></td>
<td></td>
<td>Dana Platt, Community Services Director</td>
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<tr>
<td>5</td>
<td>Cascades East Transit</td>
<td>Andrea Breault, Senior Transit Planner</td>
<td>9/24/2018</td>
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<tr>
<td>6</td>
<td>Columbia County Public Transportation</td>
<td>Dwight Robanske, General Manager</td>
<td>9/19/2018</td>
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<tr>
<td>7</td>
<td>Confederated Salish &amp; Kootenai Tribe</td>
<td>Corky Sias, Transportation Division Manager</td>
<td>10/24/2018</td>
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<tr>
<td>8</td>
<td>Delta Rides</td>
<td>John Johnson, Chairperson</td>
<td>9/25/2018 and 10/23/2018</td>
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<td></td>
<td></td>
<td>Antoinette Gray-Brown, Transportation Director</td>
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<td>Aaron E. Henry Community Health Services Center</td>
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<td>9</td>
<td>Douglas Rides</td>
<td>Dennis Pinheiro, Transportation System Mobility Manager</td>
<td>9/20/2018</td>
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<td>10</td>
<td>Feonix Mobility Rising</td>
<td>Valerie Lefler, Executive Director</td>
<td>10/31/2018</td>
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<td>11</td>
<td>HealthTran</td>
<td>Mary Gordon, Manager</td>
<td>10/3/2018</td>
</tr>
<tr>
<td>12</td>
<td>JAUNT</td>
<td>Brad Cheffield, Chief Executive Officer</td>
<td>10/12/2018</td>
</tr>
<tr>
<td>13</td>
<td>Kern Transit</td>
<td>Bob Neath, Transit Manager and Office Engineer</td>
<td>9/24/2018</td>
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<tr>
<td></td>
<td></td>
<td>Norma Quintero, Office Service Technician</td>
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<tr>
<td>14</td>
<td>Nnee Bich'o Nii Apache Transit</td>
<td>Bernadette Kniffin, Director</td>
<td>12/5/2018</td>
</tr>
<tr>
<td>#</td>
<td>Agency</td>
<td>Contact</td>
<td>Date</td>
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<td>15</td>
<td>North Central Montana Transit</td>
<td>Barb Stiffarm, Executive Director</td>
<td>9/26/2018</td>
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<td>16</td>
<td>Northeast Oregon Public Transit</td>
<td>Frank Thomas, Region 5 Regional Transit Coordinator at ODOT, former County Manager at Northeast Oregon Public Transit</td>
<td>10/02/2018</td>
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<td>17</td>
<td>Northern Transit Interlocal</td>
<td>David Irvin, Northern Transit Interlocal</td>
<td>12/5/2018</td>
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<td>18</td>
<td>Q Ryde</td>
<td>Himanshu Bhatnagar, Founder &amp; CEO</td>
<td>10/16/2018</td>
</tr>
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<td>19</td>
<td>Roaring Fork Transportation Authority</td>
<td>David Johnson, Director of Planning</td>
<td>9/24/2018</td>
</tr>
<tr>
<td>20</td>
<td>Rural Public Transit and Intercity Bus Conference</td>
<td>Multiple providers in a roundtable discussion</td>
<td>10/02/2018</td>
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</tbody>
</table>