
# Best Practices in Rural Regional Mobility

**DETAILS**

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NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

NCHRP RESEARCH REPORT 861

# Best Practices in Rural Regional Mobility

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In Association With

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Cambridge, MA

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# FOREWORD

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*NCHRP Research Report 861: Best Practices in Rural Regional Mobility* addresses the role of state transit program policies and regional planning agencies in the development of services that fall in the middle ground between intercity bus service and rural public transportation. This middle ground is defined as rural regional services. The report provides lessons learned on how to address needs for rural regional mobility, and a checklist for developing a rural regional route is presented. The results of this research may be used as a resource by state departments of transportation (DOTs), rural regional planning agencies, and transit providers to plan and provide for rural regional mobility.

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Rural regional mobility generally includes intra-state, cross-county transportation such as non-emergency medical trips to regional medical centers and trips to commuting-based colleges. These trips may fall within the gray area between the definition of rural public transportation and rural intercity bus transportation. This gray area may exist because there are routine trips that are too lengthy and time consuming to be cost-effective for local rural demand response providers [supported by the Federal Transit Administration (FTA) Section 5311 formula program], while at the same time the trips cannot be effectively met by intercity bus services [supported with FTA Intercity Bus Program Section 5311(f) funds] because the service is too infrequent, has lengthy travel times (with long layovers and multiple transfers), or is too expensive for routine, perhaps daily, trips.

The focus of this research is on scheduled services in rural areas that are open to the general public, offering mobility options that can serve multiple market segments. Specialized transportation services such as paratransit, community volunteer drivers, and transportation voucher programs provide mobility options for seniors, people with disabilities, individuals with low incomes, and veterans. However, this patchwork of demand response transit services developed to serve particular client groups or trip types is limited in meeting the broader need for regional mobility. The rural regional services described in this research have benefited from significant public investment through a broad range of federal and state funding programs, complemented with major efforts by nonprofit organizations and community groups. These services improve mobility, employment, and education opportunities; provide access to healthcare and community services; and offer connectivity to the national transportation network. These services are particularly important for the transportation-disadvantaged, who may not have alternatives but have needs for regional trips that are not met by specialized services.

*NCHRP Research Report 861* assists state DOTs with planning and providing efficient rural regional mobility. It defines rural regional transit services and identifies states with

transit policies or programs that have been designed to support regional services. Also, the report includes findings from a literature review and presents 12 case studies that describe examples of state policies, organizational structures, funding sources, and service designs. This report was prepared by KFH Group, Incorporated, in association with Cambridge Systematics, Inc.

# CONTENTS

CHAPTER 1

# Rural Regional Defined

## Research Objective

The overall objective of this study has been to identify and evaluate practices used by state departments of transportation (DOTs), rural regional planning agencies, and transit providers to plan and provide for rural regional mobility—focusing on policies and programs that support services that can meet the Federal Transit Administration (FTA) definition of "public transportation" or the FTA definition of "intercity bus transportation." The initial focus was on practices that effectively blend these two modes and could be supported with rural transit funding provided under the FTA Section 5311 rural transit program or the Section 5311(f) rural intercity bus program. The study also sought to identify examples of rural regional services that address human service transportation needs as well as general public services. The study focuses not just on regional services, but also on the role of state transit program policies and regional planning agencies in the development of rural regional services.

## Rural Regional Defined

Based on this research objective, the focus of this study is on services that fall in the middle ground between intercity bus service and rural public transportation. The FTA guidance defines intercity bus service as "regularly scheduled bus service for the general public that operates with limited stops over fixed routes connecting two or more urban areas not in close proximity, that has the capacity for transporting baggage carried by passengers, and that makes meaningful connections with scheduled intercity bus service to more distant points, if such service is available." Rural public transportation is defined as: "Surface transportation by conveyance that provides regular and continuing general or special transportation to the public, but does not include school bus, charter, or intercity bus transportation" that is provided in a "non-urbanized area which includes rural areas and urban areas under 50,000 in population not included in an urbanized area."

The preliminary scope suggests that rural regional mobility is typically "intra-state, cross-county transportation" and would include, for example, trips to a regional medical center (e.g., a Veterans Administration Medical Center) for non-emergency services, to a community college, or to access other transportation modes for longer distance travel (e.g., to an intercity bus terminal or airport). The scope for this study noted that rural regional services fall in the gray area between other types of rural transportation services.

Figure 1–1 presents a Venn diagram depicting the relationship between rural regional, intercity bus, local transit, and human service transportation. Rural regional services overlap each mode of transit, but there is a substantial space that is uniquely rural regional.

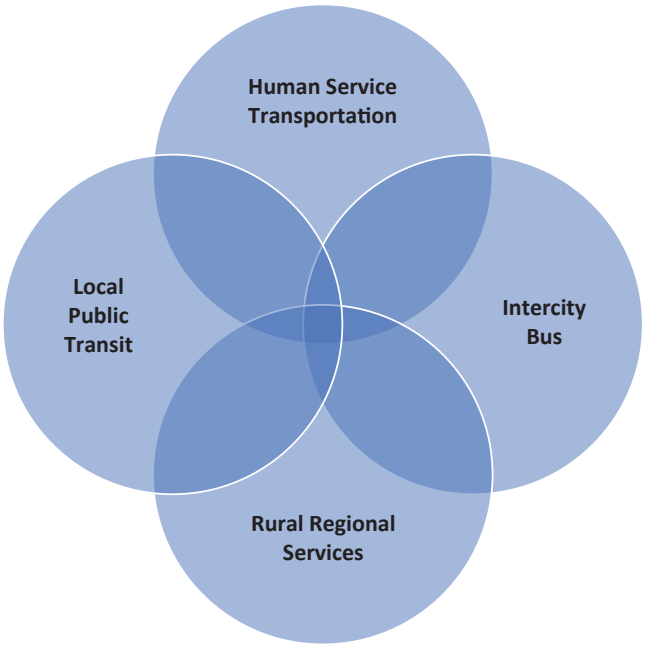


***Figure 1–1. Rural regional mobility relationships.***

Building on the definitions of both rural public transportation and intercity bus service, rural regional mobility service, also referred to as rural regional transit, is defined as one that provides transportation for the general public from a rural area across the county, or other jurisdictional boundaries,[1] to serve a destination that has services (e.g., medical, educational, employment, retail, government) not available in the rural area. Often the destination of such services is a larger, more urban location, which we are calling a regional activity center, as a general term for a place that offers services needed but not available in more rural trip origin areas. Rural regional mobility service may be supported with funds from FTA Section 5311, Section 5311(f), and Section 5311(c) and may be supplemented with other federal, state, or local funds and passenger fares. Table 1–1 presents a classification of services that contribute to rural regional mobility. The primary focus of this study is on regional services described in the bottom two rows.

The need for a distinction between rural regional mobility services and intercity services lies in the Section 5311(f) requirement for a meaningful connection to the national intercity bus network. The FTA defines meaningful connection in terms of schedule coordination and shared stop locations with the national network. Developing regional services that can be funded with Section 5311(f) depends on being able to make a meaningful connection. In many cases the required schedule makes using the service for commuting, medical trips, or community college classes impossible. The type of morning-in, evening-out schedule needed to address trip needs will rarely coincide with the schedule needed to make a meaningful connection to the national intercity bus network. Optimal regional service would meet both needs, and is theoretically possible but likely to be rare. For purposes of this study, the focus is on regional services that address the kinds of trips than can be made in a day, while considering the possibilities for also meeting intercity needs (and using intercity funding). The intercity program may well be a tool in the toolbox used to create regional services, but the focus of this study is on services that meet a different distinct need (even if they can sometimes be designed to qualify as intercity services).

A key aspect of this definition is that it involves service open to the general public, rather than dedicated human service transportation (such as Medicaid Non-Emergency Medical

**Table 1–1. Classification of transportation services that contribute to rural regional mobility.**

| Service | Description | Funding Source | Operator | Example |
|---|---|---|---|---|
| Intercity Bus Service | Intercity bus service connects rural communities to the national intercity bus network for travel to more distant points. Routes on these corridors have very limited frequencies (often one trip in each direction per day), and operate every day of the week (or if not every day, at least on the peak intercity travel days). | Fares<br>5311(f) | Private | Typically, a major national intercity carrier, such as Greyhound, provides intercity bus services. |
| On Demand | Typically in rural areas where distances and frequency will not support fixed routes. Riders schedule rides to and from destinations. Sometimes provided by volunteers or human service agencies. | 5311<br>5311(f)<br>Fares<br>Private<br>Public | Public agency/transit providers or private | Van rides to medical centers and personal business. |
| Regional Bus Services | Routes on regional bus corridors have moderate frequency (often several trips in each direction per day), and operate at least every weekday if not every day of the week. These routes allow passengers to complete a round trip in a day. Public transit operators typically provide these services, though they may be operated under contract by private providers or agencies. This service can be scheduled to meet commuter and student needs. | 5311<br>Fares | Public agency/transit providers, could also be private for-profit or non-profit | Fixed route services that cross county lines, a route from a small town through three counties to serve commuters, students, and medical trips. |
| Other Essential Regional Services | Primarily operating on a fixed route and fixed schedule for traveling from rural to urban areas. These have flexible routing at the end. They are designed to serve areas within 200 miles of a regional service center (3.5 hour drive time), allowing for a same day trip with 4 to 5 hours to conduct business. | 5311<br>Medicaid<br>Human Services | | Non-emergency medical, shopping, personal business. |

Transportation [NEMT]). Dedicated services may be required to meet client needs, but often they are provided because there is no public transit service that makes regional trips. Our focus is on identifying those services and determining how they can be developed elsewhere. It is anticipated that human service agency trips could be provided through agency payment of a fare or participation in funding. Human service trips are not excluded, but we do not see the study as focusing on transportation exclusively provided to client groups that have eligibility requirements based on trip purpose, age, or income. While it is likely that in many places there is regional transportation provided for NEMT, this study does not focus on specialized or dedicated NEMT service but on services open to the general public that could be used by NEMT clients among others.

In this case, the general definition of rural regional mobility services includes transit services with the following characteristics:

- Scheduled service,
- Service open to the general public (though they may also carry agency clients),
- Service operated on longer routes that cross county lines,
- Service connecting non-urbanized areas (places with populations under 50,000) to each other and to urbanized areas (over 50,000 in population), and
- Service scheduled to permit a round trip within a day, allowing users to spend several hours at their destination.

Excluded from the scope of this study are demand response services, particularly those that have client eligibility requirements, even if they cross city- or county-jurisdictional boundaries.

Long distance Medicaid client trips are an important part of the overall need for regional public transportation, however the focus here is on services open to the general public (which could be used by Medicaid clients) rather than on specialized services.

## Why Focus on Rural Regional?

Statewide transit needs studies, local public transportation and human service transportation coordination plans, and the consultation process required by the FTA for the Section 5311(f) rural intercity program have all identified needs for regional transit services.

### Need Has Existed for a Long Time

The need for these trips has existed for a long time, and was once met by the private for-profit intercity bus companies. As a result of federal and state regulations, these intercity bus companies cross-subsidized rural and regional services with more profitable interstate services and charter business. When ridership declined, the bus industry began reducing the frequency and coverage of rural routes. By the time many human service and community action programs came into being during the 1960s and 1970s, these programs found that they needed to provide transportation to their clients to allow them to access program services. These services formed the basis of today's rural public and coordinated human service transportation programs. The role of intercity bus firms in providing regional trips from rural areas declined significantly following deregulation of the intercity bus industry in 1982, because these firms could abandon unprofitable rural service. The reduction in rural services has continued since that time and, by 2010, the scheduled intercity bus industry served approximately 2,340[2] places, compared with more than 15,000[3] in 1982.

During this period the rural public transportation industry developed, and at this point there are 1,357 Section 5311 subrecipients providing transportation in rural areas.[4] With limited funding, often with eligibility requirements for potential users, rural transit operators focused on the most critical trips by the most transportation disadvantaged populations: medical trips by low-income persons, trips by seniors to nutrition sites and senior centers, and trips by persons with disabilities. For the most part, needs were local in nature. States distributed funding to local jurisdictions, and local governments provided the required match. The organizations focused on providing local services, not services outside city or county boundaries.

## Need for Rural Regional Public Transportation Services

The need for regional trips initially became apparent when persons needing specialized medical services provided only at major medical centers had to travel outside jurisdictional boundaries to obtain these services. The Medicaid program was required to provide longer distance, regional trips for Medicaid-eligible persons who did not have their own transportation. NEMT for Medicaid clients continues to be a major element of the need for regional transportation services from rural areas. Transportation in these areas has also become necessary for the following types of trips:

- Employment—Commuter transportation from rural areas to employment outside the immediate area (restructuring of manufacturing due to automation, globalization, and consolidation).
- Education—Access to regional community colleges, training programs, state colleges, and universities. The mean distance from a student's home to college is 31 miles to public 2-year schools, and 82 miles to public 4-year schools.[5] These are regional trips.

- Medical—In addition to Medicaid, there are other riders who need to access specialized services in regional centers. Changes in health care funding have combined with difficulties in staffing rural medical centers. From 2010 to 2014, 47 rural hospitals ceased providing inpatient services—26 closed entirely and 21 continued to provide some health care services.[6] Analysis of the impacts of closures reveals that "Survey respondents from the markets of the closed hospitals perceived increased travel distances to health care as a stressor and a risk to the health of those communities." [6]
- Shopping—Big-box stores replaced many small-town retail businesses and are now eliminating their smaller rural stores and concentrating operations in regional supercenters.
- Social and recreational—Loss of intercity service means social and recreational trips need to be addressed by rural regional, including visits to family (for occasions), friends, parks, and recreation sites.

Programs that are funding or providing local transit say they are unable to address needs, and intercity bus services provided by the market or funded by Section 5311(f) often do not meet these needs because they are scheduled to provide connections between major cities. Section 5311(f) funding requires that services provide a meaningful connection with the national intercity bus network wherever possible. In many cases, resulting services are unable to address needs because meaningful connections may not provide schedules useful for regional trips. The rural public transportation community has begun to deal with the need to provide regional trips, as will be evident from the case studies and analysis in this research report.

## Five Myths about Rural Regional Transit Services[7]

This study reveals that there are a number of myths about rural services that can be put to rest.

### It Is Not Allowed

Many rural transit operators believe or assume that some regulation prohibits them from providing trips that cross jurisdictional boundaries. In some cases this assumption appears to arise from the fact that states allocate federal funding to jurisdictions, and that those jurisdictions provide the local match. However, federal programs do not restrict services to particular jurisdictions. Similarly, there is generally no state funding or administrative restriction preventing transit operators from creating regional routes. Some states have requirements in their state transit program authorizing legislation that requires local transit systems to notify jurisdictions outside their designated service area if they intend to provide service into that jurisdiction. For example, Ohio requires transit authorities seeking to provide transit service into a political jurisdiction outside the boundaries of the authority to provide prior notice to the legislative authority of that political jurisdiction which then has 30 days to comment.

Some states provide statutory tools that allow local governments to create regional transit organizations while others have legislation creating regional transit entities as a basis for funding. Even in these cases, allowing or supporting regional organizations may not necessarily result in rural regional services, and states may have to support the development of regional services through policy actions such as incentives.

Any restriction on implementing regional services is likely to be locally imposed. Local governments providing match for federal and state funds may explicitly or implicitly provide the match with restrictions on service to points outside jurisdictional boundaries. There may be concern about negative publicity if it appears that one jurisdiction is subsidizing residents of another, or if it is perceived that residents are using services to support the economy of another jurisdiction. It is often the case that such services enable employees to bring paychecks to their

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home jurisdiction, or enable residents to reach services unavailable locally, and the process of developing regional services must address these political concerns. The major exception to the myth is in cases where local funding is provided by a local tax, and language governing the tax prevents any of it from being used on services outside the jurisdiction. It may mean that regional services require a different source of local match.

## There Is No Need

As will be seen in the case studies, the need for regional services can become evident in a number of ways. Statewide studies conducted by state DOTs often include public surveys or surveys of transit users and frequently the need for regional services is documented, along with other transit needs. For example, in the recent Ohio statewide transit needs study, general public surveys identified regional services as one of the top three priorities. It was also one of the top three priorities for rural respondents, occasional transit riders, and non-riders.[8]

In many other cases, the need for regional services is identified from local human service public transportation coordination plans required by FTA under Section 5310. Sometimes the need for regional service is evident because of changes in a community, such as a plant closing locally while jobs are available in another plant in a different county. Other types of local studies or efforts may identify a need for rural regional transit services. For example, an economic development study may identify a need for regional services to a nearby employment center, representatives of a regional hospital may request regional service for patients and employees as part of a regional health planning process, or representatives of a community college may express a need for regional transit service to serve students as part of an effort to improve training. Regional planning organizations may be key players in identifying needs and then developing rural regional service plans and funding.

Implementation of rural regional services will reflect local prioritization of regional needs versus local needs, but many places are finding that there are still needs to be met.

## There Is No Funding

The case studies in this research report found that regional services are being operated using a variety of funding sources. These include the expected FTA Section 5311 rural funds, Section 5311(f) rural intercity funding, Section 5311(f) in-kind match from connecting unsubsidized intercity services, federal Congestion Mitigation and Air Quality Improvement (CMAQ) funding, economic development funding, energy funding, tribal transit funding, state funding for match, state incentive funding for regional services, funding for Medicaid non-emergency transportation, and other local sponsors. In most cases, the operation of regional services is a creative combination of funding from different sources. In a number of cases, state funding or state policies in providing federal funding played a significant role in the ability to use funds for regional services.

## It Is Not Productive

Evaluation of rural regional services needs to take into account the fact that most services are long-distance with few stops. In comparison with local services, they will have few boardings per mile or per hour. A more appropriate measure is the number of boardings per vehicle trip, which is more likely to reflect that a vehicle traveling a long distance with a substantial load of passengers is being productive. In the case studies that were able to provide productivity data, services appear to be comparable with more local rural services even using the same measurement factors. In most cases, rural regional routes had acceptable ridership to start with and

have seen increasing demand over time. In some cases, fine-tuning of schedules and routes has resulted in improved ridership.

### It Requires a Regional Organization

While some states are pursuing initiatives intended to create rural regional transit organizations, the situation described in a number of the case studies shows that neighboring organizations jointly create regional services, or local systems or entities see a regional need for their own citizens and take the initiative to offer service. Regional organizations may make it easier to overcome jurisdictional boundaries and develop coalitions needed to design and support such services. Organizations may be regional planning organizations, transit regions defined by state administrative requirements, regional private non-profits, or public joint powers authorities (JPAs). There is no single model that is most appropriate. The common element in terms of organization is that there are some persons or groups that have become the local champion and have put in the dedication and effort required to design services, find funding, and implement service.

## Organization of This Research Report

This research report presents the results of an effort to identify states with high levels of rural regional mobility, and within them to identify state transit program policies or programs that have been designed to support regional services. Chapter 1 provides an introduction and definition of rural regional transit services. It also identifies both state programs supportive of rural regional services and local examples that could be used as case studies. Chapter 2 is a literature review. A survey of state transit agencies was conducted asking states to identify themselves as having addressed this need in some way, and to identify examples as potential case study sites. Chapter 3 presents the process the study team used to identify 12 case studies, which include state programs or policies designed to support or encourage rural regional services and examples of services. Chapter 4 presents the case studies, describing examples of state policies, organizational structures, funding sources, and service designs. The case studies are used as a basis for the Toolkit presented in Chapter 5. Chapter 6 presents a checklist for developing a rural regional route.

CHAPTER 2

# Literature Review

## Study Process

The initial step in the study process involved a search for previous research that focused on rural regional services. For the literature review, reports were identified and reviewed. Reports that address rural regional transit, or more generally rural transit, relevant for the study that have been published over the last 15 years were identified. This included material known to the study team as well as material identified through a search of TRID, the integrated database with records from TRB's Transportation Research Information Services (TRIS) Database and the Organization for Economic Cooperation and Development's (OECD) Joint Transport Research Centre's International Transport Research Documentation (ITRD) database. The literature review also found several reports, particularly articles in the Community Transportation Association of America publications that described rural regional transit systems.

For the most part, the major finding is that there is not a lot of previous research addressing rural regional transit services. The literature that exists is largely directed at the benefits and feasibility of *regional organizations* for providing rural public transportation, rather than *regional services*. Increased ability to provide regional services is often cited as a major potential benefit of regional organizations, but there is little documentation about specific regional services that have been enabled by the creation of regional organizations. For this reason, the study team decided to look beyond the traditional literature in an effort to identify potential rural regional service case studies.

This secondary effort in the literature review focused on PowerPoint presentations from the TRB Rural and Intercity Bus Conferences over the past 6 years to identify relevant presentations on rural regional mobility services. The vast majority of presentations featured intercity bus service projects. Presentations from the 2014 conference that address the broader theme of rural regional mobility are summarized and included in this chapter.

## Relevant Published Reports

### Regional Cooperation in Transportation Planning

Regional Cooperation in Transportation Planning, prepared for Florida DOT, reviewed regional transportation planning practices across the country, highlighting innovative transportation planning approaches in other states that support regional transportation planning and cooperation. The report provides specific recommendations for the state's DOT to improve regional transportation planning and regional investment decision-making in Florida. The impetus for the report came from findings in the 2060 Florida Transportation Plan that the large number of government entities responsible for transportation planning and funding decisions posed a significant

challenge to implementing the state's plan. It also noted that improved regional decision-making was needed. The State of Florida's plan concluded that improved regional decision-making requires restructuring existing institutions and processes, including consolidation of transportation entities to reflect urbanized growth trends, commuting patterns, funding mechanisms, and other economic relationships.

One of the research tasks was to identify incentives established at the state level to encourage formation of regional planning, coordination, and partnerships among metropolitan and other planning organizations. The report finds that states' incentive programs are typically not statewide but are at the regional or local level. In addition, most incentive programs are designated for one or two specific purposes, which can include transit and development of multimodal transportation, smart growth, and other purposes. The only example the researchers found of a statewide incentive program for regional transportation coordination is Florida's Transportation Regional Incentive Program (TRIP). Two other states are identified with statewide programs: North Carolina, with a focus on rural regions; and Virginia, where the program covers several areas of planning.

The report notes that rural transportation planning across many states increased in the 1990s as a result of federal legislation and guidance. Thirty states have designated regional planning organizations to represent rural areas in statewide planning processes.

The report states that local jurisdictions and states pursue regional governance because regionalism has the following functions:

- Provides a holistic perspective for planning, inter-jurisdictional coordination, and administrative purposes;
- Achieves economies of scale by pooling resources such as funding, technical assistance, and service delivery,
- Integrates sectors (i.e., various special purpose planning initiatives such as transportation and land use) thus increasing administrative efficiency;
- Provides geographic coverage and representation (political power) in decision-making;
- Allows public participation, data gathering, and implementation of state and federal programs; and
- Enables two-way communication and conflict resolution vertically between local and state or federal governments and horizontally across jurisdictions.

States must give local and regional entities the authority and support to engage in regional governance. Because regionalism falls outside dominant government schemes, local leadership and collaborative capacity are necessary to create, maintain, and evolve regional governance.

One interesting aspect of the research was the development of a conceptual framework of regional transportation planning and coordination. This framework recognizes that states can foster regional coordination *directly* (by defining regional planning entities) and *indirectly* (by allowing intergovernmental compacts). State programs and policies vary according to the degree to which they are top-down or bottom-up initiatives.

The researchers' regional institution and planning framework describes the key features for such planning and the extent of regional integration. The key features are organization structure, planning procedure, representations, and sphere of influence. These features help explain how regional planning is accomplished, who is involved, and what sort of control and power it has.

Florida's TRIP incentive program encourages regional planning by providing state matching funds for improvements to regionally significant transportation facilities. Eligible recipients include two or more contiguous Metropolitan Planning Organizations (MPOs) and two or more contiguous counties that are not members of an MPO.

## Data Needs for Assessing Rural Transit Needs, Benefits, and Levels of Service

NCHRP Project 20-65, Task 36, reviewed the federal data collection program for rural transit—the Rural National Transit Database (NTD)—to define additional data elements to improve the program and to identify options to evaluate rural service levels. *NCHRP Research Results Digest 376: Data Needs for Assessing Rural Transit Needs, Benefits, and Levels of Service* was a product of this study.

While study efforts did not specifically look at rural regional transit, the digest discusses the importance of service area size when evaluating rural transit services. This is particularly true for rural regional systems that cross jurisdictional boundaries to reach activity centers and destinations beyond rural areas. In addition to proposing three new measures for the Rural NTD to assess rural transit from a national perspective, the digest suggests that rural services can be categorized by the type of trips they serve based on service frequency to assess their level of service to users. This is relevant for this study's effort to classify regional services in rural areas. The study suggests the following categories:

- **Weekly or bi-weekly service to the activity center(s)**. This level of rural service can meet critical trip purposes, such as for medical appointments and food shopping and is often termed "lifeline transportation."
- **Daily trips inbound from the rural area to the activity center(s)/outbound back to the rural area with at least 5 to 6 hours at the travel destination**. Rural service provided daily with less than 8 hours at the travel destination allows users to meet certain trip needs, such as participation at human service agency day programs, part-time employment, education trips, and medical trips (possibly including dialysis treatment).
- **Daily service during morning/afternoon peak periods and at least 10 hours at the activity center**. Rural service at this level allows for full-time employment for traditional office-type jobs, most education trips, and medical trips.
- **Daily service during peak travel periods during the peak season**. This type of rural service may be provided for visitors and employees for rural resort areas, such as ski areas or beach towns, or for peak service during the academic year for a college in a rural setting.
- **Connectivity to regional/national intercity carriers**. This level of service will vary widely for any given rural community or area depending on the intercity bus schedule at the closest appropriate activity center (i.e., there is increased potential to coincide with the intercity bus schedule when there is greater frequency of rural service to that activity center).

This approach, frequency of service corresponding to trip types served, may be an appropriate factor for classifying rural regional transit services for this study.

## Organizing Transit in Small Urban and Rural Communities

Organizing Transit in Small Urban and Rural Communities is a research report prepared at North Dakota State University's Upper Great Plains Transportation Institute that examines the case for regional organization of rural transit from an economist's perspective, using North Dakota as a test case. The report notes that the benefits of consolidating rural transit agencies had not been quantified. Where such benefits are identified, they have been described in qualitative terms rather than in economic or quantitative ones.

The study tests the following hypotheses:

- **Rural transit experiences economies of density**. The presence of increasing returns to density in rural transit infers that it would be more efficient for a single transit agency to provide service in an existing service area, as is common practice, rather than to create a new transit agency to do so.

- **Rural transit experiences economies of firm size**. Economies of firm size differ from economies of density in that it considers a proportional increase in service area. The presence of increasing returns to firm size infers that it is more efficient for an existing agency to provide increased levels of service in an expanded service area.
- **Rural transit experiences economies of scope**. Economies of scope are present when a firm can produce goods or services at lower costs by producing a greater variety of services. A rural transit provider offering several different types of transportation service, such as fixed route general public transit, demand response public services, and human service client transportation will have lower unit costs than if each service were provided by a separate agency or firm. Typically, administrative costs can be spread over more services, and staff, vehicles, and facilities can be used to provide several services, which reduces resource requirements.
- **Rural transit has excess capacity**. National data suggests that there is an excessive number of vehicles industrywide. The presence of excess capacity would support a revision of federal and state policies relating to capital funding allocation and rules for vehicle disposition.
- **Rural transit is a natural monopoly**. The presence of a natural monopoly in rural transit would support the existence of single rural transit agencies as the sole providers of demand response and fixed route service and for government subsidy of transit.

These translated to six research questions:

1. Is increased service in an existing service area more efficiently provided by a single existing rural transit agency or by adding a new one?
2. Is increased service in an expanded area more efficiently provided by a single rural transit agency or by creating a second agency?
3. Are demand response and fixed route service most efficiently provided by a single firm or should two agencies provide each service exclusively?
4. Do rural transit firms have significant unused vehicle capacity?
5. Is a single regional transit agency always more efficient at providing multimodal service or are there cases where two agencies can provide service more efficiently?
6. Is there economic justification for government support of transit on the basis of increasing returns to scale or natural monopoly?

Based on various econometric models and analyses, the findings of the research include the following:

- It is more efficient for an existing rural transit agency to provide increased outputs within its service area than to create a new transit agency to do so.
- At high levels of output and service area size, it is more efficient for a second agency to provide service, so that within very large regions with both fixed route and demand response service, it is more efficient for entities to specialize in one mode of service.
- Significant amounts of excess capacity were found.

## Regionalizing Public Transportation Services

Regionalizing Public Transportation Services was prepared by the Institute for Transportation Research and Education at North Carolina State University. The study had several components, including a review of best practices of regional public transportation in other states and identification of opportunities and constraints for such regional service.

The study attributes the following benefits to regionalization:

- Riders have the ability to cross county lines;
- More effective regional planning;
- Ability to address regional transportation problems;
- Adequate funding—a regional entity can be created with its own funding source;

- Transportation and land use planning integration;
- Operational and administrative economies;
- Regional transit in an urban area has the ability to plan and build a regional rail system;
- Coordination or consolidation of specialized or rural public transportation services;
- Development of specialized professional staff; and
- Improved efficiency and effectiveness of the state DOT.

The findings of the case study research include the following:

- States with legislation promoting or mandating regional transit systems have more of such systems and a higher level of public and human service transportation consolidation.
- Legislation may allow regional systems to be organized through intergovernmental agreement or to be private non-profit agencies.
- Contracting and agency memberships are two principal types of relationships that can be established to create multi-county transit services.
- A perceived loss of control is a common issue or fear that may be a barrier to consolidation or coordination of transit services.
- A local champion can be important.
- State DOTs can contribute to the formation of regional transit systems through a provision of technical assistance.
- Funding incentives that favor regional service can be very effective.
- The ability to mix funding sources throughout the entire service area is important.
- Dedicated funding sources can be important, because they reduce the possibility that a lack of local funding becomes a barrier to local jurisdictions working together in a regional system.
- Resources are saved with proper administration.
- Availability of specialized professional staff for a larger/regional transit organization.
- Regional systems may be able to realize economies of scale by operating fewer maintenance facilities.
- The governing board must be sufficiently representative of the political jurisdictions and stakeholders in the region.
- Funding "equity" means that the jurisdictions receive benefits commensurate with the funds they contribute.

The study then recommends a number of regional transportation systems for North Carolina, suggesting areas that share common economic, employment, political, and social characteristics.

## North Carolina Statewide Regionalization Study

The North Carolina Statewide Regionalization Study was prepared by the study team for the North Carolina DOT as the department's response to Session Law 2011-145, House Bill 28.21, which required the DOT and its Public Transportation Division to study the feasibility and appropriateness of developing regional transit systems with the goals of providing increased mobility between existing transit systems within one county and between counties, improving planning and coordination to better meet public demand, maximizing funding, and developing centralized professional staff that will create operational and administrative efficiencies.

The study examined previous literature, experiences in other states, a series of stakeholder interviews, a survey of transit systems in North Carolina, and input from the Advisory Committee. The study found that regional transit systems could demonstrate significant benefits in terms of addressing regional travel needs, improved regional planning, maximizing funding, and creating administrative and operating efficiencies. However, it is evident that successful efforts at regionalization do not necessarily require total consolidation of all transit functions under a single entity. The appropriate approach varies with local conditions, taking a blended approach

that integrates primary transit system functions similar to choosing different options from a menu. The feasibility of this approach is demonstrated by the variety of successful regional transit activities across the state, many of which have not required total consolidation. The final report was submitted to the Joint Legislative Transportation Oversight Committee (JLTOC) and presented to the committee during the legislative session.

## The Transit Capacity and Quality of Service Manual (*TCQSM*)

The *TCQSM*, now on its third edition, does not directly address rural regional transit services but does provide measures that can be used to assess the effectiveness of such service.

The manual provides methodologies and tools to assess transit service quality and to calculate the capacity of fixed route transit as well as ferry transit. Regarding transit service quality, the manual provides a framework for assessing transit within two categories: (1) the availability of transit service and (2) its comfort and convenience. The specific measures for these factors differ for fixed route transit and demand response transportation, and the measures are described from the passenger's perspective as well as the transit operator's perspective. For example, for transit availability, three measures are defined: (1) frequency of service; (2) service span (i.e., the days and hours of service), and (3) access, which is the spatial element of transit availability (i.e., whether transit service is provided near one's desired origins and destinations). These measures are relevant for rural regional transit because it is often difficult to provide enough transit, as measured by its availability, and to provide good access and connectivity with (a) the large geographic areas common for rural regional transit, (b) the very low population densities, and (c) the realities of funding.

## Regional Transit Coordination Guidebook

As a result of population growth in Texas's rural areas and extensive suburban development, the Texas DOT sponsored a project titled Regional Public Transportation Solutions for Intercity Commute Traffic. One of the products of the project was the Regional Transit Coordination Guidebook.

The guidebook provides recommendations for initiating and sustaining coordination activities as well as evaluation strategies that can be used at various stages along the planning process. The guidebook builds on regional coordinated projects in Texas as well as elsewhere in the country. It also describes coordination efforts in Texas, where state legislation prompted 24 council of government regions to work with the DOT to develop regional plans for transit coordination.

The guidebook lists the advantages of regional transit coordination:

- Benefits to transit riders/travelers:
  - More travel alternatives for commuters,
  - Increased mobility and independence for people who do not or cannot drive, and
  - Improved availability and convenience for medical trips.
- Benefits to transit providers:
  - Improved cost-effectiveness and use of resources,
  - Expansion of service area and client base,
  - Improved visibility of transit service in the community, and
  - Ability to leverage new funding sources.
- Benefits to the transportation system:
  - Congestion relief on major travel corridors,
  - Reduction in vehicle emissions, and
  - Additional travel capacity without building more lane miles.

- Benefits to employers and the workforce:
  - Opportunity to attract new workers,
  - Reduced need for parking facilities,
  - Support for ridesharing and transit use offered by the Internal Revenue Service, and
  - Participation in corporate pollution-reduction programs.

### Ohio Statewide Transit Needs Study

The Ohio DOT and a team of consultants recently completed an extensive inventory of transit needs in the state. The outreach process included meetings with all transit systems in the state, stakeholder interviews, user surveys, and public surveys. One key finding is the need for regional services or connections, which was expressed by riders, stakeholders, and transit system operators. The final recommendations included proposals for funding efforts to incentivize the creation of more regional services, regional service coordination, and new regional systems in areas without any current public services. As part of the study process, a Regional Services and Organizations initiative paper was developed that addressed both the scale and service advantages of regional transit organizations and the need for regional services. It included descriptions of several best practices in both areas, suggesting that this study may be able to identify best practices in rural regional mobility through contacts with the state program staff.

## PowerPoint Presentations from the TRB Rural and Intercity Bus Conferences

Knowing that there are more efforts implementing rural regional mobility services than could be found in the literature search, the study team decided to review the presentations made at TRB's Rural and Intercity Bus Conferences to see if there were relevant presentations that could help define the topic or provide some preliminary information on state programs or recent best practices in rural regional mobility services. Some of the most relevant presentations follow:

### The Relationship between Rural Regional Mobility and How Local Transit Is Organized, 21st National Conference on Rural Public and Intercity Bus Transportation, October 26–29, 2014, Monterey, California

This presentation by Kim Johnson of Michigan DOT and Steve Hirschfield of Wisconsin DOT (WisDOT) is extremely relevant to the current study because it presents the concept of rural regional mobility that led to the development of this research project. It includes a review of the ways in which public transit is organized and funded in each state (Michigan and Wisconsin), noting that public transit systems are largely organized and funded through a structure that supports local systems and specialized services. Although both states have mechanisms for developing regional authorities, public transit has a predominantly local focus. At the same time, both states have intercity bus programs as well as commercial intercity bus services (unsubsidized). In both states, there is a perception that there are existing and growing needs for regional services that are not met by either the local systems or the intercity services. This has led to numerous questions about how such needs might be met, what kind of organizational structure is appropriate for regional services, and how they might be funded. It also led both states to work with the American Association of State Highway and Transportation Officials (AASHTO) and its Standing Committee on Public Transportation (SCOPT) to support national research to identify best practices by states or rural regional agencies that have the following characteristics:

- Meet the FTA definition of "public transportation,"
- Meet the FTA definition of "intercity bus,"

- Effectively blend these two modes, and
- Are supported by a combination of Section 5311 and Section 5311(f) funds.

From this presentation, it is clear that rural regional mobility services will be services that are open to and usable by the general public (are not solely human service transportation for eligible clients). It is less clear whether the definition of rural regional mobility should include intercity bus projects that do not address the need to provide a day-time round trip with enough time on site for employment, medical services, and higher education classes.

### North by Northwest Connector, 21st National Conference on Rural Public and Intercity Bus Transportation, October 26–29, 2014, Monterey, California

This presentation by the Tillamook County Transportation District (TCTD) provides a description of an Oregon transit project that has created a regional network in the coastal region of the state. The presentation covers the goals and tasks of the project, which include the development of a network of regionally coordinated routes and services that crosses county lines, meets regional needs, and serves both commuters and visitors while offering connections to key intercity terminals. The project includes the development of a distinct branding for the regional network, regional fares, a centralized website, and additional inter-agency coordination. Service improvements included improved connectivity between services at connection points (as opposed to forced transfers at county borders). Funding sources include Section 5311(f) funding for some new regional routes; state funds for pedestrian and accessibility improvements, signs and shelters; and planning funds for creating the organizational structure to develop new services and infrastructure and to market and brand them. Much of the network includes services that were already in place, and are now coordinated into a network. Project successes have included significant ridership increases in some corridors. In many ways this project would appear to be a best practice rural regional mobility service.

### Colorado Intercity and Regional Bus Network Plan—2014 Update, 21st National Conference on Rural Public and Intercity Bus Transportation, October 26–29, 2014, Monterey, California

This presentation provides an overview of a study prepared for Colorado DOT, the Colorado Intercity and Regional Bus Network Plan—2104. This statewide plan updates a 2008 study. The study includes a needs analysis and development of a typology of different services designed to meet different needs:

- **Intercity Bus Services**: Connect rural communities to the national intercity bus network for travel to more distant points. Such services usually have limited frequencies (often once per day) but operate every day of the week.
- **Interregional Express Services**: Connect urbanized areas that in most cases have existing local or sub-regional public transit services. These are focused on commuters, providing multiple weekday frequencies, often with a morning and evening peak.
- **Regional Bus Services**: Connect rural areas and urban areas, have moderate frequency, and operate at least every weekday. Schedules allow passengers to complete a round trip in a day, and could accommodate employment trips (morning in, evening out).
- **Other Essential Regional Services**: Generally operate on a fixed route and fixed schedule with flexible routing at the ends of the route to serve multiple destinations. Service may be less than daily, depending on demand, but schedules are designed to allow for a same day trip with 4 to 5 hours at the destination for appointments or personal business.

The plan combines existing and proposed services in these categories to create a statewide network plan, with estimated operating and capital costs. The identified intercity bus network is

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generally in place, with portions provided by private carriers without subsidy, and some routes that are funded with Section 5311(f) funds. The plan includes a significant planning effort addressing the interregional express needs, focusing on long-distance commuter services into Denver. This service is due to be implemented in summer 2015. Colorado DOT is conducting more detailed planning to address the proposed needs for some regional bus services and essential regional services, with the type of service to be a function of the likely pattern and level of demand in the proposed corridors. State funding for demonstration regional bus services is possible.

### Vermont Intercity Bus Program—Reconnecting Rural Vermont, 21st National Conference on Rural Public and Intercity Bus Transportation, October 26–29, 2014, Monterey, California

This presentation, by David Peletier of the Vermont Agency of Transportation, presents the recent development of a Section 5311(f) funded intercity bus program. It describes the recent history of the decline of Vermont's rural intercity network and the planning process used to develop alternatives, prioritize services, find an operator, implement services, develop a brand, and publicize the new services. Of particular interest was a reference to the analysis of regional transit services as potential intercity feeder services and the degree of change in regional services needed to provide acceptable intercity connections. The regional service development in Vermont had been described in presentations at previous Rural and Intercity Bus Conferences. In 2010, Chris Cole, then General Manager of the Chittenden County Transit Authority (CCTA) in Vermont, gave a presentation entitled Regional Service in a Local Environment that covered the development of regional services connecting Burlington, Vermont, with Montpelier, Middlebury, and St. Albans—all in different counties. This presentation includes information on the demand (primarily daily commuter), the development of a more regional organizational structure, and the funding requirements—including the role of the state in promoting such services and providing start-up funding. At the same conference, Aaron Frank, then a planner at CCTA, gave a presentation entitled Succeeding with Commuters after Intercity Failure that focused on the development of these regional commuter services in the wake of the withdrawal of most Vermont Transit intercity routes. The Peletier presentation provides us with the latest chapter in the development of a full range of transit services, because Vermont added back some rural intercity routes to the regional routes originally developed in the wake of intercity bus service losses. This illustrates that at least one state found a need for both regional and intercity services, and has developed a process of organizational development and state support to implement both.

### MassDOT BusPlus Program, 21st National Conference on Rural Public and Intercity Bus Transportation, October 26–29, 2014, Monterey, California

This presentation by Kyle Emge of the Massachusetts DOT presents the development of a regional bus program in Massachusetts. A comprehensive study of bus services in that state resulted in a new definition of regional bus services. It combines the definition of intercity bus services from the Section 5311(f) program guidance with a definition of commuter bus service. The program uses state funds to provide bus capital to private firms in return for additional services—either new routes or additional frequencies or stops. The program has created regional coordination among the states in New England for potential regional bus service improvements, and MassDOT has developed a detailed regional bus and rail service map and a smart phone ticketing system available to multiple bus operators. In the future, operating subsidies will be used to initiate services on more new routes. This program is of interest because of its combined focus on intercity and daily commuter services, the development of regional (multi-state) connectivity, and the important role of the state in supporting such services.

### Other Presentations

A number of other presentations at the Rural and Intercity Bus Conferences in the recent past have addressed state and carrier efforts to develop and implement Section 5311(f) rural intercity bus services. Those are not summarized herein because of their exclusive focus on intercity service; however, they are included in the bibliography of this chapter. The presentations described in Chapter 2 are distinct in their relevance to this study because they have in some way addressed the development of regional as well as intercity services, suggesting further analysis of the programs and projects as potential best practices.

## Conclusions Drawn from the Literature Review

The literature review suggests three basic considerations for this study:

- The existing research generally focuses on regional organizations rather than on regional services.
- The literature suggests that regional services can be classified based on service characteristics, and these services can be seen as one category of services that is distinct from, but may also share characteristics with intercity bus services, commuter bus services, local public transit, and human service transportation.
- Some states and regions have addressed rural regional mobility issues in recent times, including a number that have documented their efforts through presentations at national conferences. This suggests that there may be more examples that can be discovered, and that it is possible to identify policies and practices that can support rural regional mobility.

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CHAPTER 3

# Identification of Case Studies

## Introduction

The original study scope called for a categorization of states in relation to their level of rural regional mobility. The study team first reviewed data collected and published by the Rural NTD as well as the Bureau of Transportation Statistics (BTS) to determine whether these resources have data relevant and applicable for categorizing states. Given that this review and assessment found limits to published data for purposes of categorization, the study team developed an alternative approach and used it to help identify case studies of rural regional services. A review of the available data sources, the alternative approach, and the selection of case studies are presented in this chapter.

## Published Data

In order to categorize or classify the states in terms of their level of rural regional mobility, the initial effort focused on national data collected using a consistent set of definitions. The major source of data for rural transit systems is FTA's Rural National Transit Database. Data from the BTS was also reviewed for this purpose.

### Rural NTD

The Rural NTD requires states to collect and report specified data and information for their Section 5311 subrecipients. The latter include a range of organizations: public entities such as small cities and counties, private non-profit agencies, intercity bus services, and rural services provided by tribal organizations.

The subrecipients provide specified data annually, reporting on the types of services provided, vehicles, operating data (miles and hours), and passenger trips, among other data elements. However, there is no other data classification that would allow a compilation of the subset of miles, hours, vehicles, and passenger trips provided on regional services.

The one relevant data element in the Rural NTD for purposes of identifying regional transit services is *type of service area*. Using a drop-down menu, each subrecipient identifies its service area as one of the following:

- County/independent city,
- Multi-county/independent city,
- Multi-state,
- Reservation, or
- Other.

If the service area is multi-county or multi-state, the subrecipient then lists the specific jurisdictions in the service area.

Subrecipients that serve multi-county or multi-state areas may or may not provide regional transit services. However, the data does not provide information on whether the services provided are regional, which destinations are served, or the level of service provided (e.g., days of the week that service is provided, hours of service, or number of round trips).

As shown in Appendix A, the data can be used to identify, by state, the number of rural transit systems with multi-county and multi-state service areas and the number of intercity bus services receiving Section 5311(f) funding as well as the proportion of each going to the states' total Section 5311 subrecipients. The data is not sufficiently detailed to effectively categorize states as to their level of rural regional mobility—one could make assumptions that more multi-county operations and more intercity bus projects are indicative of greater rural regional mobility, but that would be a significant leap from the available data.

## Bureau of Transportation Statistics

The BTS collects and reports on transportation data to help advance the federal DOT's strategic goals. Among the BTS resources is the Intermodal Passenger Connectivity Database, with information on 7,000 rail, air, bus, and ferry passenger terminals that can be used to assess the degree of intermodal connectivity in the passenger transportation system. The database identifies, by state, the number of intermodal facilities that enable passengers to transfer from one mode of public transportation to another. The BTS refers to an intermodal facility as a "key building block for developing connectivity."

The study team assessed data elements in this database that measure, by state, the number of passenger facilities in both urban and rural areas with intercity bus service, with local bus service, and the number of facilities that serve both. Appendix B shows this data. The database identifies facilities that have both intercity bus and local bus services, and one might surmise from this that the services could be connected from a schedule perspective; however, the data does not provide any information about the type of local bus service or the extent of rural regional service provided by the bus service. As in the case of the Rural NTD, the data is not sufficiently detailed for categorizing states as to their level of rural regional mobility.

## State Program Data

Recognizing that there is no national database that collects information on the availability of regional services, the study team considered that perhaps individual states collected data on subrecipient services that could be used to identify regional services. Some states publish annual reports that document all their subrecipients in detail regarding funding sources, types of service provided, fleet size, operating statistics, and (sometimes) performance. It was thought that perhaps one or more individual states would have compiled information on subrecipient services that would help define rural regional services, assist in identifying potential case studies, or provide some model for future research or data collection. However, even in states that have identified rural regional services as a need or priority, there is very little information collected that reflects a concern for rural regional mobility. For example Minnesota's 2016 Transit Report: A Guide to Minnesota's Public Transit Systems includes data on areas served that may list more than one jurisdiction, but does not include a specific description of services beyond service type (demand response, deviated route, fixed route). In the Highlights section for each provider, some providers mention services that may be regional in nature, but there is no definition of regional service that could be applied as a classification. The 2015 Summary of Public

Transportation Report prepared by the transit program in Washington State also provides a very complete overview of the state's transit systems. Sections in each system's overview include current operations, which may or may not describe services that are regional in nature. A separate section in each system overview includes the intermodal connections provided by that system, which could be evaluated to determine if the connecting services are regional in nature. Oregon DOT provides funding to collect and update General Transit Feed Specification (GTFS) data for all providers in the state, and the data is used to provide a library of all transit routes in the state as GIS shapefiles. Together with the GTFS data, which includes schedule information, this would allow one to compile a list of rural regional services, however that list is not developed or provided by the state. A review of a number of other state transit annual reports revealed that in general the inventory of transit services is structured around federal funding programs, includes funding information, has operating statistics, and may include a map or list of the service area of each system (usually defined in terms of counties or municipalities)—but does not include information specifically about rural regional transit services or mobility.

## Classification Characteristics

The lack of data on rural regional services at the national or state level is not surprising, given that there is no particular funding associated with that kind of service in the same way there is for the intercity program (Section 5311[f]) funding. Much the same conclusion was reached regarding demand response service as a type of transit by researchers at the Small Urban and Rural Transit Center at North Dakota State University. Their study, Developing a Method for Assessing National Demand-Response Transit Level of Service, found that the key data elements needed to assess the level of service, identify gaps in service coverage, and assess unmet needs are not included in the NTD. Data that would allow the development of service level criteria for demand response service such as geographic coverage, days of service per week, hours per day, advance reservation requirements, and eligibility are not collected, but would be needed to evaluate demand response service levels and compare them among systems, states, or nationally. The situation is much the same for rural regional transit services.

In the same way that the North Dakota State University study identified potential factors to be included in a demand response level of service survey tool, the next section presents some factors for rural regional services that could be used as criteria for determining level of service. Their application might initially be a state transit needs study or strategic plan, particularly if public outreach or stakeholder input has identified an unmet need or desire for regional transit services.

## Rural Regional Transit Service Criteria

A methodology for evaluating and classifying rural regional mobility services requires characteristics or criteria for the classification that do not exist in any of the available data sources. Ideally, a reporting system would include the following measures to assess existing and potential services:

- Service availability,
- Access to key destinations, and
- Connectivity.

It is possible that a number of states that have their own reporting systems could add factors from this list to better describe rural transit services, including those that might be classified as regional. These factors can be used to describe, classify, and compare rural regional mobility services, or as a basis for planning rural regional services.

## Service Availability

This criterion measures when the rural regional transit service operates in terms of days per week, the time periods when trips are provided, and the length of time the schedule allows a rider to remain at the regional activity center. A rural regional transit service with daily service consisting of multiple round trips throughout the day provides a higher level of service for rural riders than one that operates only on selected weekdays, with a schedule that gives riders just a partial day at the regional activity center. For example, a service that operates every weekday with a schedule that allows a rider to remain at the activity center for at least 9 hours during the day would provide an individual in the rural community the opportunity to have a full-time job with traditional office hours.

Service availability has three components:

- **Day service is provided**. Does the service operate every day or less than that?
  - Weekdays and Saturdays/Sundays,
  - Weekdays, or
  - Fewer than 5 days per week.
- **Service span**. Does the schedule of trips allow a rider to access and remain at the regional activity center for less than a full day, for full day of at least 9 hours, or for 1 full day plus evening hours? A transit service with the latter schedule, for example, would provide opportunities for an individual living in a rural area to take night classes at the community college.
  - Daytime,
  - Partial day (fewer than 9 hours),
  - Full day (more than 9 hours), or
  - Full day and evening.
- **Number of round trips**. Does an individual have only one choice of trips to travel to and from the regional activity center, or does the transit service provide more than one round trip per day of service?
  - One,
  - Two to three, or
  - More than three.

## Access to Key Destinations

This criterion assesses whether the rural regional service provides direct access to key destinations at the regional activity center, or if the rider must transfer to some type of local transportation service to get to the desired final destination. The transit service does not control which key destinations are available at the regional activity center, such as a major hospital or VA medical center, intercity bus terminal, or community college, but it does have control over whether it directly serves such destinations. Direct access provides a higher level of service.

This criterion could be measured as follows:

- Number of key destinations directly served; no transfer required, and
- Number of key destinations not directly served; riders must transfer to a local transportation service.

## Connectivity

Connectivity with other transportation modes is an important attribute for rural regional mobility services, expanding travel opportunities for rural residents to travel outside their region.

This criterion has two components: first, measuring whether the rural regional transit service connects with other modes and, second, if there is schedule connectivity, that is, whether the schedules of the two transportation modes are coordinated.

- Does the rural regional transit service connect to other modes? If yes, which modes?
- Coordination of schedules: If other modes are served, does the rural regional service coordinate its schedule with the other transportation modes and what is the extent of the coordination?
  - Schedules are not coordinated,
  - Schedules are coordinated, or
  - Schedules and transfers are coordinated, with interlined ticketing. (A rider can buy a ticket on the rural regional service that also serves as the ticket for the connecting service.)

These factors can be used to be descriptive, and to the extent that different services are identified that have similar characteristics might be used as a basis for a typology (like that developed by Colorado DOT). There is concern about using them as a basis for a ranking or scoring that would imply that one kind of service is better than another because the level and pattern of demand varies so much across the country that the most appropriate level of rural regional service may not rank highly. For example, a very small town in a rural area that is located far from the nearest regional center may not be able to support 7-day a week service, with multiple frequencies to meet employment, educational, and human service needs. It makes more sense to describe the kind of service that is feasible for that environment on a continuum that suggests a path for future development, as opposed to simply ranking less-than-daily service or once-a-day service, as inadequate or poor.

## Approach to Categorizing States

With the limits of published data for the study's purposes, the study team had hoped that the level of rural regional mobility in each state could be assessed in two ways: (1) by collecting data on the level of service provided by their rural regional transit services (using the criteria discussed above) and (2) by the support they provide that facilitates the development and operation of rural regional transit services. The plan was to survey the states, ask them to identify rural regional services for case studies, and then apply the criteria to the services. The second type of information the team desired from the states was about the state transit programs, and any policies or programs that had been developed to address regional service. The results of the survey provided some of the desired information, but not in a way that would allow the study team to classify states based on their rural regional mobility. Enough information was provided to allow the development of a general categorization of state program approaches, and to seek case studies of rural regional services in each category.

## State Policy and Support for Rural Regional Transit Services

The literature and the study team's experience with rural transit both suggest that states can play a role in improving rural regional mobility. This includes actions such as providing funding and technical support for the planning, development, and operation of the services. The experience in Vermont, for example, demonstrates that state support through policy initiatives can foster rural regional transit and improve mobility for rural residents. Toward this end, the team assessed each case study state as to whether it has any of the following:

- Legislation that provides authority for jurisdictions to jointly fund and operate rural regional transit services;

- Funding earmarked for rural regional transit services (either state funds or state priorities for the use of available federal funding);
- Technical support to assist jurisdictions to plan and operate rural regional transit; and
- State-funded demonstration projects that feature rural regional transit.

## Survey of the States

The study team surveyed state DOTs to obtain information about each state's rural regional transit services, asking questions about whether there had been any identified need for regional services, the source of that information, whether or not there were any state programs or policies in support of rural regional services and, lastly, asking the state DOT staff to identify particular rural regional services or operations that could be considered as case studies. The plan was to follow up with interviews of the potential case study sites, collecting information about the context and level of service to obtain a sense of the methodology that was followed.

A draft survey instrument was developed as a six-question online survey. An initial test of the survey was conducted with two state DOTs. Following the test, the survey was updated significantly to include more questions to draw out details and identity potential case studies. The final version consisted of six sections based on the initial six questions, with several follow-up questions added to each section. The online survey was designed so that if participants responded "no" to the first question in a section, they would be sent to the next section, skipping all of the follow-up questions for that section. Most of the questions were open ended, asking for resources such as transit plans, studies, policies, and initiatives that either identified a need for or supported rural regional transportation in the survey participant's state. Additional questions asked whether the state or agency had policies or programs supporting regional services, and if so, what they were and how they were implemented. Respondents were also asked to identify systems or services that might be good case studies, along with contact information if available.

The final survey included 59 questions. A copy of the questionnaire is included as Appendix C. The survey was designed to use an online survey provider. An introductory email letter and link to the survey site was sent by email to 72 state managers and 54 state Rural Transit Assistance Program (RTAP) managers. Recipients were encouraged to forward the survey to regional state managers and others involved in regional transportation. The original invitation was sent in November 2015 with a reminder email sent the following week. Individual correspondence with states continued for some time after the stated closing dates. The reminder also included direction that the survey could be forwarded to regional planning agencies.

Thirty-six recipients responded to the survey, representing twenty states. Table 3–1 lists the states and agencies that submitted surveys.

## Survey Issues

The survey responses confirmed that there is not a consistent view of what constitutes rural regional mobility, but it is possible to identify state programs that self-identify as having rural regional mobility as a concern worthy of state policy consideration. Beyond that, in the initial rounds of survey efforts, many states did not respond or did not respond with enough information to facilitate a determination of whether or not there is a high level of regional mobility or whether or not there are potential "best practice" case studies. In a number of cases, respondents had not understood the focus of the study. Programs or state initiatives known to the study team did not appear among survey responses and required more directed contact.

**Table 3–1. States responding to the survey.**

| State | Number of Surveys Submitted | Agency Completing the Survey |
|---|---|---|
| AK | 1 | Alaska Department of Transportation & Public Facilities |
| AL | 1 | Alabama Department of Transportation |
| GA | 1 | Georgia Department of Transportation |
| IA | 1 | Iowa Department of Transportation |
| IN | 1 | Indiana Department of Transportation |
| KS | 1 | Kansas University Transportation Research Center |
| MN | 1 | Minnesota Department of Transportation—Office of Transit |
| MT | 1 | Montana Department of Transportation |
| NC | 1 | North Carolina Department of Transportation—Public Transportation Division |
| ND | 1 | North Dakota Department of Transportation—Transit Program Manager |
| NE | 1 | Nebraska Department of Roads |
| NM | 1 | New Mexico Department of Transportation |
| OH | 11 | Marion Area Transit, Huron County Transit, Seneca County Agency Transportation, City of Ashland, City of Sidney/Shelby Public Transit, Lancaster-Fairfield Public Transit, City of Bowling Green, HAPCAP, Community Action Committee of Pike County, MVRPC, Crawford County Council on Aging |
| OR | 2 | Oregon Department of Transportation, Rail and Public Transit Division |
| PA | 1 | Lower Anthracite Transit System |
| SD | 4 | South Dakota Department of Transportation, River Cities Public Transit, Brookings Area Transit Authority, Inc., Arrow Public Transit, Inc. |
| TN | 1 | Tennessee Department of Transportation |
| UT | 1 | Utah Department of Transportation |
| VA | 1 | Department of Rail and Public Transportation |
| WI | 3 | Wisconsin Department of Transportation, City of Prairie du Chien (SMRT Bus—three county system), Merill Transit System |

Based on an analysis of the survey results, it was determined that follow-up calls would be needed to clarify responses, identify states with potential best practices, and obtain more information from those that had identified potential services as case studies. Many respondents indicated that local or regional coordination plans had been done, but it was not clear whether these plans had identified either rural regional needs or rural regional service strategies. Materials were reviewed and follow-up calls made to see if the responses referenced rural regional needs or services beyond the demand response provision of Medicaid NEMT.

Many survey participants provided links to or titles of statewide transit plans and additional contacts as resources to investigate rural regional transportation in their states. However, upon review of these reports or documents, in many cases, there was little additional information about

rural regional needs included or about rural regional services that might be good case studies. The interviews did lead to additional issues regarding identifying differences in rural regional mobility and identifying potential case studies:

- A number of reported examples of rural regional services subsequently turned out to be provisions of longer distance human service trips on a demand response basis. For example, a rural provider providing a NEMT trip on an exclusive demand response basis rather than a regional service offered on a scheduled basis and open to the general public.
- Some potential examples were determined to be crossing county lines within or between urbanized areas (funded by Section 5307) rather than either connecting rural areas to urbanized or being provided entirely within rural areas (eligible for Section 5311 funds).
- Some potential case studies were Section 5311(f) funded services that the study team classified as intercity, rather than regional, based on schedules that did not permit a same-day return trip or were clearly designed to make connections with the national intercity network without regard to other trip needs. The team also identified a number of case studies that utilize Section 5311(f) funding, make intercity connections, allow same-day trips, and serve other trip purposes.
- In a number of cases, potential case studies of rural regional services are, or have become, services between Urbanized Areas (UZA) rather than rural services (or even services linking non-urbanized to urbanized areas). Following the 2010 Census many non-urbanized areas were reclassified as UZAs, or were added to UZAs, and services linking them are not rural in the sense that operations between them can be (or are) funded with FTA Section 5311 program funds. Even though some of these services originally could be described as rural, or were nominated by states or their own management as potential case studies, they have not been included. Many appear to offer relevant models, and are more productive due to the higher ridership between larger population centers—but the point of this project is to look at rural regional services.

There was some difficulty narrowing the study enough to focus specifically on rural regional services, identifying cases that would enable identification of best practices, and shaping a study that fit within the resources available. It should be noted that the study team did not receive responses from many states, even after follow up, and it is understood that there may be other examples of rural regional service that would meet the scope of this study.

## State Programs, Regional Organizations, and Regional Services

Another issue in identifying best practices is the overlap between policy efforts to create regional administrative structures or organizations and regional services. Regional organizations can more easily create and support regional services; however, regional services can be developed and implemented without necessarily having regional organizations. Given the definition of rural regional transit services adopted for this study, this step in the research process determined (a) whether the services identified by the state agencies were open to the general public on a scheduled basis, (b) whether they were provided by regional entities or not, and (c) if services were implemented by a regional organization, how that organization supported the development of regional services.

A typology of state roles regarding rural regional services would likely include three general classifications:

- **Top-Down**—States that have done state-level analyses and implemented regional services directly or mandated them in some way.
- **Bottom-Up**—States that have identified a need for regional cooperation and are providing encouragement and support for local efforts (e.g., by providing technical assistance, funding for feasibility studies, funding for transition costs, or incentive funding for implementation

of regional services). States may focus their efforts on creating regional organizations or on regional services.
- **Permissive**—State transit programs that have not identified a particular need or benefit for regional organizations or services and are therefore not addressing rural regional needs in any specific way. These states may well see the level of demand for regional connections as being met by demand response rural services that cross county lines (likely providing human service trips such as medical trips) and by rural intercity services.

In addition, there are examples of states that combine approaches. Kansas has legislatively mandated rural regional transit organizations, but is incentivizing rural regional services as a potential strategy that may be implemented by regional organizations. The case studies were selected to include examples representing all three kinds of state policy response.

## Selection of Case Studies

The information collected through the survey process and through additional efforts was used to identify case studies. Case studies have the following characteristics:

- Provide examples of all three state program/policy types;
- Include services that are provided by a variety of organizations, such as states, private non-profit providers, tribal entities, and local public transit providers (both local and regional entities);
- Illustrate the use of a variety of funding sources;
- Include services designed to serve multiple trip purposes; and
- Include services that are operated with Section 5311(f) intercity funding and make intercity connections, but also address rural regional needs.

Figure 3–1 provides a map of the case study states, Table 3–2 presents an overview of the case study sites in terms of these selection factors, and Table 3–3 provides a more detailed summary of the state program context, the local case study example, and the rationale for including it as a case study. Not all of the states/systems that responded to the survey are included in the final list

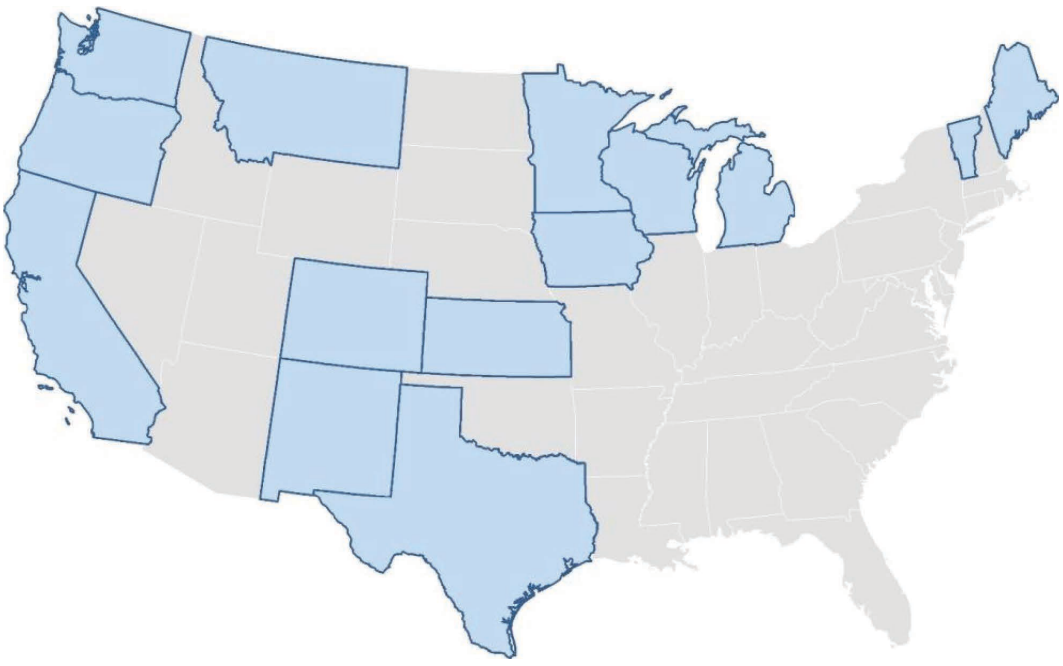

***Figure 3–1. Map of case study states.***

**Table 3–2. Case study overview.**

| State | | State Role: "Top Down" | State Role: "Bottom-Up" | State Role: "Permissive" | Service: Implemented | Service: Planned | Service Funding Mix Includes: S. 5311(f) | Service Funding Mix Includes: Tribal | Service Funding Mix Includes: State Incentives | Service Funding Mix Includes: Other Unique | Operator Type: City or County | Operator Type: Private Non-Profit | Operator Type: Contract | Operator Type: Intercity | Operator Type: Regional Public | Operator is a: Single Entity | Operator is a: Multiple Entities |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| California | Lake Transit Authority | • | | • | • | | • | | | | • | | | | | • | |
| Colorado | South Central Council of Governments | • | | | • | • | • | | • | | | | • | | | | • |
| Iowa | Dennison to Storm Lake Commuter | | | • | | • | | | | • | • | | | | | • | |
| Kansas | Flint Hills Area Transportation Agency | • | • | | • | | | | • | | | • | | | | • | |
| Maine | ShuttleBus-Zoom Intercity/Portland | | | • | • | | • | | | | | • | | | | • | |
| Michigan | Alger County Transit | | | • | • | | | | | | • | | | | | • | |
| Minnesota | Central Community Transit | | • | | • | • | | | • | | | | | | • | • | |
| Montana | Flathead Transit and North Central Montana Transit | | | • | • | | | • | | | | • | | | | • | |
| New Mexico | North Central Regional Transit District | • | • | | • | | | • | | • | | | | | • | • | |
| Oregon | North by Northwest Connector Network (five systems) | | • | | • | | • | | • | • | • | | | | | | • |
| Vermont | LINK regional commuter services (four operators) | • | • | | • | | | | | • | | • | | | • | | • |
| Wisconsin | Scenic Mississippi Regional Transit | | | • | • | | | | | | • | | | | | • | |

**Table 3–3. State programs, case studies, and the rationale for inclusion.**

| State | Rural Regional Policies | Recommended Case Study | Rationale |
|---|---|---|---|
| California | California state law facilitates creation of JPAs (for many purposes, including public transportation) allowing public entities to jointly create agencies to address public purposes. As a result there are many rural regional transit authorities. At the same time there are no legal barriers that prevent an agency from serving points outside its base jurisdiction. | Lake Transit Authority is a JPA that includes Lake County and the Cities of Clearlake and Lakeport. It operates public transit throughout Lake County and has developed connecting rural regional intercity routes that link key points in Lake County with Napa and Mendocino Counties. Lake Transit Route 7, Route 4, and Route 1 are funded with FTA Section 5311(f) rural intercity funds. They cross county lines to connect with transit systems in the other counties and with Greyhound. | Rural transit system providing regional routes that cross county lines, serve multiple markets (students, workers, medical, and intercity connections) utilizing local, state, and Section 5311(f) funding. |
| Colorado | Colorado Department of Transportation (CDOT) conducted a regional and intercity bus plan in 2014 and is completing an update of this plan. Both documents and the recent statewide transit plan identified needs for a statewide coordinated network that includes intercity bus services, regional commuter services, rural regional services (lower frequencies in more rural areas), and essential mobility services (infrequent or demand response specialized services). CDOT has used Section 5311(f) funding to address gaps in service provided by private intercity carriers, has implemented regional express buses (branded as Bustang) in three corridors focused on Denver, and is in the implementation planning stage for multiple corridors of rural regional service. | Planning and implementation activities for rural regional services as called for in the regional and intercity bus planning process, following the model established by the state's Bustang commuter service. The next phase of the plan involves development of regional services allowing day trips from rural locations to regional centers for medical, personal business, and intercity connections. Existing rural regional service operated by South Central Council of Governments (SCCOG) from Trinidad to Pueblo is under consideration for development into a state-supported rural regional service. The case study would examine current SCCOG services and issues involved in expanding its market emphasis. | Example of a state taking the initiative to design, fund, and implement rural regional services as part of an overall plan for a coordinated statewide transit network. Identifies service and funding issues for an existing rural regional service that has a primary focus on human service. Expands to include more general public usage and intermodal connections. |
| Iowa | Iowa has a long history of regionalizing its transit services, beginning in 1976. Iowa has 99 counties divided into 16 regions. Within each region, a *designated* transit system or agency is responsible for administering and providing transit service. Service within each of the 16 regions is demand response transportation (DRT). County governments decide on the level of service within their county. The transit systems operate regional services within their regions, but region-to-region services are limited. | A recent example of the development of a rural regional service is the planning and funding for Denison to Storm Lake Commuter Service in Region 12. An employer moved its plant to another county, and regional transit service was proposed to link previous employees with new jobs. The service is planned to serve approximately 72 employees. A unique combination of funding will support the service. The state's Economic Development Authority is funding 50%, Monogram Foods is funding 25%, and rider fares are expected to support the remaining 25% of operating expenses. The project is funded but operations have not yet begun. | Demonstrates process for identifying particular rural regional need, identifying stakeholders, developing a service plan, and obtaining funding from sources other than normal transit programs—which may be required to implement other rural regional services. |
| Kansas | In 2010, the state's Transportation Works for Kansas (T-WORKS) legislation provided a significant increase in state transit funding linked to a restructuring of statewide transit into a regional structure that would form the basis for future transit development. Kansas DOT (KDOT) subsequently implemented the regional structure through development of a statewide business plan, the KDOT Regional Transit Business Model Implementation Plan. The regions are designed to implement several key strategies, including the development of regional services. A subsequent refinement is now restructuring the state into 10 Coordinated Transit Districts. The program provides for additional state funding for vehicle capital to operate regional services, scheduling and dispatching technology, and Mobility Management. | The Flint Hills Area Transportation Agency (ATA) is a private non-profit transit agency that has taken a lead role in developing regional services connecting the City of Manhattan with neighboring counties, implementing a key strategy of the KDOT regionalization initiative. Originally service was focused on the City of Manhattan and Riley County, but regional expansion has added service to the Green Valley and St. George areas of Pottawatomie County; Fort Riley; and Geary County including Junction City, Grandview Plaza, and Milford. Because Manhattan is now an Urbanized Area, ATA will be using Section 5307 funding to support services in the urbanized area, and Section 5311 funding for rural regional services. | Using state funding intended to support development of regional services, Flint Hills ATA hired a mobility manager and purchased new vehicles to expand routes across county lines. It represents the most highly developed implementation of the KDOT rural regional organizational model. |

*(continued on next page)*

30 Best Practices in Rural Regional Mobility

**Table 3–3. (Continued).**

| State | Rural Regional Policies | Recommended Case Study | Rationale |
|---|---|---|---|
| Maine | MaineDOT is required by state law to divide Maine into geographic regions for the purpose of coordinating and providing public transit. It has designated 8 transit regions, 9 regional transit providers, and 2 additional providers within existing regions. Rural regional needs were identified in the recently completed Maine Strategic Transit Plan 2025 and in the 8 regional Local Coordinated Plans. MaineDOT provides funding for rural regional transit services including state funds for local match. It also provides technical support and funding for demonstration projects. MaineDOT provides funding support for 2 private sector intercity services (Bangor to Caribou and Calais to Bangor), as well as one public sector service (Biddeford-Saco-Old Orchard Beach to Portland). | One of the designated regional transit providers, the Biddeford-Saco-Old Orchard Beach Transit Committee, operating as ShuttleBus-Zoom, provides rural regional services from Old Orchard Beach into Portland. The Zoom Turnpike Express starts in Biddeford and travels to Portland via I-95, with stops at park and ride locations along the way. Service is weekday only, peak hour–peak direction. In addition, ShuttleBus-Zoom recently implemented its Intercity/Portland service, providing local service from Biddeford, Saco, Old Orchard Beach, and Scarborough using local roads. The Portland/Intercity service utilizes Greyhound in-kind match and Section 5311(f) funding, and offers interline ticketing with Greyhound (and the national interline system). It operates 7 days per week, with up to 7 trips per day on weekdays. Stops in Portland include the Greyhound terminal and the airport. | ShuttleBus-Zoom has developed a rural regional service that addresses needs for express commuter services and local service directly to towns off the interstate, utilizing Section 5311(f) intercity funding and in-kind match to address a variety of rural regional travel needs. |
| Michigan | Michigan DOT was one of the first to support rural intercity bus service beginning with a state-funded program. The intercity network continues today as one kind of connection between regions. Often these services are scheduled to provide connections in major urban areas and do not meet needs for connections from rural areas to regional centers at times that allow for a work trip or a same-day trip for a medical appointment. There are a large number of rural county and city systems, however, few have developed regional links to cross county lines. The Michigan DOT approach to development of regional services has been permissive, allowing local initiatives and providing technical assistance. Previous feasibility studies for regional services in the Upper Peninsula and western Michigan identified a number of issues in developing regional service. One example of a rural regional service that has developed is the regional service operated by Alger County Transit (ALTRAN). | ALTRAN is the public transit operated in Alger County, providing local countywide dial-a-ride service and also operating a weekday rural regional route from Harvey and Munising in Alger County to the regional center of Marquette, in the neighboring county. There are three scheduled round trips per day, at times that would permit work trips or medical appointments. The service also carries packages. ALTRAN also provides Backpacker service for recreational trips. | Will focus on development of a rural regional service in Michigan with particular attention to identification of the potential market, funding, and organizational support for regional service, and its relationship to other transit services in the region. |
| Minnesota | The Minnesota Department of Transportation's (MnDOT's) Office of Transit conducted the Greater Minnesota Transit Investment Plan in 2011. This led to the Transit For Our Future Initiative to help Sections 5311 and 5307 transit providers implement the Three Cs: Coordination, Cooperation, and Consolidation. MnDOT developed a manual providing a menu of potential regional coordination actions, along with training and technical assistance. The initiative provides incentive funding for the operation of regional services, technical assistance, and transition costs. Much of the emphasis has been on the advantages of regionalizing (e.g., sharing administrative, capital, or technology costs); however, studies have addressed the potential for regional services. The initiative provided funding for several regional coordination plans and market | The case study focuses on the state program initiative, combined with a more detailed look at the status of implementation. One of the first results of the state initiative is the merger of 2 rural systems, Kandiyohi Area Transit and Renville County Heartland Express to form Central Community Transit (CCT) in January 2015. CCT Bus provides transportation for all of Kandiyohi County and Renville County residents with a fleet of 21 buses and over 50 volunteer drivers throughout the 2 counties. A majority of the transition cost was covered by a grant from MnDOT under the initiative. CCT regional services are currently provided as demand response service, with current route deviation routes in Kandiyohi County. A second element of the case study is | Addresses development of a state program to facilitate and incentivize development of rural regional systems by providing guidance, tools, and technical assistance encouraging local systems to increase regional collaboration without state imposition of a regional structure or direct state implementation of regional services. |

**Table 3–3. (Continued).**

| State | Rural Regional Policies | Recommended Case Study | Rationale |
|---|---|---|---|
| | assessments. All projects must demonstrate partnerships among one or more established public transit systems. | MnDOT support for the Southeast Minnesota Travel Study due to be completed in March 2016. This project is evaluating the need for intercounty travel in an 11-county region of southeast Minnesota. In addition, there have been 2 other regional coordination studies. | |
| Montana | Montana Department of Transportation (MDOT) administers the federal rural transit programs in the state. MDOT's federally mandated statewide transportation plan, TranPlan 21, addresses public transportation. The most recent version (from 2008) notes a decline in intercity bus service and the consequent need for regional connections. A statewide intercity bus plan completed in 2012 further analyzed the need for such service focusing on the need for intercity services that would make stops in the state during daylight hours when local transit providers could provide connections. It also developed criteria for identifying unmet needs, which could be used in evaluating funding requests for rural intercity services. Subsequent regional planning efforts identified needs for regional connections which led to the development of two rural regional (intercity) routes that utilize Section 5311(f) funding. | Flathead Transit.<br>Flathead Transit is a service of the Confederated Salish and Kootenai Tribes with daily passenger service between Missoula and Whitefish. This service connects with Greyhound, Amtrak, and local and regional services in Missoula. The project is being funded by MDOT and is matched with Greyhound miles. The transit program logs in 632,256 annual vehicle revenue miles and 44,540 riders.<br>North Central Montana (NCM) Transit.<br>NCM Transit is a public transportation system designed to serve the Hi-Line communities of Hill and Blaine Counties and surrounding communities and provide coordinated services with the Fort Belknap and Rocky Boy Transit systems. NCM Transit is operated by Opportunity Link, Inc. It was established in partnership with North Central Montana area organizations, including local and tribal government agencies, social service organizations, and educational institutions. | Both of these transit systems are good examples of the coordination and support needed to provide regional linkages. They have developed these services working with multiple community players, including tribal and local government, community organizations, private intercity transit, social services agencies, and educational institutions. The services are provided in a very low-density region where distances to basic services are long, and could provide a model for low-demand regional service. |
| New Mexico | Regionalization is allowed through state legislation, with additional legislative authority provided to RTDs to increase local taxes to help fund the RTD with voter approval. The state is supportive and provides technical assistance as well as state planning funds. As of 2012, New Mexico has 4 RTDs, 2 of which have voted on an increase to the gross receipts tax (GRT). Within the service area of regional transit districts, they are responsible for identifying and implementing regional services. New Mexico DOT's Transit and Rail Division has developed and implemented regional services, including a commuter rail line (Rail Runner) and a network of regional commuter buses (Park and Ride service). | North Central Regional Transit District (NCRTD) is made up of 4 counties, 4 cities, and 6 tribal entities. The first of the state's regional authorities to be formed, it directly provides services on 20 routes across the region. As a regional entity, it provides funding for regional services delivered by local systems in Santa Fe and Los Alamos. The NM Rail Runner Express is an additional means of providing regional connectivity. The case study would examine the role of NCRTD in developing and delivering rural regional services, as well as supporting regional routes delivered by other entities. The NMDOT Park and Ride express network will be included in the case study as an example of rural regional services directly provided by a state DOT. | Illustrates the ability of a regional entity to develop and implement regional services within a region, with additional connectivity provided by services developed and implemented by the state DOT. Also demonstrates the role of regional taxation authority in enabling the creation of a largely rural regional transit system. |
| Oregon | Although Oregon DOT (ODOT) does not have an initiative or program specifically aimed at development of rural regional organizations or services, a new program, the Transit Network Program, uses Section 5311(f) and other funds to provide grant funding for projects that improve the utility, efficiency, and safety of Oregon's transit network. ODOT uses GTSF data from 62 providers and open source software developed by Oregon State University to identify "key transit hubs" where three or more fixed route transit services connect. Investments are prioritized in these hubs. The Transit Network Program encourages collaboration and coordination between transit services, and investments in passenger information systems, planning, | The North by Northwest Connector Network (NNC) comprises 5 local transit systems, partnered to develop and sustain a multi-county regional network. The project began with a $3.5 million U.S. Department of Energy (DOE) grant and is defined by a regional intergovernmental agreement. Partner agencies jointly apply for funding and share administrative costs. The project has included development of regional routes by modifying local services and providing quality transfer points at major stops where riders could make scheduled connections. New services have been combined under a common brand which is incorporated into existing agency brands, | Would be a good example of multiple partners collaborating, including public advocacy for funding. Unique funding from a 3-year demonstration grant from the U.S. DOE through its Energy Efficiency and Conservation Block Grant Program to create the North by Northwest Connector, an initiative to connect county-based operations. Another unique aspect of this initiative was the marketing to and providing services for tourists. |

*(continued on next page)*

**Table 3–3. (Continued).**

| State | Rural Regional Policies | Recommended Case Study | Rationale |
|---|---|---|---|
| | services, mobility management, technology, and passenger amenities. ODOT supports state-contracted gap-filling services (the POINT network) and funding for locally/regionally developed regional services. The North by Northwest Connector is five transit systems that developed a regional network with special branding, utilizing (in part) Section 5311(f) intercity funding provided by ODOT. | but has not replaced them. There has been coordination of fares and a regional visitor bus pass is available, supporting travel in the region between Willamette Valley and the coast. Services are designed to attract multiple types of riders, and strategic partners include 2 tribal confederations; an urbanized area transit system; Greyhound; Amtrak and its thruway bus system; and local towns that are supporting improved pedestrian access and stops. | The CONNECTOR appeals to a wide array of travel needs, from essential options to reach employment or health care, to tourists looking for a way to reach key destinations along the coast or in the valley, and college students and faculty living less dependently on private automobile ownership. |
| Vermont | Following the reduction of intercity services previously provided by Vermont Transit Lines, Inc., and in response to a growth in long-distance commuting, the Vermont Agency of Transportation (VTrans) worked with public transit providers to develop a network of regional connectors timed to link smaller towns with major employment centers. VTrans provided start-up funding using CMAQ funds. After 3 years, continuation funding from the state was provided, based on successful operation as measured against VTrans performance measures. They have been included in the base operations of each of the providers, which are funded by a combination of local funds, state transit funding, federal Section 5307/Section 5311 funding, and other sources. Other regional services have also been developed connecting rural points to employers in larger cities. | The case study includes the state's role in funding and planning regional services, and the local providers of the service. These include the state's urbanized provider, Chittenden County Transit Authority (CCTA) and rural providers Addison County Transportation Resources, Inc. (ACTR), Green Mountain Transit Authority (GMTA), and Rural Community Transportation, Inc. (RCT). Services are branded as LINK schedules (one route is branded as the Route 2 Commuter). Routes connect Middlebury and St. Alban's to Burlington, Burlington to Waterbury and Montpelier, and St. Johnsbury to Barre and Montpelier. Schedules are designed to address commuter needs. Some services are operated jointly, with each partner operating particular trips, while others are entirely provided by a single operator. | These services demonstrate how separate rural systems can work together to provide rural regional commuter services without having to create a regional entity. The services demonstrate different methods of sharing operations while maintaining unique fare structures. The role of the state in using CMAQ funding to support development of the network is also important. |
| Wisconsin | WisDOT administers federal transit programs and provides funding to local rural transit projects and for Section 5311(f) rural intercity services. There is no regulatory barrier to developing rural regional services, and rural regional needs have been identified in local coordination plans. WisDOT has provided support for one particular three-county rural regional system, the Scenic Mississippi Regional Transit (SMRT) system, in southwest Wisconsin. | To retain and expand local businesses, the City of Prairie du Chien worked with surrounding communities to obtain WisDOT funding for a regional transit system feasibility study. The addition of other counties and agencies led to an expansion of the focus of service to include a number of trip purposes. After some setbacks in initiating service, the SMRT system now uses three buses to provide five round trips per day on three regional routes that cross county lines linking key destinations across the region. State and federal funding is critical, but there is also local funding and financial support from private sector business partners. | Documents local identification of a need for regional connections in a rural area, development of regional support through a feasibility study, and implementation of a regional service that connects large employers, major shopping areas, educational institutions, and medical facilities—addressing both work trip needs and senior transportation needs. |

of case studies. In some of the case studies, the state's programs and policies are a main focus, with an example of a rural regional service in that state. In other case studies, there is no particular state support or initiative regarding rural regional transit services, but at the local (regional) level entities have planned or implemented rural regional services that fit within the study focus.

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CHAPTER 4

# Case Studies

## Introduction

Based on the rationale provided in the previous chapter, the following states and services were chosen for regional rural case studies:

1. California: Lake Transit Authority
2. Colorado: Colorado Department of Transportation Statewide Network—Bustang and South Central Council of Governments
3. Iowa: Regional XII Council of Governments Western Iowa Transit—Denison to Harlan Commuter Service
4. Kansas: Statewide Regional Transit Model—Flint Hills Implementation, Transportation Works for Kansas
5. Maine: Portland Intercity Service, ShuttleBus-Zoom
6. Michigan: Alger County Transit
7. Minnesota: Minnesota Department of Transportation—Central Community Transit Implementation "Transit for our Future" Initiative
8. Montana: Flathead Transit and North Central Montana Transit, Regional Connections Fostered Through Community Organizations
9. New Mexico: New Mexico Regional Transit Districts, North Central Regional Transit District
10. Oregon: Oregon Department of Transportation Transit Network Program, North by Northwest Connector Program
11. Vermont: Rural Regional Services—Joint Schedules on Regional Routes
12. Wisconsin: Regional Service in Southwest Wisconsin, Scenic Mississippi Regional Transit Bus

Each of these case studies is presented within this chapter. Chapter 5 addresses the lessons learned from the case studies.

Source: Courtesy of Lake Transit Authority.

***Lake Transit logo.***

## Case Study: California
## Lake Transit Authority


Source: Courtesy of Lake Transit Authority.

***Lake Transit bus.***

### Introduction

Lake Transit Authority (LTA) operates fixed route and demand response public transportation in Lake County, California, with connecting regional bus services in Napa and Mendocino Counties. The agency was created in 1996 and recently celebrated its twentieth anniversary. The overall vision statement is clear and simple: "Mobility for all citizens of Lake County." In order to achieve this, LTA provides different types

of services, including routes that it describes as regional and intercity, that provide connectivity between local services in Lake County and larger destinations (and transit hubs) like Napa (Calistoga, Deer Park) and Mendocino (Ukiah) Counties. LTA uses Section 5311(f) rural intercity funding for its regional services because these services make connections with the national intercity network outside the county, even as they meet regional needs for a variety of trip purposes.

## Organizational Structure

LTA is a JPA under California legislation that facilitates creation of multi-jurisdictional entities to meet public needs. The three components of the JPA are Lake County, City of Clearlake, and City of Lakeport. There is no direct participation from Mendocino or Napa Counties. The LTA is governed by an eight-member board: two members of the County Board of Supervisors, two Lakeport City Council members, two Clearlake City Council members, and two citizens selected by the Lake County Board of Supervisors. This board governs the Lake County/City Area Planning Council, which is the Regional Transportation Planning Agency that allocates and administers Local Transportation Funds and State Transit Assistance funds in the region. It is also the designated Consolidated Transportation Services Agency (CTSA) for Lake County. CTSA coordinates public transit and human service transportation.

LTA contracts for transit management services and a separate contractor provides transit operations and maintenance. There are no public employees involved in managing, operating, or maintaining transit services in Lake County, although there is consideration being given to making the Transit Manager an employee.

## State Context and Policy Development

The State of California provides a regulatory and funding framework that can support regional services by facilitating the creation of JPAs through the designation of regional organizations to allocate and administer state transportation and transit funds, and by designation of regional coordination entities.

The California Department of Transportation's Division of Rail and Mass Transportation (DRMT) utilizes FTA Section 5311(f) funding to provide regional routes for a number of providers. There are currently 33 subrecipients providing regional intercity routes under this program, and program expenditures have grown beyond the 15 percent Section 5311(f) set-aside.

According to DRMT the major limiting factor for further growth in rural regional services is a lack of funding. The existing regional operators in the program are now facing an across the board funding reduction because the state has used previous reserves and is now limited to the 15 percent allocation from the Section 5311 program. Caltrans sees significant demand for funding for these types of regional services, but is unable to meet it at current funding levels. Because Lake Transit is not a unique program in its use of Section 5311(f) funding for regional routes, Caltrans has not provided any special or unique support to Lake Transit, although Caltrans has identified it as an exemplary program of this type.

## Example of Regional and Intercity Services

LTA operates a variety of service types to meet service needs. There are 10 routes: 6 are identified as regional and intercity (see Figure 4–1) and 4 routes are funded in part with Section 5311(f) funding, crossing county lines to make connections with systems in other counties.


Source: Courtesy of Lake Transit Authority.

***Figure 4–1. Lake Transit routes.***

**Route 7 Lakeport–Ukiah** operates four times per day between Lakeport (Lake County) and Ukiah (Mendocino County). In Ukiah, there are connections to Greyhound (at the airport), Amtrak Thruway bus, and Mendocino Transit Authority (MTA). MTA and Amtrak Thruway bus connections are at Pear Tree Center and the airport. There is an express service, with scheduled stops at Mendocino College and Veterans Clinic in Ukiah (as well as the other transportation terminals). LTA accepts transfers from MTA for a $1.00 discount on its fares, and has free transfers to other LTA buses (if the trip is within the same fare zone as the transfer point). The four round trips are not scheduled to serve commuters, though there are morning and evening trips. By having that much frequency, there is good connectivity to Greyhound and Amtrak Thruway buses. Route 7 operates Monday through Saturday. The route is approximately 35 miles long, and one-way travel time is scheduled for just under 90 minutes. At the eastern end of the route, in Lakeport, the Route 7 bus is interlined with Route 4.

**Route 4 Lakeport–Clearlake** provides eight daily round trips in this corridor along the south side of Clear Lake, of which four in each direction offer interlined connections with Route 7. These trips are an extension of the intercity/regional route to the eastern end of the county. This service is funded in part with Section 5311(f) rural intercity funding. Schedules on this route are hourly in the morning and evening, with 2-hour headways for some late morning and later evening trips. One-way running time is about 50 minutes to cover 27 miles. Stop locations are at major intersections and key shopping centers. Service is Monday through Saturday; the last westbound trip and first eastbound trip in the morning do not operate on Saturday.

**Route 3 Clearlake–Deer Park** provides a connection to Napa County, with transfer opportunities to the Napa VINE Route 10 Calistoga Shuttle or to the St. Helena Shuttle in Calistoga.

Transfers are accepted each way between the two systems. This route offers four daily roundtrips, with two of them extending to St. Helena Hospital in Deer Park. The end-to-end scheduled running time is approximately 85 minutes to cover 45 miles for trips that connect Clearlake and Deer Park. Another major destination on the route is Twin Pine Casino. There is also ridership from students and staff at a charter school in Middletown. This route is partly funded with Section 5311(f) rural intercity funding, based on the connection to VINE service and its connection to the intercity network.

LTA lists other routes as regional or intercity, but they do not cross county lines or connect with intercity modes. LTA has several local routes in Lake County, and provides ADA paratransit dial-a-ride services where fixed route service requires it.

## Ridership and User Characteristics

These three routes serve a very rural area. The population of key stops on these three rural intercity routes is presented in Table 4–1. The largest city is Ukiah, with a population of 16,075 in 2010. Clearlake has a population of 15,250. Other stops range in population from just over 1,000 to 5,000.

Table 4–2 presents information about the characteristics of users and trips on three intercity routes and a comparison with the entire system. These regional routes are somewhat different from the overall system. Route 3 and Route 4 provide connectivity to points outside Lake County and also serve educational institutions, accounting for the higher student/college ridership. These longer routes have lower boardings per hour than the system as a whole. Riders on these regional routes are somewhat less transit dependent, and have incomes comparable with those of passengers systemwide. Another major difference is the higher percentage of passengers making long-distance bus connections. Eleven percent of Route 3 and 10 percent of Route 7 riders are making connections, compared with 4 percent systemwide (the same percentage as Route 4, which is entirely within Lake County). Farebox recovery levels are comparable between intercity routes taken as a group and the system, though the Ukiah route has lower ridership (boardings) and farebox recovery.

## Funding

One of the unique things about Lake Transit intercity routes is that they are funded in part with FTA Section 5311(f) rural intercity funding. Like most transit systems, farebox revenue

**Table 4–1. Populations of major stops on Lake Transit Regional Intercity Routes 3, 4, and 7.**

| Stop Location | County | Population |
|---|---|---|
| Ukiah | Mendocino | 16,075 |
| Upper Lake | Lake | 1,052 |
| Lakeport | Lake | 4,753 |
| Kelseyville | Lake | 3,353 |
| Clearlake | Lake | 15,250 |
| Middletown | Lake | 1,323 |
| Calistoga | Napa | 5,155 |
| Deer Park | Napa | 1,267 |

Source: U.S. Census Bureau. American FactFinder, Census 2010 Population.

**Table 4–2. Lake Transit intercity/regional ridership and user characteristics.**

| | Route 3 | Route 4 | Route 7 | System |
|---|---|---|---|---|
| 2008 Ridership[1] | 20,168 | 40,000 | 12,992 | 326,874[4] |
| 2014 Ridership[1] | 21,000 | 38,000 | 17,027 | 335,328 |
| 2015 First Half[2] | 10,372 | 20,065 | 7,509 | 196,461 |
| 2015 Annualized[2] | 20,744 | 40,130 | 15,018 | 392,922 |
| Passengers/Rev Hr. (first half 2015) [2] | 5.77 | 9.17 | 4.16 | 7.18 |
| Farebox Recovery | 19.6% | 24.9% | 9.5% | 19.2% |
| **User Characteristics[3]** | | | | |
| Employed | | | | |
| Full-time | 12 | 15 | 11 | 18 |
| Part-time | 33 | 19 | 33 | 18 |
| Retired | 15 | 7 | 59 | 20 |
| Not Employed | 39 | 59 | 56 | 44 |
| Student Ridership | 45 | 29 | 63 | 31 |
| Income Below $35K | 100 | 92 | 86 | 92 |
| Income Below $10k | 27 | 57 | 60 | 47 |
| Transit Dependent (No car, no license, or neither) | 72 | 85 | 85 | 94 |
| **Trip Purpose** | | | | |
| School/College | 31 | 28 | 45 | 21 |
| Work | 25 | 7 | 20 | 23 |
| Shopping | 11 | 28 | 15 | 26 |
| Recreation | 17 | 17 | 20 | 19 |
| Medical | 8 | 24 | 15 | 17 |
| Social Services | 3 | 17 | 15 | 7 |
| Long-Distance Conn. | 11 | 4 | 10 | 4 |

Sources:
[1] Lake County/City Area Planning Council, Transit Development Plan & Marketing Plan, Final Report, June 2015, pp. 6–4, 6–9, 6–15. Total System Ridership is from 2010–2011, p. 1–6.
[2] Lake Transit Authority 2015–2016 First Half Report, June 11, 2016.
[3] Lake County/City Area Planning Council, Transit Development Plan & Marketing Plan, Final Report, June 2015, pp. 2–5 to 2–11.
[4] 2010–2011.

is the initial source for operating funding, but that leaves a significant net operating deficit. In California, there are a number of potential sources of transit funding for such systems. These include Local Transportation Funds (LTF), generated from a quarter-cent sales tax collected in the county. These funds are used for a variety of purposes in addition to the allocation provided to Lake County Transit. State Transit Assistance (STA) funds are provided by the state from fuel excise taxes. Federal funds administered by Caltrans include the Section 5311 non-urbanized area funding program, utilized by Lake Transit as part of the funding mix. All of these sources are fairly typical for rural transit systems.

Lake Transit is able to use the Section 5311(f) rural intercity funding program for regional intercity routes. These funds are administered by Caltrans through a separate application process. Although Lake Transit does not currently take advantage of it, Caltrans complements Section 5311(f) by providing toll credits for local match for new services. Lake Transit has been able to use Section 5311(f) funds for capital to purchase buses for regional intercity routes, but it has depended on this funding source for operation of its regional intercity routes.

Caltrans requires that routes funded under this program be 50 miles or longer, and has set a ceiling of $300,000 per year per operating grant. Federal guidance for Section 5311(f) calls for services to provide a "meaningful connection" to the national intercity bus network. FTA defines "meaningful connection" in terms of serving common stops with schedules allowing transfers to and from intercity bus services. Lake Transit's Route 7 provides a connection to the Greyhound network in Ukiah (Mendocino County), and on Route 3 to VINE routes that connect to intercity services in Calistoga (Napa County). Route 4 is funded under this program because it provides connections between these two routes. The three routes function together as one long multi-county route. Federal Section 5311(f) requirements stipulate that these funds not be used for commuter services. An examination of Lake Transit schedules for Routes 3, 4, and 7 shows they are designed to make meaningful connections with Greyhound services and Amtrak Thruway buses, with schedules throughout the day to permit a variety of trip purposes, including school/college, shopping, medical, work, and intercity connections.

### Lessons Learned

- Through careful service design, regional routes can be developed that serve a variety of trip purposes and make meaningful connections to national intercity bus services.
- Connectivity through shared stops, scheduling, and fare transfer policies are important elements in developing viable services.
- Even in very rural areas, rural regional intercity services can generate ridership and farebox recovery levels comparable with many local rural fixed route services.

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## Case Study: Colorado

## Colorado Department of Transportation Statewide Network—Bustang and South Central Council of Governments

### Introduction

This case study presents a state DOT that is implementing a state-led approach for the creation of a statewide network of intercity and regional services to provide needed connectivity and transportation choices between rural and small urban places and the state's major urban areas. In the past, Colorado's transit program was completely discretionary with regard to local or regional services. However, as the state became involved in choosing routes and services for a statewide intercity network, it identified regional needs as well and so became more involved


Source: Bustang website, http://www.ridebustang.com/.

***Bustang bus.***

in planning for and then implementing such service. Local initiatives to develop projects that would result in a statewide network often run into institutional issues which the state has helped to overcome.

## Organizational Structure

The Division of Transit & Rail (DTR) in the CDOT "... is responsible for planning, development, operation and integration of transit and rail into the statewide transportation system." It was created by the legislature in 2009, and administers federal and state transit grant programs in Colorado. The state grant program is known as FASTER, and was created by the same legislation that created the transit division. DTR's guiding principles include the creation of more modal choices; increased mobility from connecting networks of local, regional, and intercity services; and partnering with local agencies, transit providers, the private sector, and other stakeholders. These guiding principles have come into play as DTR has taken the responsibility to create a linked statewide network of services that includes local transit agencies, private contractors, and unsubsidized private transit providers.

## State Context and Policy Development

There is history that has led to the DTR taking an active role in creating a statewide network. In the mid-1980s, the state transit program was faced with the loss of all Trailways intercity bus service when the firm pulled out of the state. Although there was also Greyhound service, Trailways had provided a comprehensive network of regional services. Some of these regional intercity routes were replaced by Greyhound and its affiliate Texas, New Mexico and Oklahoma Coach Lines (TNM&O). A number of these routes were funded by CDOT under the FTA rural intercity bus program (initially called Section 18[i], later Section 5311[f]). In addition, some local transit operators developed regional connections to fill gaps. In 2005, Greyhound merged TNM&O into the parent company and eliminated unprofitable routes as part of a national restructuring. The former TNM&O east-west route across the state on U.S. 50, although funded by CDOT, was eliminated, and communities along that route asked CDOT for assistance.

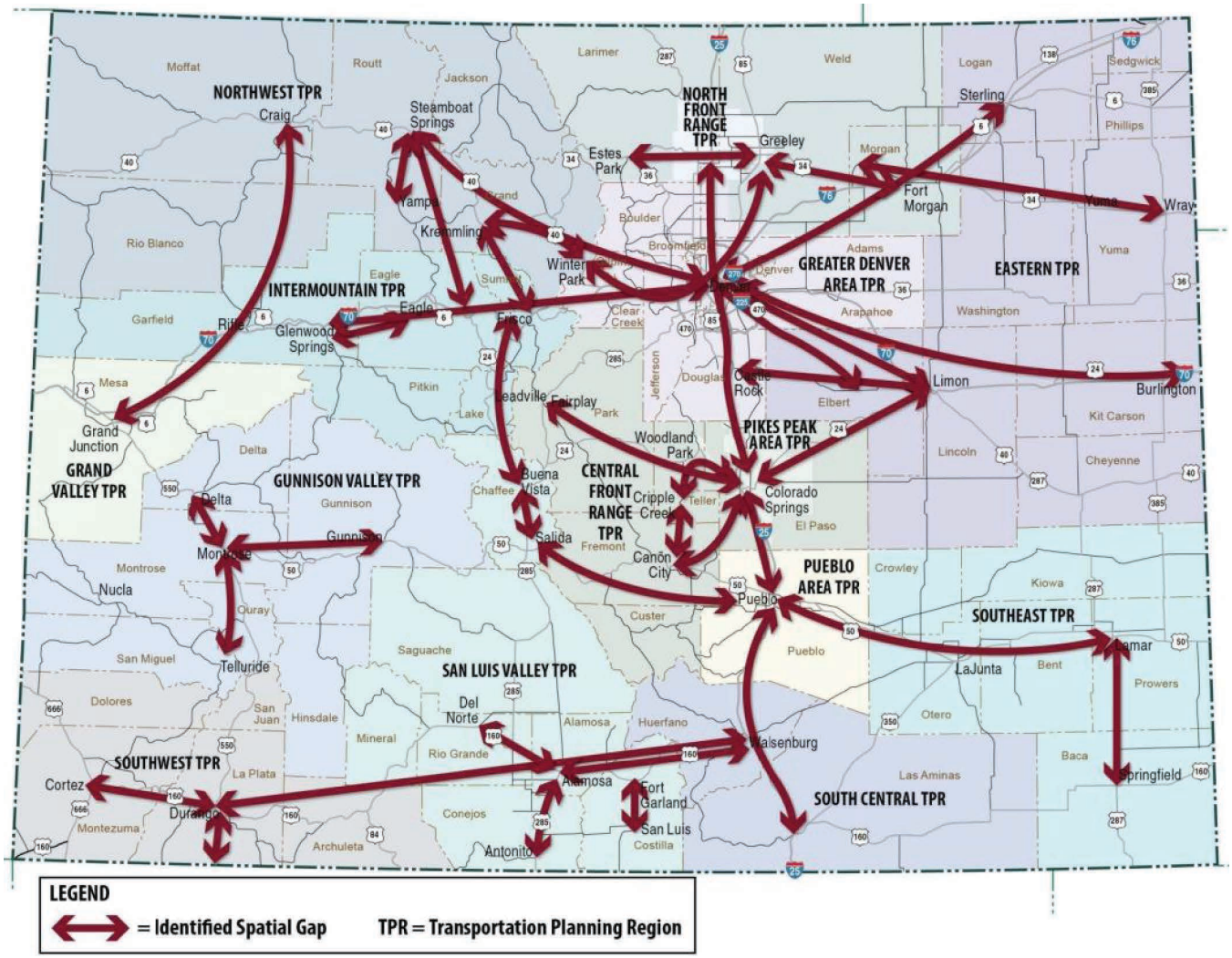
CDOT provided funding for a study of options and eventually led to CDOT issuing a grant solicitation using Section 5311(f) funding for service from Gunnison to Salida to Denver, and for a feeder connection from Pueblo to Salida. Subsequently CDOT developed and issued route specific solicitations for service in the U.S. 40 corridor for service between Denver and Salt Lake City (funded jointly with Utah), support for services to rural points on I-76 in northeastern Colorado, and finally for service on U.S. 50 east from Pueblo to Wichita (jointly funded with Kansas).

To evaluate these services and identify where similar services might be justified in the future, CDOT conducted the Colorado Statewide Intercity and Regional Bus Network Study in 2008. An update was completed in 2014. These studies proposed a statewide intercity network that included services provided by the market and a number of subsidized routes that could be largely funded under Section 5311(f). It also identified a need for a statewide network of regional services. The regional network defined different levels of proposed service depending on the market—with low levels in corridors primarily addressing human service transportation needs, and high-frequency service for commuter services into major employment centers. The regional network included a number of services already provided by local public transit systems, and a substantial expansion of both existing and new services. At that time there was no funding available for these expanded regional services.

Shortly after the 2008 plan, the state legislation reorganized the transit program at CDOT, creating DTR, and providing state funding for some transit projects. Initially the funding

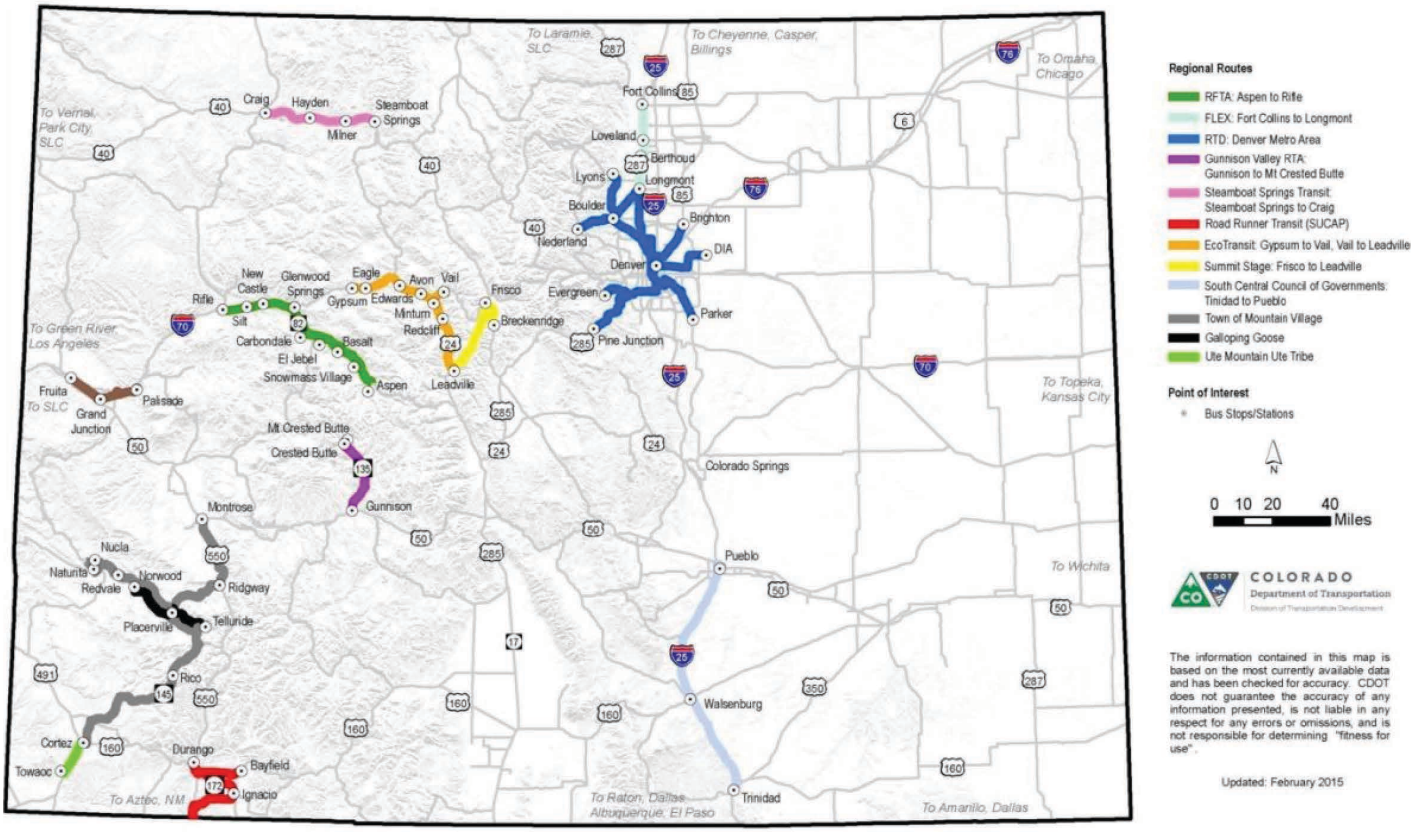
was limited to capital funding and was provided to local systems under a competitive discretionary grant program. It also provided a basis for future transit program development. The other development during this period was the loss of regional commuter service from Colorado Springs into Denver. This service, branded as FREX, ended when a sponsoring local jurisdiction declined to provide needed funding. Therefore, CDOT's update of the statewide regional and intercity bus plan in 2014 included a focus on three items: developing a proposal for CDOT operation of commuter bus service into Denver; maintaining intercity service; and enhancing the rural regional service to complete the network. The plan further defined regional services as those including long-distance commuter service into the urbanized area and rural regional service, thus allowing rural/small town residents to make a one-day round trip to and from regional activity centers, as well as less than daily essential service for human service needs.

Subsequently, the recommendations of this plan were included in the 2015 Statewide Transit Plan, which documented the unmet needs (see Figure 4–2) and the existing services operated by local public transit entities that could be classified as regional services (see Figure 4–3).




Source: *Colorado Statewide Transit Plan*, p. 78.

***Figure 4–2. Statewide regional and inter-regional service gaps.***




Source: *Colorado Statewide Transit Plan*, p. 48.

***Figure 4–3. Regional transit routes in Colorado.***

Following these studies, CDOT moved to implement the commuter bus recommendations, using state FASTER funding now available for operating assistance. The service, under the "Bustang" brand, is operated under contract to CDOT and has been well received. Ridership in the first year exceeded forecasts. Additional planning and strategy development work focusing on the intercity and rural regional network resulted in more detailed route and service proposals. This included potential timetables (to consider potential connections, the possibility of in-kind match, and assessment of duplication of unsubsidized service); a strategy for shifting intercity program routes to competitively bid contracts; and extending the statewide branding concept to rural regional services and the intercity network as Bustang "Outrider" service, with a goal of implementing a connected statewide network. Funding includes the Section 5311(f) allocation with Greyhound in-kind match for maintaining the intercity network, and a combination of shifting of resources and limited state operating funds to initiate rural regional services. There is more state funding available for capital, and CDOT will be purchasing buses to be used for intercity and rural regional services, which will lower operating costs, improve services, and allow common branding.

An example of this approach is the planned development of rural regional services. The overall approach involves developing an RFP process to contract for intercity and new rural regional services, and working with existing operators to determine if and how they can be integrated into the statewide branded network of commuter, intercity, and rural regional bus routes. The example below describes one of the successful existing rural regional services that addresses critical long-distance medical transportation needs as a case study in itself. It also presents some of the issues involved in expanding that service to serve a broader market as part of the statewide

network. It demonstrates the important role of human service agency transportation funding in supporting a rural regional service.

## Example of Regional and Intercity Services

SCCOG Transit is the provider of general public transit services in Las Animas and Huerfano Counties in Colorado. It provides door-to-door demand response service locally, serving senior citizens, persons with disabilities, Medicaid clients, and the general public. Much of the demand (and the local service) is concentrated in the cities of Trinidad (2015 city population 8,153) and Walsenburg (2015 population estimate 2,898).

SCCOG Transit operates a rural regional route 3 days per week from Trinidad through Walsenburg and into Pueblo. Trinidad is 86 miles from Pueblo, and is the county seat of Las Animas County; while Walsenburg is 50 miles from Pueblo and is the county seat of Huerfano County. The regional route is open to the general public, and generates approximately 1,500 (1,522 in 2015) round trips per year. The service provides door-to-door service at origin towns and at the destinations. The regional route starts picking up riders at approximately 8:45 a.m., and may also pick up passengers in Aguilar on the way to Walsenburg. It is scheduled to arrive in Pueblo between 10:45 a.m. and 11 a.m., and begins pickup in Pueblo at 3:00 p.m. leaving by 3:30 p.m. (or whenever the last rider's appointment ends), arriving at the end of the run at about 5:30 p.m.

The existing service uses the full capacity of the 12- to 14-passenger accessible cutaway small bus used by SCCOG, particularly when there are persons with mobility devices on board (see Figure 4–4). The buses used by SCCOG on this route are fueled by natural gas.

They average 9 to 10 passengers per trip, so buses are generally full, and there are peaks that fill the bus. Approximately 15 percent of riders pay a cash fare ($7.00 from Trinidad, or about $0.08 per mile). The remaining riders have their trips paid for by Medicaid or the Area Agency on Aging. About 45 percent of passengers are on Medicaid, 12 percent are in the Area Agency on Aging program (over 60 years of age), and about 3 percent are clients of the Las Animas County Rehabilitation Center. Medicaid funding is very important for supporting this service. In Colorado, Medicaid will pay for client transportation when it is provided on a multi-passenger vehicle for more than one member at a time. The member travelling the furthest distance is reimbursed at the full rate, the member travelling the second furthest distance is reimbursed at one-half of the rate, and any additional members are reimbursed at one-quarter of the rate. If there are several Medicaid client members on a trip, a significant portion of the cost is covered by Medicaid. The Medicaid program benefits as well, with significant cost savings over sending the members individually.

Source: SCCOG.

***Figure 4–4. Cutaway bus used by SCCOG.***

The route between Trinidad, Walsenburg, and Pueblo on I-25 is also served by Greyhound Lines, though the service has been substantially reduced and now consists of two northbound departures from Trinidad at 7:05 a.m. and 2:00 p.m., with the second bus stopping in Walsenburg at 2:40 p.m. Arrivals in Pueblo are at 8:35 a.m. and 3:35 p.m. Southbound from Pueblo there is a single Greyhound bus leaving Pueblo at 2:55 a.m., arriving in Walsenburg at 3:50 a.m. and in Trinidad at 4:30 a.m. These schedules would not allow anyone from Trinidad and Walsenburg the option of a day trip to Pueblo, particularly because the return trip would have to take place in the early morning hours of the following day. Because of the schedule, SCCOG service does not compete with Greyhound even though they serve the same points.

The CDOT Regional and Intercity Plan recognized the success SCCOG has had in providing this rural regional service on a scheduled basis, open to the general public, and it proposed building on it as part of the overall state network. The CDOT proposal calls for providing a larger vehicle, a 30-seat coach with lift and at least two wheelchair positions, to allow for a larger load. In addition, the CDOT vision would provide funding to expand the frequency to 5 days per week, which SCCOG estimates would increase ridership from 1,500 trips per year to between 2,500 and 3,000 trips per year. CDOT's estimate of potential demand is approximately 3,900 trips per year for the expanded service. The CDOT proposal would utilize the transit center in Pueblo (which is also served by Greyhound) as a stop. A route with a similar coach on a similar schedule would eventually be funded to operate from Lamar to Pueblo, meeting the Trinidad bus at the Pueblo transit center. One of the buses would do local drop-offs (and afternoon pick-ups) in Pueblo, while the other bus would continue to Colorado Springs to a timed connection with a Bustang schedule to Denver. The expanded SCCOG service would continue to be operated by the same agency, but vehicle and information would be branded as part of the statewide network. Ticketing would continue to include cash fares, and the option to use a credit card or smartphone payment would be available as part of the statewide system.

The CDOT proposal offers a significant expansion of service and capacity and the potential to serve a broader public. It also illustrates a number of the service planning issues that can arise when developing rural regional services. These include the following:

- **Local pick-up**: The larger bus may offer more capacity, but there are questions about whether it can access neighborhoods to do pick-ups at individual residences. With more riders, the time required for service may be too great, making it difficult to make the schedule and subjecting riders to very long pick-up and drop-off rides. A transfer from a separate local small bus or van might be required if the service expands, potentially making the trip more difficult for some users.
- **Local distribution in Pueblo**: A similar issue exists at the other end of the trip. Could a larger vehicle access the medical offices? Would the distribution process for a larger group take too long (particularly if it included riders from the Lamar bus)?
- **Fare payment**: SCCOG believes that most passengers who would be paying a fare do not have credit cards or smartphone apps that would allow them to purchase tickets over the internet, or to pay by phone on boarding. Cash at the farebox will still be needed as a payment method.
- **Continuation of Medicaid usage/funding**: The service is intended to address travel needs that include the need for Medicaid NEMT trips to Pueblo. With limited state funding for operations, CDOT would like to provide incremental funding to expand service, rather than supplant existing Medicaid funding. A concern is that the Medicaid program may decide that this service is a type of intercity bus service, and purchase tickets in lieu of the current funding method. The Medicaid program goal is to provide trips for its members, who have no other transportation, with the least cost to the program.

SCCOG staff has expressed interest in the concept of including service in the statewide network, and has identified these as critical issues in maintaining the existing rural regional service

base. Recognizing that there is already some service in this corridor, and that there are issues to be resolved, CDOT has listed this route to be considered for inclusion in the branded Rural Regional network in FY2017–2018 or the following year.

### Lessons Learned

- Both local and state level planning have identified rural regional needs. There is ongoing involvement in the planning process across levels, with local transit providers and planners participating in the development of state proposals for new service, and state support and involvement in local service planning.
- To a much greater extent than most states, there is direct state involvement in the design and implementation of regional services, as exemplified by the CDOT operated Bustang commuter bus service, but also found in CDOT planning for a statewide network that will include rural intercity bus routes and rural regional services.
- The existing SCCOG rural regional route provides a service open to the general public, but its ridership and funding base is human service agency/medical trips that are funded by agencies.
- Including human service agency services requires considering service planning issues, scheduling, capacity, accessibility, pick-up, drop-off, and the requirements of the agency funding programs if this source of support is to continue. It is a goal of CDOT to meet both kinds of needs if possible, with the two types of service combined to create a stronger base.

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## Case Study: Iowa

## Region XII Council of Governments Western Iowa Transit—Denison to Harlan Commuter Service

### Introduction

This rural transportation service, operated by Region XII's Western Iowa Transit, was included as an example of the creative use of multiple funding sources to address a need for a regional service. One-half of the funding comes from a Community Development Block Grant (CDBG) administered by the Iowa Economic Development Administration, 37.5 percent of the funding is from a private employer, Monogram Foods, in Harlan, Iowa, which is in Region III, and riders' fares make up the remaining 12.5 percent of the program funding.

Monogram Foods Solutions, LLC, founded in 2004, purchased the Harlan plant in 2013. They produce and distribute packaged meat products, snacks, and appetizers. Based in Memphis, Tennessee, they have facilities in Bristol, Indiana; Harlan, Iowa; Chandler, Minnesota; Schulenburg, Texas; Martinsville, Virginia; and Plover, Wisconsin.

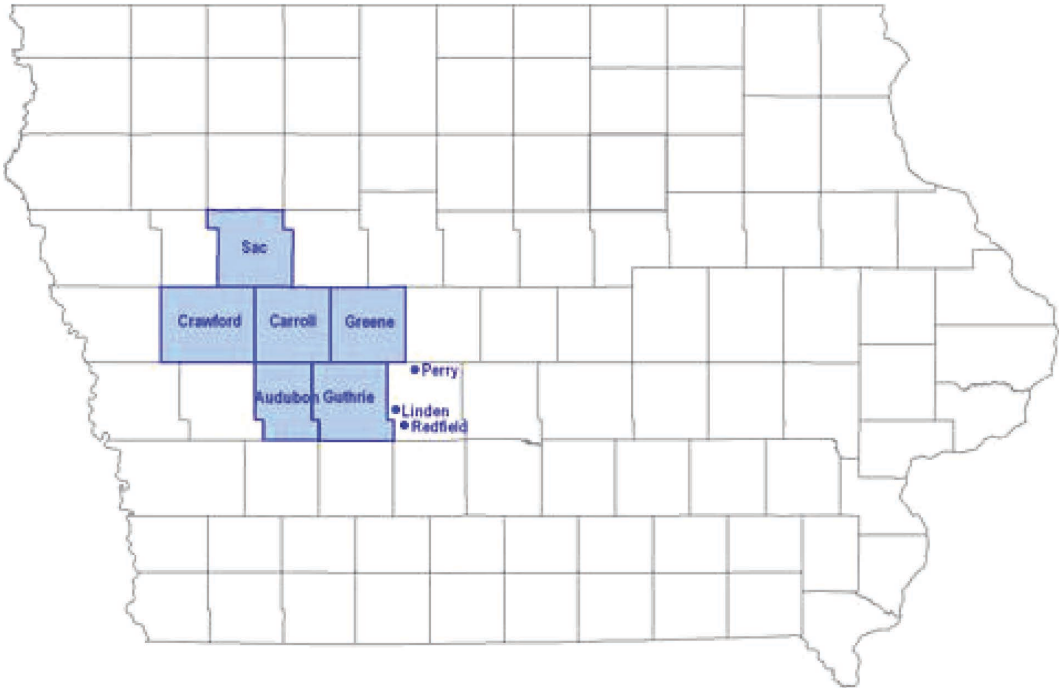
Source: Courtesy of Region XII Council of Governments, Inc.

***Figure 4–5. Region XII Council of Governments building in Carroll, Iowa.***

## Organizational Structure

The Region XII Council of Governments (COG) was organized in 1973 to assist local governments in Audubon, Carroll, Crawford, Greene, Guthrie, and Sac Counties in western Iowa (see Figure 4–5). Originally chartered to serve grant-writing and planning needs for the area, the COG has grown into the agency that facilitates multi-community collaboration and development of all types. Region XII COG has three departments: Local Assistance, Workforce Development, and Western Iowa Transit.

Today, Region XII COG is the transportation planning authority for the region. Western Iowa Transit provides on-demand transportation services in Audubon, Carroll, Crawford, Greene, Guthrie, and Sac Counties. Figure 4–6 shows the location of Region XII in Iowa.




Source: Courtesy of Region XII Council of Governments, Inc.

***Figure 4–6. Region XII in Iowa.***

## State Context and Policy Development

Iowa has a long history of regionalizing its transit services, beginning in 1976. Today, Iowa has 99 counties divided into 16 regions. Within each region, a designated transit system or agency is responsible for administering and providing transit service. Service within each rural region is demand response transportation. County governments decide on the level of service within their county. Despite the regional organization of transit, there are few examples of rural regional transit routes crossing county lines or linking different regions. Iowa DOT also uses Section 5311(f) intercity bus funding to support rural intercity routes that provide connectivity to the major cities and the national intercity bus network. However, there is no particular defined source of funding for regional routes; if a local need is identified, then the county or region is free to address it within the available programs and funding.

The ability to implement the regional route described in this case study arose in part because of a change in policy by a different state agency. The Iowa Economic Development Authority (IEDA) updated its federal CDBG program to allow funds to be used for transportation to employment. Through the Career Link program, transportation services that remove barriers to employment are eligible. Individuals living in non-entitlement communities can receive transportation services to job activities and adult educational training opportunities. The Career Link program is under the CDBG Job Creation, Retention, and Enhancement Fund.

## Example of Regional and Intercity Services

A recent example of the development of a rural regional service in Iowa is the planning and funding for Denison to Harlan commuter service in Region XII. Tysons Foods closed its meat packing plant in Denison, leaving approximately 400 people looking for new employment. During discussions on how to meet the needs of those workers, the Region XII COG realized that 27 miles south in Region III, Monogram Foods was looking for new employees (see Figure 4–7). Crawford County, where Denison is located, has an unemployment rate of 5.4 percent of the civilian non-institutionalized population age 16 and older. Harlan, in Shelby County where Monogram Foods is located, has an unemployment rate of 2.8 percent and a smaller labor force.

Western Iowa Transit had already been running vanpool commuter service, through its JobJet program in Denison, to the Tyson plant for several years. At the time of the plant closing, it had two full vans serving the plant. Based on this JobJet commuter service, Western Iowa Transit proposed a regional transit service to link approximately 80 employees with a new job site at Monogram Foods in Harlan.

Source: Monogram Website, http://www.monogramfoods.com/locations/.

***Figure 4–7. Monogram Food's Harlan location.***

**Table 4–3. Land area and population for Crawford and Shelby Counties.**

| Area | Total Population | Total Land Area (Square Miles) | Population Density (Per Square Mile) |
|---|---|---|---|
| Crawford County, IA | 17,259 | 714.19 | 24.17 |
| Shelby County, IA | 12,034 | 590.78 | 20.37 |
| Iowa | 3,078,116 | 55,856.86 | 55.11 |
| United States | 314,107,083 | 3,531,932.26 | 88.93 |

Source: U.S. Census Bureau. American Community Survey, 2010–14, Source geography: Tract.

The new shuttle service to the Monogram plant has three departure times, serving the three shifts, 5:00 a.m., 6:00 a.m., and 2:30 p.m. The return trips depart at 3:45 p.m., and 12:45 a.m. They have 80 employees who use the service; trips cost $1.00 per day per employee. Service departs from the Walmart parking lot in Denison and arrives at the Monogram plant about 40 minutes later. The shuttle service is posted on Region XII COG's website and is open to the public. The shuttle started running in March 2016.

## Ridership and User Characteristics

Region XII's six counties cover 3,462 square miles in west central Iowa. The combined total population is approximately 74,084 and it has a combined population density of 21.4 people per square mile. Table 4–3 provides land area and population for Crawford and Shelby Counties.

Table 4–4 provides a demographic comparison of the two counties. Crawford County is slightly larger, with a slightly larger labor force and higher unemployment rate.

## Funding

A unique combination of funding supports the service. The IEDA is funding 50 percent through the Career Link program, Monogram Foods is funding 37.5 percent, and rider fares are expected to support the remaining 12.5 percent. The Career Link program, part of Iowa's CDBG program's Job Creation, Retention, and Enhancement Fund, is an industry driven program investing in training and transportation to help low and moderate income individuals obtain employment.

**Table 4–4. Crawford and Shelby County demographic comparison.**

| County | Population | Land Area (Square Miles) | Population Density (Per Square Mile) | Percent Population Non-White | Percent Population Age 65 or More | Percent Population with a Disability | Median Family Income | Labor Force | Number Unemployed | Unemployment Rate |
|---|---|---|---|---|---|---|---|---|---|---|
| Crawford County | 17,259 | 714.19 | 24.17 | 8.45% | 16.93% | 12.19% | $56,820 | 8,989 | 489 | 5.4% |
| Shelby County | 12,034 | 590.78 | 20.37 | 3.43% | 21.90% | 15.08% | $63,522 | 7,068 | 200 | 2.8% |

Sources: U.S. Census. American Community Survey, 2012–2014; U.S. Department of Labor Statistics, 2016.

The Career Link program provides grants to non-entitlement cities (populations under 50,000) or counties. The funds flow through local government to a non-profit transportation entity providing transportation services predominantly to low to moderate income individuals that reside in non-entitlement communities. Eligible activities include operation of transportation services to job activities and adult educational training and instructional opportunities. The maximum grant award for employment related transportation projects is $150,000, with a 50-percent cash match required. Matching funds can be a combination of funds from participating businesses, and local, state, and federal funds.

Thanks to the support from the IEDA and Monogram Foods, 90 people are able to access employment and a new regional route between Denison and Harlan is available to the general public.

The CDBG program is an entitlement program under the U.S. Department of Housing and Urban Development (HUD). HUD's website states that "the program works to ensure decent affordable housing, to provide services to the most vulnerable in our communities, and to create jobs through the expansion and retention of businesses."

According to the U.S. Office of Community Planning and Development's National Expenditure Report for all CDBG disbursements in FY2015, 0.12 percent or $3,796,980 of the national CDBG funds were spent on transportation services.

## Lessons Learned

- This example of rural regional services demonstrates a process for identifying a particular rural regional need, identifying stakeholders, developing a service plan, and obtaining funding from non-traditional sources that may be required to implement rural regional services.
- As stated by Chris Whitaker, Local Assistance Director of the Region XII COG: "It is important to be open minded, listen to the employer and the employees' needs and try and adapt your services to meet some of their needs."

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Source: https://www.facebook.com/FlintHillsATAbus/photos/.

***Logo for a Flint Hills ATA bus stop.***

# Case Study: Kansas

## Statewide Regional Transit Model—Flint Hills Implementation and Transportation Works for Kansas

### Introduction

The Transportation Works for Kansas (T-WORKS) transportation program is state legislation that supports and encourages a regional approach to transportation across sectors. As part of T-WORKS, the KDOT public transportation program unit assembled a study team consisting of KDOT representatives and the consulting teams of Olsson Associates, SRF, and URS to develop a plan titled KDOT Regional Transit Business Model Implementation. This plan redefined the regional boundaries based on current travel patterns, creating ten Coordinated Transit Districts (CTDs). Nine of the ten CTDs have primarily rural-focused districts, which are the focus of the implementation plan. The tenth district is urban and comprises Douglas, Johnson, Shawnee, and Wyandotte Counties. Figure 4–8 shows the new CTD boundaries.

Previously, Kansas was broken up into 15 CTDs. Within each CTD, stakeholder teams composed of transit providers, city and county officials, medical providers, and social agencies were created. KDOT staff facilitates regular meetings of the teams and offers incentives to the teams for implementing the rural regional strategies outlined in the implementation plan.

Source: Flint Hills ATA Bus Facebook Page, https://www.facebook.com/FlintHillsATAbus/.

***Flint Hills ATA bus.***

Source: Transportation Works for Kansas website, http://tworks.ksdot.org/.

***Logo for Transportation Works for Kansas.***

### State Context and Policy Development

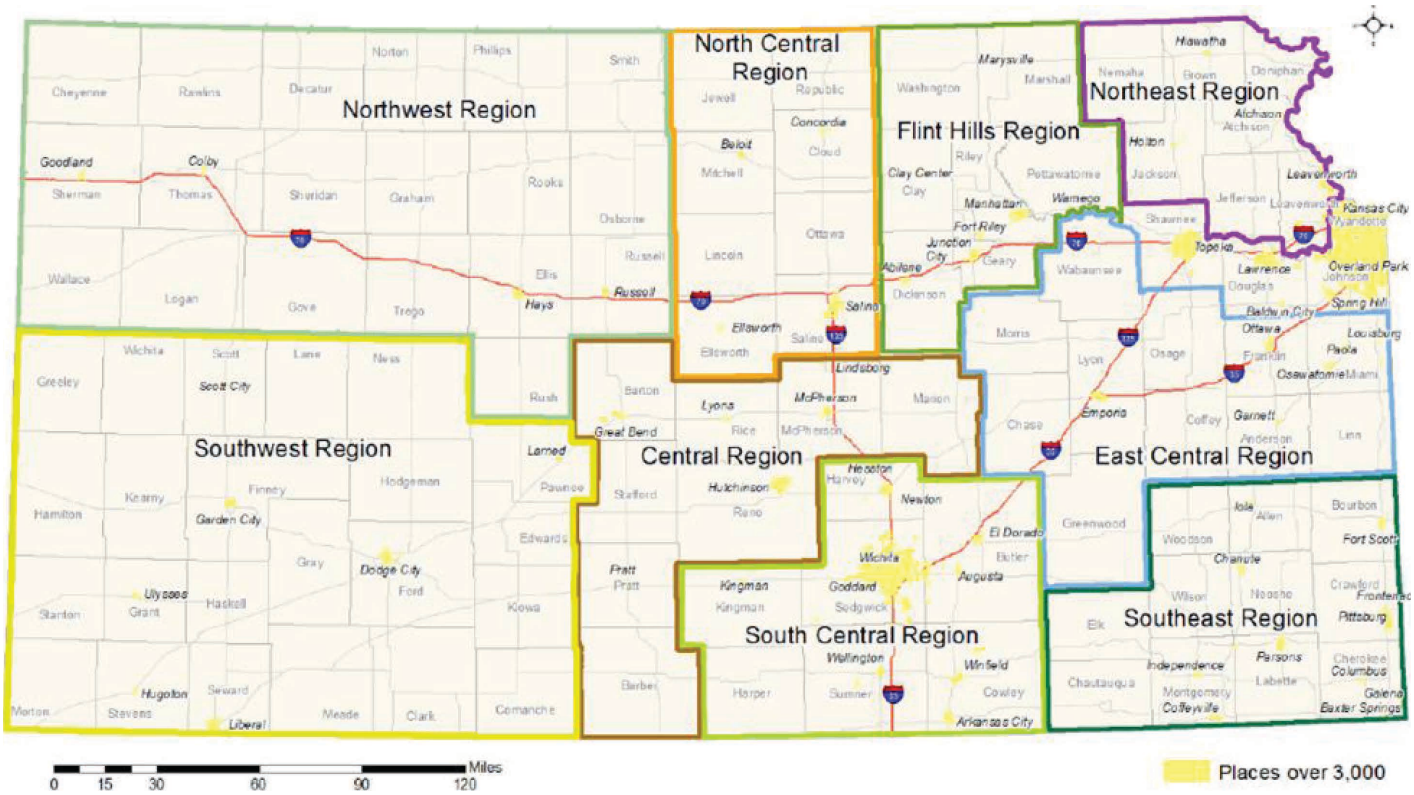
In 1992, the Kansas CTD law formalized the regional transportation coordination effort. The T-WORKS transportation program, signed into law by the Kansas state legislature in May 2010, provided a financial investment to advance coordination beyond current localized efforts. The T-WORKS transportation program is a 10-year, 8 billion dollar transportation program designed to create jobs, preserve highway infrastructure, and provide multimodal economic development opportunities across the state.

In 2014, the KDOT Office of Public Transportation published KDOT Regional Transit Business Model Implementation with strategies for the provision of transit services throughout rural Kansas that make the most efficient use of the additional transit funding made available by the state legislature as part of the T-WORKS transportation program.

Led by KDOT's Office of Public Transportation staff, each CTD stakeholder team, and a state study team met four times over the course of a 2-year period to develop KDOT Regional Transit Business Model Implementation that details strategies to support the regional transit approach. The KDOT Office of Public Transportation recognized that regional coordination initiatives take time and require partnerships. It worked to develop partnerships with all the key stakeholders in each CTD and allowed enough time for trust to build among the partners. The additional resources and flexibility between CTDs helped as well.

### State Regional and Intercity Support

KDOT Regional Transit Business Model Implementation offers multiple implementation strategies for the CTDs. While specific strategies and elements are tailored to individual CTDs, there are some consistent strategies offered across the state. The implementation plan strategies include offering the CTDs coordinated dispatch software, new intercity routes, and mobility management staff. The KDOT team offers technical and financial support to the CTDs and suggests using the following strategies to implement rural regional transit:




Source: KDOT Regional Transit Business Model Implementation.

***Figure 4–8. New CTD boundaries.***

- **Regional routes.** Allow multiple providers to coordinate, combine, and share trips, while preventing duplication.
- **Coordinated scheduling.** Utilizes Global Positioning System (GPS), vehicle-based tablets, and scheduling software to give providers detailed information of other trips in their area.
- **Mobility management.** Gives transit providers a regional resource for driver or rider training and facilitates administrative transit connections between transit providers, employers, medical centers, and social agencies.
- **Regional governance structure.** Provides a framework to make service and funding decisions related to regional transit, including oversight, financial participation, legal context, and regional branding.
- **Branding elements.** Convey the connection between the provider, the CTD, and KDOT public transportation program to the public.

During the 2-year development of Regional Transit Business Model Implementation, the KDOT public transportation program unit and representatives from consulting teams formed stakeholder committees for each CTD and conducted information gathering meetings in each region; they collected data and established project visions and goals. Each region developed an action plan that narrowed the broader strategies to the most promising and appropriate, relative to the characteristics of their area and the resources available.

As part of the implementation plan the KDOT Office of Public Transit procured coordinated dispatch software for six lead agencies in six of the ten CTDs. This software can be utilized by all transit providers in a CTD to enhance coordination and scheduling. Working with Reveal Management Services, Inc., KDOT installed a statewide technology infrastructure to enable

transit agencies to share knowledge, information, and resources. Reveal was implemented as the centralized paratransit scheduling and dispatching system. The latest software implementation enabled automated vehicle tracking and mobile data functionality across the state to provide better customer service and maximize cost efficiencies.

## Funding

Public transportation in Kansas is supported by the FTA, state, and local funding programs. These federal and state funding programs, which are augmented by local match, provide funding for the 83 general public transit service providers and 59 transit providers that service older adults and people with disabilities throughout Kansas. Figure 4–9 illustrates the state and federal CTD operation costs for FY2015.

The T-WORKS program ensures that every county in Kansas receives $8 million dollars in transportation investment, made up of highway preservation, highway expansion and modernization, aviation, transit, and rail projects. Transit services are allocated $100 million of the $8 billion over the 10 years of the program. As a result, transit funding in Kansas increased from $6 million to $11 million annually starting in 2013.

**State/Federal Public Transit Programs - Contracts**

**FY 2015 Coordinated Transit District (CTD) Operating**

| Coordinated Transit District (CTD) Operating | Counties Served | Total Operating Costs | Local Share | State Share | Federal Share | Total Vehicle Costs | Local Share | State Share | Federal Share |
|---|---|---|---|---|---|---|---|---|---|
| Urban Corridor Coordinated Transit Council (CTD 1) | Douglas, Johnson, Leavenworth, Wyandotte | $407,569.75 | $123,139.78 | $116,624.00 | $167,806.00 | $314,201.00 | $62,840.20 | $0.00 | $251,360.80 |
| Central Kansas Coordinated Transit Council (CTD 2) | Barber, Barton, Marion, McPherson, Pratt, Reno, Rice, & Stafford | $1,947,140.07 | $586,321.30 | $369,430.80 | $991,388.00 | $628,746.00 | $125,749.20 | $0.00 | $502,996.80 |
| Northeast Kansas Coordinated Transit Council (CTD 3) | Atchinson, Brown, Doniphan, Jackson, Jefferson, Leavenworth, Nemaha | $1,183,724.86 | $331,319.46 | $193,940.40 | $658,465.00 | $204,665.00 | $40,933.00 | $0.00 | $163,732.00 |
| Flint Hills Coordinated Transit Council (CTD 4) | Clay, Dickenson, Geary, Marshall, Pottawatomie, Riley, Washington | $2,381,318.22 | $728,659.80 | $409,260.88 | $1,243,397.54 | $740,541.00 | $148,108.20 | $0.00 | $592,432.80 |
| East Central Coordinated Transit Council (CTD 5) | Anderson, Chase, Coffey, Franklin, Greenwood, Linn, Lyon, Miami, Morris, Osage, Wabaunsee | $1,775,231.96 | $544,229.17 | $317,281.20 | $913,721.60 | $706,018.00 | $141,203.60 | $0.00 | $564,814.40 |
| Southwest Kansas Coordinated Transit Council (CTD 6) | Clark, Comanche, Edwards, Finney, Ford, Grant, Gray, Greeley, Hamilton, Haskell, Hodgeman, Kiowa, Lane, Kearney, Meade, Morton, Ness, Pawnee, Scott, Seward, Stanton, Stevens, Wichita | $2,426,732.58 | $688,035.78 | $417,692.80 | $1,321,004.00 | $322,581.00 | $64,516.20 | $0.00 | $258,064.80 |
| North Central Kansas Coordinated Transit Council (CTD 7) | Cloud, Ellsworth, Jewell, Lincoln, Mitchell, Ottawa, Republic, Saline | $2,785,986.64 | $826,371.25 | $517,776.40 | $1,441,839.00 | $429,154.00 | $85,830.80 | $0.00 | $343,323.20 |
| Northwest Kansas Coordinated Transit Council (CTD 8) | Cheyenne, Decatur, Ellis, Gove, Graham, Logan, Norton, Osborne, Phillips, Rawlins, Rooks, Russell, Sheridan, Sherman, Smith, Thomas, Trego, Wallace | $1,512,087.82 | $428,109.22 | $264,157.60 | $819,821.00 | $331,520.00 | $66,304.00 | $0.00 | $265,216.00 |
| South Central Kansas Coordinated Transit Council (CTD 9) | Butler, Cowley, Harper, Harvey, Kingman, Sedgwick, Sumner | $1,713,643.14 | $522,381.36 | $312,666.80 | $878,595.00 | $924,391.00 | $184,878.20 | $0.00 | $739,512.80 |
| Southeast Kansas Coordinated Transit Council (CTD 10) | Allen, Bourbon, Chautauqua, Cherokee, Crawford, Elk, Labette, Montgomery, Neosho, Wilson, Woodson | $2,339,395.02 | $729,532.52 | $424,982.80 | $1,184,879.70 | $490,335.00 | $98,067.00 | $0.00 | $392,268.00 |
| | TOTAL: | $18,472,830.08 | $5,508,099.63 | $3,343,813.68 | $9,620,916.85 | $5,092,152.00 | $1,018,430.40 | $0.00 | $4,073,721.60 |

*These amounts include all federal and state operating monies given to the CTDs, CTD Federal Administration dollars and 5310 State operating expenses.

Source: Appendix to the KDOT's 2016 Annual Report.

***Figure 4–9. CTD operating revenue FY2015.***

| Category | Annual Funding | Additional Information |
|---|---|---|
| Urban Transit | $5,491,200 | The distribution will be based on the following formula: 40% ridership, 40% population and 20% mileage. Funding formulas will be recalculated annually, using a three-year rolling average with a 24-month delay. |
| Rural Transit | $2,956,800 | The rural funding formula will be revisited after the regional pilot projects are completed. |
| Elderly and Disabled | $352,000 | T-WORKS will create a separate fund for elderly and disabled transportation. Four percent of the formula funds will be used for specialized transportation. Distribution of funding has not been determined. |
| Commuter | $825,000 | Funding will be distributed annually through a discretionary program that enhances or promotes innovative and sustainable commuter services. Project application/selection criteria pending. Projects will be selected for FY 2014 in late 2012. |
| Regional Transit Approach | $1,375,000 | Funding will be utilized for:<br>Operations<br>Administration<br>Technology<br>Vehicle Purchase<br>Maintenance Facility Construction<br>Stops/Shelters/Signage |
| TOTAL | $11,000,000 | |

Source: T-WORKS Transit Program fact sheet, KDOT website: http://kdotapp.ksdot.org/TWorks/docs/doing-biz_transit.pdf.

***Figure 4–10. T-WORKS transit funding allocations from 2010.***

Transit funding formulas are recalculated annually. Figure 4–10 illustrates the new transit funding allocations. This includes approximately $1.3 million for supporting regional transit approaches.

The KDOT public transportation program unit utilized the increased state dollars from the T-WORKS Transit Program to offer funding to the CTDs for hardware and personnel for (a) coordinated scheduling, staffing, and administration and (b) operations and capital for intercity services. Figure 4–11 illustrates the preliminary allocation of the KDOT funding available to support the strategies to implement rural regional transit.

## Example of Regional and Intercity Services

The Flint Hills Area Transportation Agency, Inc., (Flint Hills ATA) is a private non-profit corporation founded in 1976 by a group of county residents concerned about a lack of public transportation. As a stakeholder in the Flint Hills CTD, it is one of the early adopters of KDOT Regional Transit Business Model Implementation. In 2014, the Manhattan urbanized

| Strategy | | 1st Year | | After 1st Year | |
|---|---|---|---|---|---|
| | | Federal/State | Local | Federal/State | Local |
| Coordinated Scheduling | Software / Hardware | 100% | 0% | 100% | 0% |
| | Personnel | 80% | 20% | 80% | 20% |
| Mobility Manager | Personnel and Administration | 100% | 0% | 80% | 20% |
| Intercity Services | Operations | 70% | 30% | 70% | 30% |
| | Capital | 100% | 0% | 80% | 20% |

Source: KDOT Regional Transit Business Model Implementation.

***Figure 4–11. KDOT match allocation for regional strategies.***

area became eligible to receive Section 5307 funds. As a result, the Flint Hills Regional Transit Administration was established to serve as the designated recipient of Section 5307 funds.

Through the implementation plan, the Flint Hills CTD engaged the Kansas University Transportation Research Center to complete a 2015 feasibility study to examine the achievability of fixed route transit service in Junction City and across the river and jurisdictional boundaries to Grandview Plaza, Kansas. The study area consisted of approximately 14 square miles, including the city limits for Junction City and Grandview Plaza, as well as the connecting intercity transit service which links Junction City to Manhattan. Flint Hills ATA had been operating the existing demand response transit service separately in Junction City and Grandview Plaza from 2010 to 2015 with a steady increase in ridership.

Source: https://www.facebook.com/FlintHillsATAbus/photos

***Flint Hills ATA Bus, 2015, Transit Day at the Kansas Capitol.***

The Junction City/Grandview Plaza Fixed Route Feasibility Study was supported by multiple Flint Hills CTD stakeholders including, the Flint Hills ATA, Geary County Commission, KDOT staff, and a 20-member advisory committee. Based on the study, and resources from T-WORKS, a fixed route service crossing the Smokey Hill River and jurisdictional boundaries was established in key areas of Junction City and Grand View Plaza. This route was integrated into the larger tri-county regional transit system going 25 miles north to Manhattan, Kansas. It increased connectivity across the region.

The tri-county services also started as part of KDOT Regional Transit Business Model Implementation. In 2011, Flint Hills ATA began a pilot program in partnership with KDOT to add additional regional services. These buses ran outside the normal City of Manhattan-Riley County demand response services. They were expanded into portions of western Pottawatomie County, Geary County (Junction City), and Fort Riley. The pilot program ran from February 2011 through April 2012, at which time the pilot ended and ATA partnered with Geary, Pottawatomie, and Riley Counties to continue the regional services as part of their regular 5311 services. Regional routes now include "The Intercity Shuttle," which operates weekdays between Manhattan-Fort Riley and Junction City, and the Wamego-Manhattan service. These are operated as demand response (reservation required) in these corridors, with fixed stops in Fort Riley. Demand response ridership in 2011 (March to December) was 3,818. Ridership increased to 6,115 in 2012 and to 8,124 in 2013, a 33 percent increase from 2012 to 2013. Ridership for 2014 through April was 3,434, a 22-percent increase in ridership over the same time the year before.

KDOT purchased a vehicle for the new Manhattan to Wamego route, representing the first regional route and first vehicle purchased with T-WORKS regional transit dollars. Mobility managers have also been hired (through the T-WORKS program) in the Flint Hills Region through a partnership with the Flint Hills Regional Council and KDOT. Mobility manager personnel and administrative expenses are reimbursed at 100 percent for the first year and 80 percent after that with T-WORKS regional transit dollars.

## Outcomes and Future Outlook

KDOT's regional transit business model initiative resulted in multiple projects that are underway in regions across the state, with more to come. Regional routes are now operating in multiple CTDs making the following connections:

- Emporia to Topeka
- Emporia to Andover, El Dorado, and Wichita
- Manhattan to Wamego

The KDOT Office of Public Transit procured coordinated dispatch software for the lead agencies in each CTD. This software can be utilized by all providers in a region to enhance coordination and scheduling.

KDOT reports in their KDOT Regional Transit Business Model Implementation that by encouraging regional coordination and supporting mobility management, transit services will be provided using fewer resources, thus allowing Kansas transit providers to deliver more rides to people in need. They also report that increasing the amount of available transportation in rural areas will help increase the economic prosperity and health of the region. People in rural areas will be able to access more employment, healthcare, and educational opportunities, resulting in increased economies in rural areas and enriched lives for rural residents.

In the South West CTD, as a part of the T-WORKS regional effort, Dodge City was identified as a community with a need for fixed route transit. In May 2015, a mobility manager was hired and operation of three fixed route bus services began.

Since the passage of the T-WORKS in 2010, transit ridership in the rural areas increased 21 percent. In 2014, transit ridership increased 7 percent, providing more than 12 million rides.

The CTDs will continue to be supported by the KDOT Office of Public Transit until 2020. In FY2015, KDOT allocated $11 million for public transit across the state. By 2020, the tools and infrastructure will be in place to continue the regional services developed and implemented by this plan.

According to KDOT, the major factor inhibiting development of additional regional services is the need for local funding participation. Because of the state incentives that include funding for the local share of vehicles for regional services and regional mobility management, the local funding needs may actually be quite low when shared among several jurisdictions. The challenge has been making more regions in the state aware of these possibilities.

## Lessons Learned

- KDOT Regional Transit Business Model Implementation is an example of a top-down regional transit implementation model. The T-WORKS legislation demonstrates how state policy can foster regional transit. This model demonstrates strategies that support leadership, additional resources, multiple players to aid coordination, and significant funding. By having state leadership and resources, there are fewer regulatory barriers and more partnerships to support local implementation.
- State-procured coordinated dispatch software can be utilized by all providers in a region to enhance coordination and scheduling.
- By encouraging regional coordination and supporting mobility management, transit services can be provided using fewer resources, thus allowing transit providers to deliver more rides to people in need. This will enable rural residents to access employment, healthcare, and educational opportunities resulting in increased economies in rural areas and enriched lives for rural residents, helping to increase the economic prosperity and health of the region.

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## Case Study: Maine

## Portland Intercity Service—ShuttleBus-Zoom

### Introduction

Source: www.shuttlebuszoom.com/home.

***Logo for ShuttleBus-Zoom.***

In 2015, ShuttleBus-Zoom partnered with Greyhound to leverage Section 5311(f) funding to run an intercity route along Routes 1 and 9 from Portland to Biddeford. This intercity route offers new transportation options to Biddeford, Saco, Old Orchard Beach, and Scarborough. ShuttleBus-Zoom used Greyhound miles to match Section 5311(f) funding. This new route crosses jurisdictional boundaries, makes intercity connections, and expands services to previously underserved areas, thus meeting local transportation needs as well.

Source: www.shuttlebuszoom.com/photo-gallery.

***ShuttleBus-Zoom buses.***

ShuttleBus-Zoom provides public transportation to the Cities of Biddeford and Saco and the Town of Old Orchard Beach. It is overseen by the Biddeford-Saco-Old Orchard Beach Transit Committee, a governmental entity consisting of three members from each of the three municipalities, and one elected official from each. It originated in 1978 through an inter-local agreement by the Cities of Biddeford and Saco and the Town of Old Orchard Beach to provide public transportation under the name ShuttleBus-Zoom.

ShuttleBus-Zoom's Portland Intercity Service leverages a unique partnership with Greyhound Lines, Inc. (Greyhound), one of the largest private motor-coach operators in the United States. Greyhound offers intercity, charter, and package express services across the United States and into Canada. With two bus stations/stops in Portland, Maine, riders can travel to hundreds of destinations in the United States and Canada. Greyhound partners with several public transit systems, providing in-kind or matching miles for the FTA Section 5311(f) funding program to help increase intercity transit across the country and bring more passengers to their services.

## State Context and Policy Development

State law, Title 23 M.R.S.A. Section 4209, requires the Maine Department of Transportation (MaineDOT) to divide the state into geographic regions to coordinate and provide public transit. There are eight designated transit regions and nine regional transit providers in the state. ShuttleBus-Zoom is Transit Region 8's designated transit agency.

## Example of Regional and Intercity Services

In 1978, the Cities of Biddeford and Saco and the Town of Old Orchard Beach entered an inter-local agreement to form a quasi-municipal government entity to provide public transportation under the name ShuttleBus-Zoom. This agreement allows ShuttleBus-Zoom to execute contracts and obtain and dispense funds for the purpose of providing public transportation.

In 2014, Al Schutz, Executive Director of ShuttleBus-Zoom, learned about the 5311(f) intercity bus program from MaineDOT and Mr. Schutz thought that this could help his declining local route from Biddeford to Portland. He contacted Greyhound and revised the route to connect with Greyhound services in Portland and destinations like the newly opened Baxter Academy for Technology and Science. The Baxter Academy for Technology and Science, one of the few charter schools in Maine, needed transportation for its students coming from more than 20 towns and Mr. Schutz was able to enter into an agreement to meet those needs. With a letter from Greyhound pledging miles as a match, Mr. Schutz was awarded 5311(f) intercity funding for the Portland intercity route and started operations in June 2015.

The revised route and new partnership with Greyhound increased ridership by 7 percent in the last year. Mr. Schutz is now considering partnering with Greyhound to carry cargo from Portland to Biddeford.


Source: http://abduzeedo.com/logo-design-greyhounds

***Logo for Greyhound.***

### *ShuttleBus-ZOOM Family of Services*

ShuttleBus-Zoom operates five types of transit service throughout Biddeford, Saco, and Old Orchard Beach with some services making connections to the Greater Portland area. Both the Intercity/Portland bus and the Zoom Turnpike Express have a transfer system that links to METRO and the South Portland Bus System. The ShuttleBus-Zoom route descriptions below are taken from the FY2013–FY2017 MaineDOT Locally Coordinated Transit Plan for ShuttleBus.

**Tri-Town Local Route.** The Tri-Town local route operates with two buses 7 days a week serving the Cities of Biddeford and Saco, and the Town of Old Orchard Beach. The first bus serves three communities via Elm Street, while the second bus provides service via Alfred Street. The buses operate along the same route but in reverse order.

**Trolley Service.** In summer months, ShuttleBus runs a popular trolley service between Old Orchard Beach and Pine Point in Scarborough. On weekdays, the trolley runs from 10:00 a.m. to 10:00 p.m. Weekend trolley service runs from 10:00 a.m. to midnight.

**Portland Intercity Service.** The Tri-Town to Portland intercity service, or "Portland" bus, runs daily from Biddeford to Portland with stops in Saco, Old Orchard Beach, Pine Point, Scarborough, and South Portland (primarily the Maine Mall). From June 15 to September 15, the service operates two extra runs on Sunday. The bus runs Monday through Friday from 6:25 a.m. to 10:20 p.m., Saturday from 8:30 a.m. to 7:05 p.m., and Sunday from 10:45 a.m. to 5:05 p.m.


Source: www.facebook.com/shuttlebuszoom/photo-gallery.

***Boarding a ShuttleBus.***

**UNE Nor'easter Express.** Since September 2007, ShuttleBus has operated the Nor'easter Express route between University of New England's Hills Beach campus and downtown Biddeford and Saco. One bus serves the route 7 days per week during the academic year. The bus runs Monday through Thursday from 7:30 a.m. to 9:45 p.m., Friday from 7:30 a.m. to 11:05 p.m., Saturday from 12:00 p.m. to 11:05 p.m., and Sunday from 11:40 a.m. to 7:30 p.m.

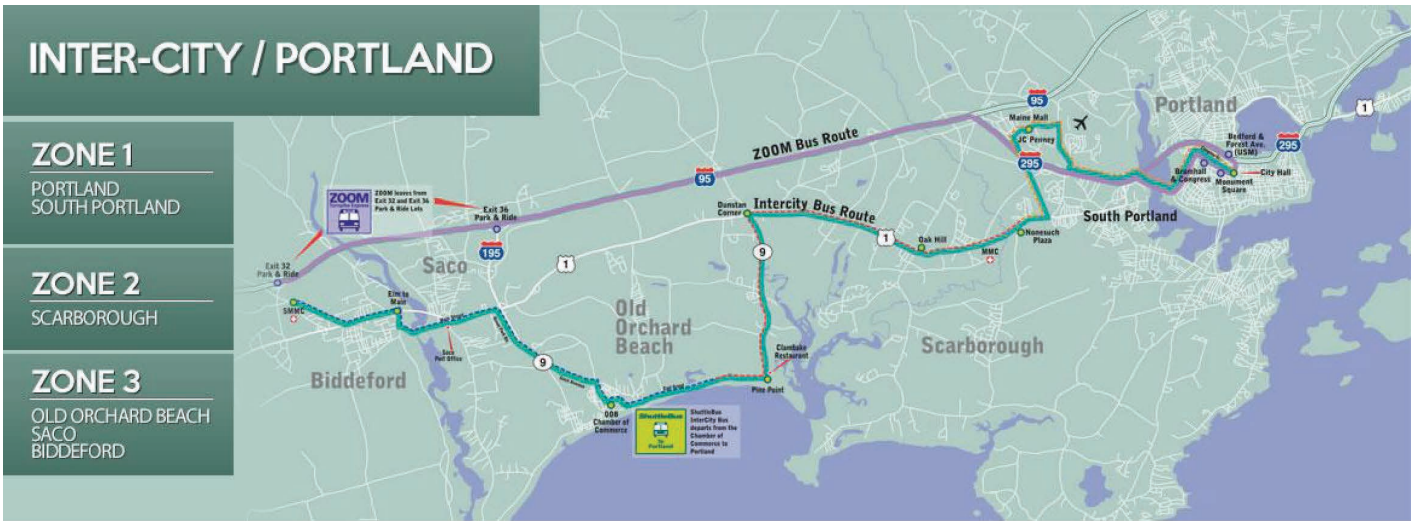
**ZOOM Turnpike Express.** The ZOOM Turnpike Express travels from park and ride lots in Biddeford and Saco, via the Maine Turnpike, to Congress Street and the University of Southern Maine, and back during morning and afternoon rush hours. The bus runs weekdays during heavy commuter times from 6:00 a.m. to 6:40 p.m.

### *Regional and Intercity Service—Portland Intercity Service*

ShuttleBus-Zoom's Portland Intercity Service offers multiple daily trips departing from Greyhound's Portland terminal and ending at ShuttleBus-Zoom's Biddeford location. Monday through Friday, the bus runs from 6:25 a.m. to 10:20 p.m., Saturday from 8:30 a.m. to 7:05 p.m., and Sunday from 10:45 a.m. to 5:05 p.m. From June 15 to September 15, the service has two extra runs on Sunday. The bus stops at the following locations:

- Portland: 950 Congress Street
- Portland City Hall: 389 Congress Street
- Scarborough: 200 US RT1
- Old Orchard Beach: 11 1st Street
- Saco: 130 Maine Street
- Biddeford: 13 Pomerleau Street

The Purple Line on the map in Figure 4–12 depicts the ZOOM Turnpike Express Route, and the Green Line running south of the ZOOM Turnpike Express is ShuttleBus-Zoom's Portland



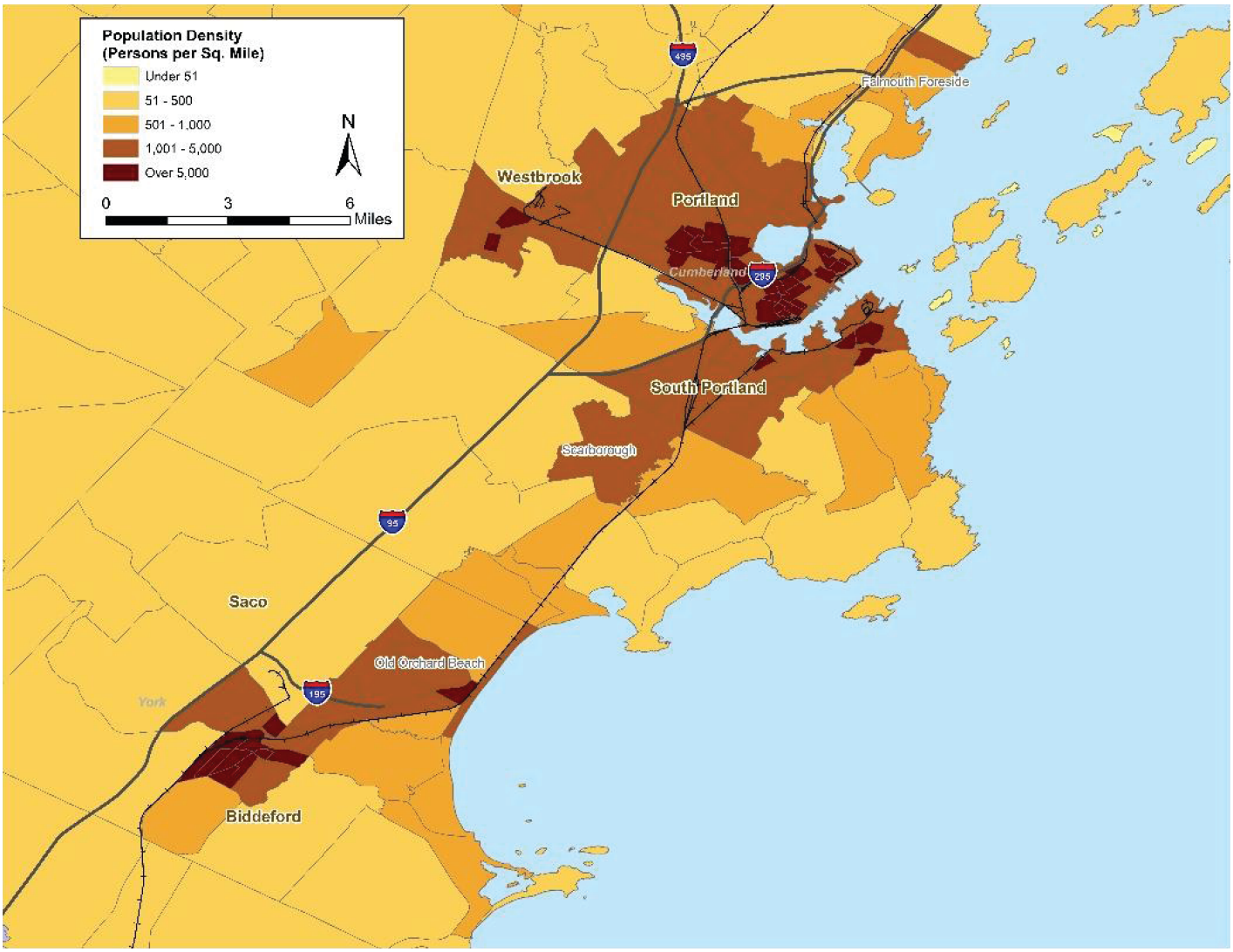

Source: http://ShuttleBuszoom.com/rates/intercity-portland/: Inter-city bus map.

***Figure 4–12. ZOOM Turnpike Express (Purple Line) and ShuttleBus-Zoom's Portland Intercity (Green Line) routes.***

intercity route. ShuttleBus-Zoom's Portland intercity route costs are determined by zones. One-way single zone travel is $1.50, travel through two zones is $3, and travel through three zones is $5. Ten-ride passes through two zones cost $23, and $39 for three-zone travel.

## Ridership and User Characteristics

The Cities of Biddeford and Saco and the Town of Old Orchard Beach are located on the coast of southern Maine in York County. As seen in Figure 4–13, they have a combined population of 48,736 over 75.98 square miles making the population density 641.45 per square mile. Portland, the largest city in Maine, is 20 miles north of Biddeford with a population density of 3,078 people per square mile. Located on a peninsula with the historic port district, Portland is a tourist attraction as well as home to several large employers, colleges, universities, hospitals, and medical centers. The Maine Medical Center, located in Portland, is the largest hospital in Northern New England with 28,000 inpatient visits and about 500,000 outpatient visits annually.




Source: KFH Group, Inc., data from U.S. Census Bureau, Census 2010, Summary File, Population by Census Block Group.

***Figure 4–13. Population density for the cities of Biddeford and Saco and the town of Old Orchard Beach.***

ShuttleBus-Zoom's Executive Director estimates that approximately 40 percent of trips on the Portland intercity service are for local errands and transferring to Portland local metro service, 30 percent are for employment, and the remaining 30 percent are uncategorized.

## Funding

ShuttleBus-Zoom's $2.9 million annual operation is supported by state and federal funds, advertising and contract services, fares, and funding from four municipalities. This holds true for all five transit services. Biddeford, Old Orchard Beach, and Saco each pay $125,000 for bus service and Scarborough pays $25,000. Mr. Schutz estimates that about half of ShuttleBus-Zoom's Portland Intercity Service funding comes from the 5311(f) operating grant, which requires a 50-percent match. ShuttleBus-Zoom's partnership with Greyhound provides the 50-percent match using Greyhound's intercity miles.

Fifteen percent of each state's Section 5311(f) allocation is set-aside for rural intercity bus service (5311[f]). To be considered intercity, service must not be primarily used as a commuter service, be a fixed route, be capable of carrying luggage, and make a meaningful connection with a national intercity transportation provider. Operating funds under this program require a 50-percent match. Transportation providers can use "in-kind" or "miles" as the match. Initially implemented in 2007, "in-kind match" defines intercity bus routes to include both a subsidized segment (5311[f]) and a connecting unsubsidized segment. The value of the unsubsidized segment can be used as in-kind match for the match on the 5311(f) operating funds for the subsidized segment.

In return for bringing passengers to Greyhound's Portland station and selling Greyhound tickets, ShuttleBus-Zoom receives a letter from Greyhound dedicating miles from the northern (unsubsidized) part of Greyhound's Portland route to be used as 50-percent match for their Biddeford to Portland service. As part of the agreement, ShuttleBus-Zoom operates the Biddeford to Portland route 5 days a week making meaningful connections to Greyhounds' services and sells interline tickets with Greyhound. An average of two ShuttleBus-Zoom's Portland intercity passengers connect and transfer to Greyhound's regional bus service daily.

In addition to federal and municipal support from the Cities of Biddeford and Saco and the Town of Old Orchard Beach, ShuttleBus-Zoom partners with private agencies. Many townships and businesses that ShuttleBus-Zoom serves contribute financially to support the service. Walmart contributes $6,000 a year; Southern Maine Health Center contributes $6,500 a year; and businesses like senior centers, shopping centers, and health care providers partner with ShuttleBus-Zoom to ensure the people they serve have transportation to their services. ShuttleBus-Zoom recently utilized Section 5307 funding to hire a mobility manager to help foster these public private relationships.

## Lessons Learned

- Through leveraging public private partnerships with community businesses and Greyhound, ShuttleBus-Zoom is able to provide bus service to smaller communities on local routes that are bypassed by Interstate 95. ShuttleBus-Zoom utilized 5311(f) intercity funding and in-kind matches to address regional travel needs.
- ShuttleBus-Zoom's Executive Director shared the following advice for other transit managers: "With stifling overregulation from the federal government, transit managers stop trying to innovate, but you have to be willing to take a risk and run with it. With a common sense attitude and running your service as a business you can provide the transportation services your community needs. We have to be willing to take risks and push the envelope while

complementing that with a common sense business attitude in operating services. Go out and take risks and make gains."

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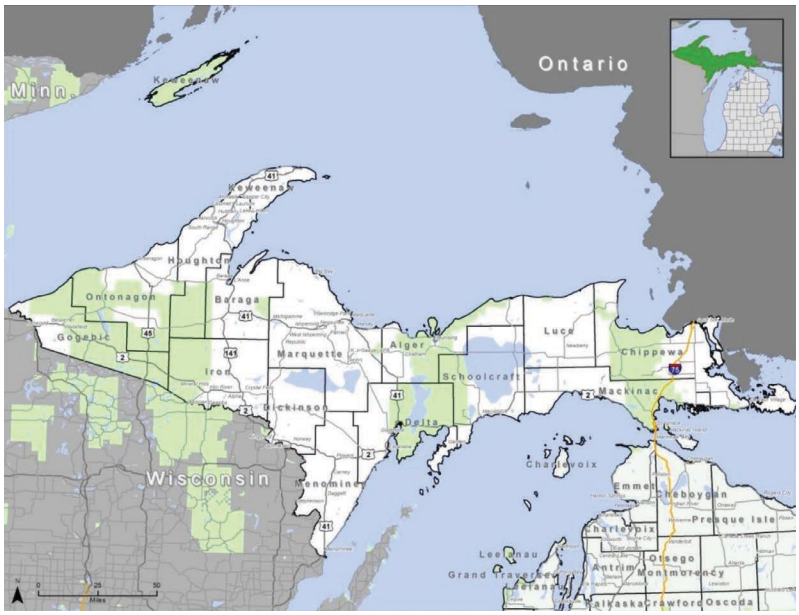
# Case Study: Michigan Alger County Transit

## Introduction

Michigan's Upper Peninsula (the UP), a large rural area of 16,452 square miles, is home to about 308,000 people. The UP's 15 counties are divided into three planning and service delivery regions:

- Eastern UP (EUP): Chippewa, Luce, and Mackinac Counties
- Central UP (CUP): Alger, Delta, Dickinson, Menominee, Marquette, and Schoolcraft Counties
- Western UP (WUP): Baraga, Gogebic, Houghton, Iron, Keweenaw, and Ontonagon Counties

The sparse population and long distances between population centers create significant barriers to effective regional transit. In addition, many counties in the UP border Wisconsin and people often need to cross the state line for work, medical care, or higher education.




Source: 2016 Coordinated Mobility Plan: Prosperity Region 1, KFH Group.

***Map of the UP.***

There are a large number of rural county and city transit systems in Michigan; however, few have developed regional links that cross county lines. The Michigan Department of Transportation (MDOT) approach to the development of regional services is permissive, allowing local initiatives and providing technical assistance. Alger County Transit (ALTRAN) is an example of a rural transportation provider that developed successful regional service. ALTRAN provides a regional connection from Alger County to the closest urban center, Marquette, which is 45 miles away.

Source: Alger County Transit website, http://www.altranbus.com/

***Logo for Alger County Transit.***

Source: Courtesy of Alger County Transit.

***Alger County Transit bus.***

## State Context and Policy Development

The ALTRAN Munising to Marquette route evolved from service that was started under an MDOT demonstration program that provided funding to establish and demonstrate regional routes. In the past, MDOT had programs aimed at creating and supporting regional services; however, over the past decade, these have not been continued. In addition to the ALTRAN regional route, Straits Regional Ride links communities in Cheboygan, Emmet, and Presque Isle with flexible routes linking designated bus stops. The Straits program was also started under the MDOT regional demonstration program. Another rural regional program in Michigan is operated by the Thunder Bay Transportation Authority Dial-a-Ride, which serves the residents of Alpena, Alcona, and Montmorency Counties and the City of Alpena. The Alger County example was chosen for this case study because it is an example of a fixed route, fixed schedule rural regional route serving multiple needs.

More recently, the need for regional mobility has been recognized at the highest levels of the state. Governor Snyder released a special message to the legislature in June 2014, on the topic of aging, titled "Making Michigan a Great Place to Live Well and Age Well." The special message included the following language regarding access to transportation:

"Michiganders, including many older adults, need regional mobility and transit providers need to become more regionally focused. This is both an urban and rural issue."

Another MDOT program that potentially could address the need for regional trips is the state's intercity bus program. However, meeting regional needs for same-day trips is difficult when the intercity routes are timed to make connections in distant hubs. For example, although there are intercity bus services in the UP, they primarily serve to connect points in the UP to places beyond the region. Indian Trails has two routes that traverse the region, one from east to west and one from north to south. The service makes daily stops in Menominee, Powers, Escanaba, Gladstone, Iron Mountain, Marquette, Manistique, Gwinn, and Ishpeming. Service does not extend into Alger County. To be able to connect with nationwide bus networks, the Indian Trails buses in the UP run during the very early hours of the morning, between approximately 12:00 a.m. and 8:00 a.m. Because the service runs only once daily, a person seeking to travel to Marquette for employment or medical care would have to stay until the next day in order to catch a ride back to Escanaba or Marquette, both about 45 miles from Alger County. Figure 4–14 is a map of the intercity bus system in Michigan.

In the UP region, the 15 counties have an agreement to provide inter-county services. Counties allow other counties' transit services to pick up passengers in their regions and vice versa. The regional transit services available in the CUP vary greatly by county. Alger, Delta, Marquette, and Schoolcraft Counties have created public transit authorities. Only the Marquette and Alger agencies have regular inter-county services. Dickinson and Menominee Counties' public transportation is only available through local community action agencies. Formal transit providers, health care providers, human service agencies, and one tribal organization also provide limited regional transit services for people who qualify.

## Example of Regional and Intercity Services

### *Organizational Structure*

Alger County initiated countywide public transit services in January 1982. The Alger/Marquette Community Action Board operated transit services until March 1990 when ALTRAN, an Act 196 transit authority, was created to provide countywide transit services in Alger County.


Source: Michigan Department of Transportation.

***Figure 4–14. Michigan's intercity bus system.***

64 Best Practices in Rural Regional Mobility

ALTRAN provides several types of service, including local countywide dial-a-ride service (branded as Ride to Work service) to 350 to 400 people daily in the 915 square mile Alger County; a weekday rural regional route from Munising in Alger County, 45 miles west to the regional center of Marquette, located in the neighboring county; local demand response service on Friday/Saturday evenings; and seasonal "Backpacker Transportation" from Munising and Grand Sable to stops in the National Lakeshore Park.

There are many partners that play a role in supporting regional transportation in the UP. From FTA funding for regional routes and underserved populations, to local initiatives and agencies serving targeted populations, many factors contribute to meeting regional transportation needs in the UP.

Transportation planning and coordination efforts have been underway in Alger County for a number of years. The Alger 2014 County Coordinated Transportation Plan reported that ALTRAN meets regularly with stakeholders to discuss transportation needs. ALTRAN management meets monthly with 26 human service agencies and quarterly with the all governmental agencies (including the city, county, townships, schools, hospital, Park Service, and Forest Service). ALTRAN staff provides an annual update for the Chamber of Commerce. As part of that process, ALTRAN requests input from the Chamber about the need for services identified by the business community. Similarly, ALTRAN staff seek input from the Visitor's Bureau on a regular basis about the transit needs of tourists.

ALTRAN staff meets regularly with agencies and employers in cases where transit service impacts their clients and employees. The meetings inform the coordinated transportation planning process and collect input on mobility issues. For example, ALTRAN meets regularly with Kewadin Casino, the largest employer using the Ride to Work service, to obtain input and fill gaps in their schedules.

ALTRAN works with community partners to improve mobility options for people with disabilities, older adults, and persons with lower incomes. The Commission on Aging funds transportation and they provide regular input to ALTRAN on the needs of older adults.

### *ALTRAN's Munising to Marquette Connection*

In 1997, about 10 Alger County residents asked the executive director of ALTRAN if she could expand service into Marquette. She worked with them to arrange a schedule and route to Marquette that would work for all of them. This was established originally as a commuter route. MDOT provided some funding over a 4-year period for this service. Over the years, ALTRAN was able to expand the service through partnerships with health and human service providers.

Today, the Munising to Marquette route provides regional service weekdays from 6:15 a.m. to 5:00 p.m. The 29-passenger bus makes three round trips a day with an average of 25 passengers each trip. ALTRAN reports that in the winter, the bus can fill up and reservations become oversubscribed.

The schedule is as follows:

- Bus leaves Munising at 6:15 a.m., 11:15 a.m., and 3:15 p.m.
- Bus leaves Marquette at 8:00 a.m., 1:00 p.m., and 5:00 p.m.

The commuter bus will pick up passengers with reservations along the 45-mile route. They have an agreement with Marquette County that allows them to pick up passengers in Marquette County and collect and keep the fares from those rides. About 15 miles of the route are in

Marquette County. The Marquette County transit system does not cover that area, so the ALTRAN service is not duplicative or competitive, but complementary.

The trip purposes vary from employment, NEMT, educational, personal errands, and connections to regional transportation. ALTRAN reported that through coordination with the Marquette General Hospital Dialysis Unit, they are able to transport an average of six patients 45 miles from Alger County to dialysis in Marquette daily. The hospital pays for patient transportation for clients from Alger County regardless of their Medicaid status. In addition to the hospital, Northern Michigan University, car dealerships, and shopping and commercial services in Marquette are desirable destinations for residents of Alger County.

ALTRAN runs Backpacker Transportation service, transporting passengers from Munising Falls Visitor Center along Pictured Rocks National Lakeshore Park to Grand Sable Visitor Center (45 miles) with stops at tourist destinations along the route.

### *Ridership and User Characteristics*

Alger County is a 915-square-mile rural county on the southern shore of Lake Superior. It is home to 9,522 people, 2,327 of whom live in the City of Munising. The population density is approximately 10 persons per square mile. ALTRAN is the only public transportation service available in Alger County. There is no intercity bus service or taxi service in the county. Alger County is a tourist area with most businesses relating to tourism. The 2014 Alger County Coordinated Transportation Plan reported that there are approximately 38 businesses in the county whose workers use public transportation/Ride-to-Work service to get to and from their jobs.

The unemployment rate for Alger County is 9.5 percent, the percentage of the population age 65 or older is 22.27 percent, and 18.82 percent of the population report having a disability. The median family income in Alger County is $50,098 and 50.65 percent of children are eligible for free/reduced lunch. In comparison, the median income in Marquette is $61,374. There is one federally qualified health center in Alger County and there are two in Marquette County. Many residents in Alger County need to travel to other communities to access services. ALTRAN is able to provide transportation to these services in an efficient and cost-effective way.

## Funding

MDOT reported that in FY2014, 35 percent of ALTRAN's system revenue came from fares, 16 percent from federal sources, about 39 percent from state sources, and 10 percent from local and tribal sources. These percentages vary somewhat from year to year. ALTRAN reports that the local sources include annual funding of about $25,000 from the local Commission on Aging, approximately $15,000 from the City of Munising as local matching funds, and about $5,000 from local Native American tribes through the Tribal Slot Revenue Payments grant program. The Tribal Slot Revenue Payment grants are not awarded to ALTRAN every year.

A one-way trip on the Munising to Marquette route costs $7.00; repeat passengers can purchase a 40-trip pass for $120. ALTRAN staff estimates that 96 percent of passengers use the 40-trip passes. ALTRAN leverages local partnership opportunities by providing services to social programs like meals on wheels and school systems, for a fee. On the Munising to Marquette route, they carry cargo (auto parts) on less crowded return trips.

ALTRAN receives federal funding through several MDOT programs. Section 5311 (rural formula) provides funding through formula money for operating and capital assistance. The Specialized Services Program for unmet needs for individuals with disabilities and older adults helps fund

ALTRAN services. The former Section 5316 (Job Access and Reverse Commute [JARC]) has been used to provide funding for developing new or expanded transportation services to connect welfare recipients and low income persons to jobs and employment related services. ALTRAN was the recipient of JARC funding, which provided funding for 50 percent of the net operating deficit of the service. The State of Michigan provides funding matches for these federal programs.

## Outcomes

Through inter-county partnerships and collaboration with service providers, ALTRAN is able to help residents in Alger County access social services, medical services, and employment in Marquette City, which is 45 miles away. As noted above, Alger County is much more rural, and many services are only available in the regional population center. For those unable to drive or without access to a vehicle, this regional transit route provides the only link to these services.

ALTRAN leadership identified complementary markets and funders and designed a service package that meets the needs of multiple populations with one service. They successfully make three 45-mile round trips a day, with 40 percent of the revenue from fares.

## Lessons Learned

- Inter-county partnerships and collaboration with service providers enabled Alger County Transit to help rural residents to access social services, medical services, and employment in the closest urban center.
- Identifying complementary markets and funders and designing a service package that meets the needs of multiple populations with one service enabled Alger County Transit to develop a successful service.

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# Case Study: Minnesota

## Minnesota Department of Transportation, Central Community Transit Implementation—Transit for Our Future Initiative

### Introduction

This state case study involves policies and programs to encourage rural and small urban transit systems to regionalize and meet multiple goals, including the provision of regional services. The state program is discretionary, providing planning support and transition funding, but dependent on local initiative to develop projects and apply for funding.


Source: http://www.dot.state.mn.us/transit/riders.html

***Transit rider boarding a STRIDE vehicle.***

### State Context and Policy Development

The Minnesota Department of Transportation (MnDOT) administers federal and state transit programs through its Office of Transit, which also directs planning and research studies, provides technical assistance, ensures program compliance, and coordinates statewide pedestrian and bicycle activities. In Minnesota, state statutes require that public transportation be available to all citizens in all counties, with the result that there are 59 separate local and regional public transportation providers in the state.

As part of its statewide planning responsibility, the Office of Transit conducted the Greater Minnesota Transit Plan in 2009, which provided a 20-year strategic plan for public transportation in the state outside the Twin Cities, the area known as Greater Minnesota. That study identified future needs and funding requirements. Subsequently the Greater Minnesota Transit Investment Plan of 2011 focused on setting priorities through a new process, and included the development of different futures that might take place under scenarios of reduced funding (this followed the economic crisis of 2008) as well as increased transit funding. One of the outcomes of this study was recognition that having many small transit systems limited potential efficiencies and left needs for regional connections unmet. For transit to be able to survive and thrive in a future that might involve reduced resources, changes would be needed that involved a higher level of cooperation among providers, and potential organizational changes that could reduce the administrative, capital, and operating costs of providing transit statewide.

#### *Transit for Our Future Initiative Provides Funding for Regional Projects*

The Office of Transit developed the Transit for Our Future Initiative to encourage and assist established public transit providers to develop and implement local solutions for improving efficiency and service statewide. The initiative developed a framework for this effort that includes three levels of joint action that could be implemented by two or more transit systems to achieve these objectives. These are described by MnDOT as the "three Cs"—Coordination, Cooperation, and Consolidation:

- **Coordination.** A formal relationship between multiple systems, each of which maintains a separate identity and authority, including vehicle operation. Coordination may focus to a large extent on information sharing or providing information. Examples might include joint support for a mobility coordinator, travel trainer, or joint grant preparation.
- **Cooperation.** Involves more joint decision-making and activity between multiple agencies under formal interagency agreements, managing resources of a distinct organization or

service. Examples might include a joint mobility manager, joint purchasing, and sharing of resources such as technology or facilities.

- **Consolidation/Partnering/Merging.** Combining all operational authority and control into a single agency that provides service based on agreements between the agencies. The basic example is combining multiple systems into a single system with its own policy board, branding, and services.

MnDOT developed Guidance for Coordination, Cooperation, and Consolidation that provides more detail on each strategy, a toolkit, directions for getting started, and a sample scope of work for technical studies that might be needed to develop and implement strategies. It includes information on legal relationships that can be used to implement any of the three Cs. In Minnesota, these include JPAs or intergovernmental service agreements, either of which can be used by local governments to provide public services (such as transit). Much of the focus of this document is on options intended to improve efficiency and effectiveness through sharing of information or resources, rather than on developing regional routes or services.

This set of strategies is intended to serve as the basis for established Section 5311 rural and Section 5307 urban transit operators to jointly apply for funding under the MnDOT Transit for Our Future Initiative. The minimum grant is $5,000, and the local share is 15 percent (20 percent for capital). Funding can be used for virtually anything except bus purchases. Potential uses listed on the application include operational enhancements, service modifications (including regional routes), and transition activities or costs. Program design objectives and characteristics include consolidated service design with a region-wide focus, providing access to the most desired regional trade centers with greater frequency. MnDOT provides technical assistance in developing these projects.

The overall strategy includes MnDOT funding for transit restructuring studies, which are recommended for any joint project that includes organizational restructuring or increased services, including development of regional routes and services. Often a project that combines two or more systems organizationally also includes development of regional services that cross jurisdictional boundaries of former partners. Identification of regional needs, gaps, and potential services is part of the study.

### *MnDOT Identification of the Need for Rural Regional Services*

Implementation of this program to support regionalization of transit systems has been concurrent with other MnDOT initiatives that include a focus on regional services. In 2014 the Minnesota Intercity Bus Study reviewed and identified the statewide network of intercity bus services, many of which are funded by MnDOT through its administration of the FTA Section 5311(f) program. Although this network links regional centers with the Twin Cities and gateways to service beyond state boundaries, in most cases it does not provide for same-day round trips to regional centers, nor does it serve commuter needs.

In the Southeast Minnesota Travel Study, MnDOT examined the regional transit needs of an 11-county region in southeast Minnesota. This study included a review of existing services, household surveys, transit user surveys, and analysis of travel patterns from cell phone locations. This information was used to analyze major corridors and develop conceptual regional services. The study found several different transit market segments. In terms of expanded services, the preference is for regional public transit services, particularly express commuter routes. The study developed conceptual corridors and estimated demand for each, broken into work and non-work trips. This sets the stage for subsequent planning to determine operators, schedules, vehicles, and fares.

Another state study that addresses the need for regional transit is the 2016 update to the Greater Minnesota Transit Investment Plan, which is the statewide plan for transit improvement.

Technical Memorandum #2 reported on a statewide Wikimap and online destination survey. It reports that both transit users and non-users "identified a need for trips crossing county lines and connections to cities in other Districts." Travel patterns include connections from Greater Minnesota to the Twin Cities (addressed by the intercity network for non-work trips, and growing commuter services for work trips), and connections from smaller towns to regional centers (which are more easily addressed by transit operations coordinating or consolidating at the regional level).

### *Progress under the MnDOT Initiative*

Over the past 3 years, the Transit for Our Future Initiative has funded a number of projects, some of which resulted in regional transit entities (with regional services), and others which did not. Some of these projects included the following:

- **Faribault and Martin Counties**. 2013–2014 restructuring study resulted in consolidation of two county systems under a JPA.
- **Blue Earth, Nicollet, and Le Sueur Counties**. 2015 restructuring study led to a service plan for new regional service with implementation under Saint Peter Transit (acting as a lead agency).
- **Kandiyohi, Renville, and Meeker Counties**. 2014 restructuring study led to consolidation of Kandiyohi Area Transit and Renville County Heartland Express into a single new provider: Central Community Transit (CCT). In 2015, Meeker Transit joined CCT under its JPA.

Another project began as an effort by two systems to jointly fund a Compliance Coordinator, but that did not work out and ended with one system maintaining the buses of the other as a resource sharing measure. Four counties joined together to create a regional route known as Buffalo Ridge, but the demand was not there and the route was discontinued.

## Example of Regional and Intercity Services

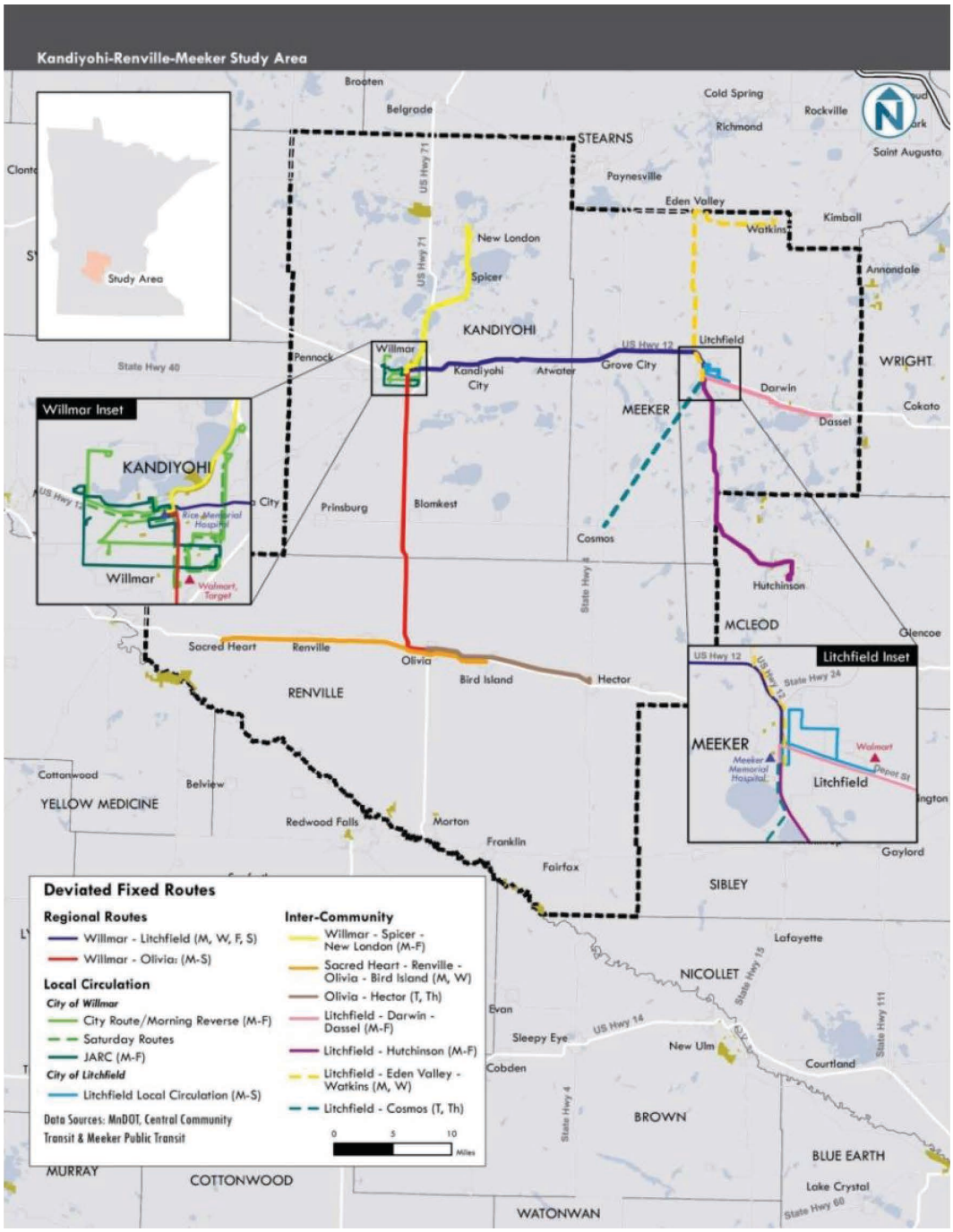
CCT is an example of using the MnDOT policy initiative to create a single regional system out of three separate county systems. Kandiyohi Area Transit is based in Willmar, in southwestern Minnesota. Willmar is a regional center (2015 estimated population 19,638), located in Kandiyohi County (2015 estimated population 42,542). A 2014 restructuring study under the Transit for the Future Initiative led to the creation of a regional advisory committee, and eventually Kandiyohi Area Transit consolidated with Renville County Heartland Express in neighboring Renville County. Jurisdictions that had operated the two systems included the two counties and the city of Willmar—each represented on the policy board of the CCT system under a JPA adopted by each jurisdiction. A transition grant under the Transit for the Future Initiative supported the effort by providing funding for the creation of a new identity, rebranding the combined fleet, marketing, and costs associated with combining internal systems.


Source: http://www.cctbus.org/

***CCT Bus.***

CCT is a single regional transit provider, though initially it did not result in any new scheduled regional services. CCT provided countywide demand response service in both counties: an hourly deviated fixed route scheduled service in Willmar (weekdays) and a weekday advance reservation route making four daily round trips from Willmar to New London and Spicer, both small towns in Kandiyohi County. The Willmar service includes stops at a college, medical facilities, the bus station (Willmar is served by the Section 5311[f] funded Jefferson Lines service), major shopping areas, and social and health services.

In 2015, continued work on regional restructuring led to the addition of adjacent Meeker County to the CCT JPA. The board expanded to 16 members with the addition of 4 Meeker County representatives. Another transition grant is anticipated from MnDOT to fund rebranding of the fleet, marketing, and telephone and computer system changes. Expansion of CCT to a three-county system includes the planned implementation of new regional routes, connecting Willmar with Litchfield (in Meeker County) and Olivia (in Renville County), as shown in Figure 4–15. These




Source: Nelson\Nygaard Consulting Associates, Inc. Kandiyohi, Renville and Meeker Transit Restructuring Plan. Final Summary Report, p. 7-5.

***Figure 4–15. CCT restructuring plan.***

regional routes are to be deviated fixed route services. The Willmar–Litchfield route is to operate Monday, Wednesday, Friday, and Saturday; and the Willmar–Olivia route Monday through Saturday. Both will operate at least three round trips per service day. Combined with the inter-community routes and structured (zoned) demand response service within each county, a regional network of services will result from the consolidation of the three separate county systems.

These regional routes connect the principal activity centers in the three counties, but it should be noted that Willmar offers more services, jobs, and shopping due to its larger population. Olivia, the principal center in Renville County, has a population of 2,484, according to the 2010 Census, while Litchfield in Meeker County has a population of 6,726. The distance from Willmar to Litchfield is 27 miles; and the distance from Willmar to Olivia is 26 miles. Proposed fare options would result in a fare of either $4.00 or $5.00 for each of these trips (before any senior or other discounts), a fare per mile of $0.15 to $0.19.

## Lessons Learned

State transit programs can support the creation of regional transit organizations and services without top-down mandates by offering the following:

- Technical assistance;
- Funding for restructuring and feasibility studies;
- Studies or plans to help identify needs for regional services;
- Templates for organizational structures, agreements, and contracts;
- Funding for transition costs, including rebranding, marketing, changes to hardware and software, and human resources costs; and
- Funding for operations of new regional services (until they can be included in ongoing grants to the consolidated system).

Depending on local interest, response to such a state program will take time, in the absence of ongoing incentives or mandates. With support, local areas can combine and create regional entities that can be more cost-effective, make better use of technology, be fully compliant with program requirements, and meet previously unserved regional needs.

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Source: Courtesy of Confederated Salish and Kootenai Tribes.

***Logo of the Confederated Salish and Kootenai Tribes.***

Source: Courtesy of Opportunity Link, Inc.

***NCMT public transit bus.***

## Case Study: Montana

# Flathead Transit and North Central Montana Transit and Regional Connections Fostered Through Community Organizations

## Introduction

Flathead Transit in northwest Montana and North Central Montana Transit (NCMT) in north central Montana have engineered a way to meet the need for intercity and regional connections. With help from regional community organizations, both areas have developed transit systems that connect northern rural counties with small urban centers over 100 miles south. As seen in Figure 4–16, the origins for these regional routes are on the Amtrak route, and destinations connect with airports and intercity bus service. The sections below illustrate Flathead Transit's unique utilization of community partners and the Section 5311(f) mile matching program to meet local and regional transit needs. The second example in this case study, NCMT, illustrates another unique example of community players combining resources to connect rural underserved communities with services in larger communities.

Both of these systems serve tribal areas. Flathead Transit is administered by the Confederate Salish and Kootenai Tribes (CSKT) and NCMT includes the Fort Belknap and Rocky Boy Reservations in its service area.

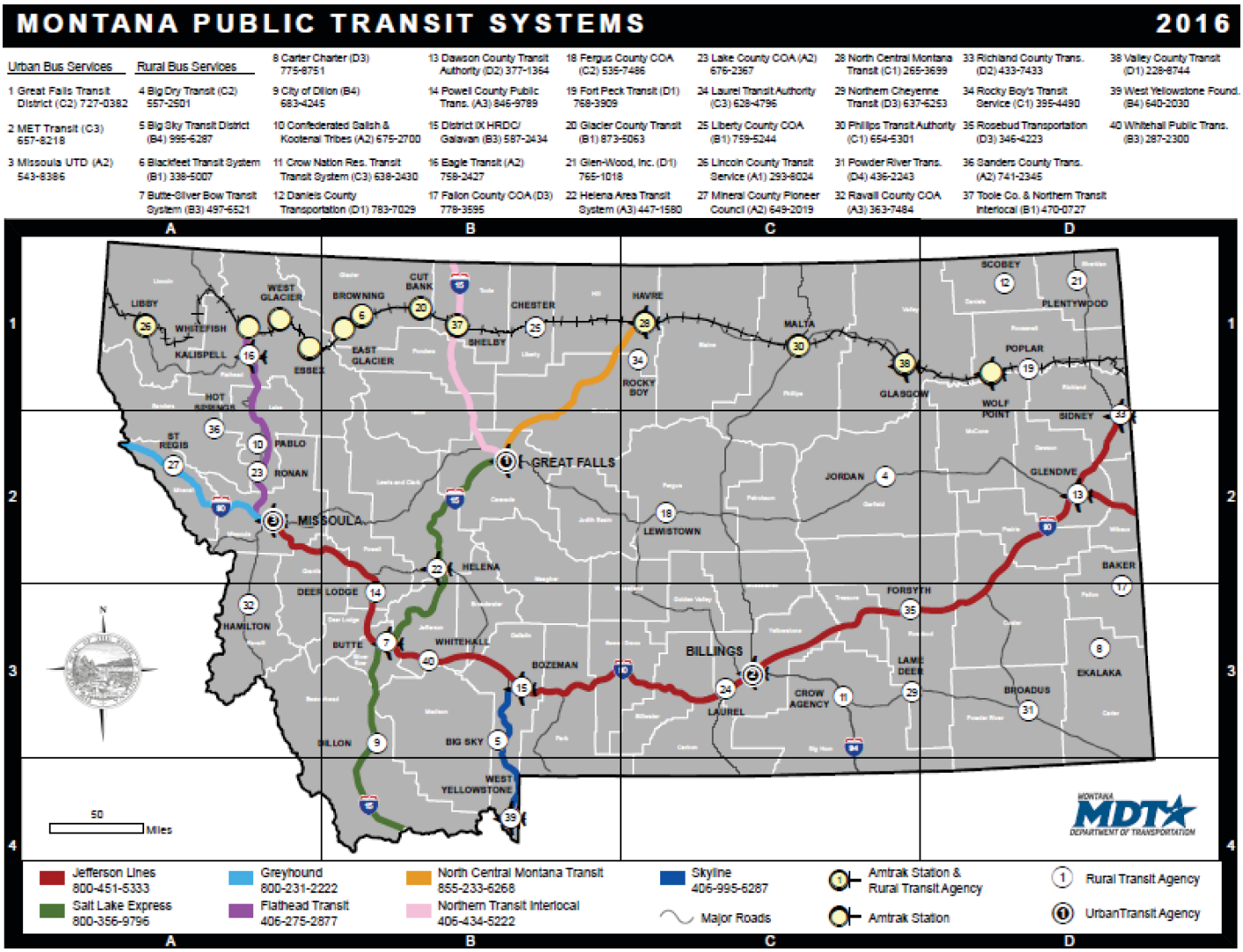
## State Context and Policy Development

In Montana, the Department of Transportation (MDT) administers the federal rural transit programs. MDT's federally mandated 2008 statewide transportation plan, TranPlan 21, notes the decline in intercity bus service and the consequent need for regional connections. A statewide intercity bus plan completed by MDT in 2012 further analyzed the need for such service, focusing on the need for intercity services that would make stops in the state during daylight hours when local transit providers could provide connections. Subsequent regional planning efforts identified needs for regional connections which led to the development of rural regional/intercity routes that utilize Section 5311(f) funding.

The state transit program provided technical and fiscal support for these two services in the same manner that it does for all subrecipients, with no particular additional state role.

## Examples of Regional and Intercity Services

There are similar services that have developed in Montana where similar demand characteristics exist. Northern Transit Interlocal (also known as Golden Triangle Transit) utilizes Section 5311(f) to provide service in the I-15 corridor from Great Falls to the Port of Sweet Grass and westward. Big Sky (Skyline) regional intercity bus service is another regional intercity service in Montana. In terms of their role and operating characteristics, all of these fall in between the many local Section 5311 rural operations and the intercity services, such as Jefferson Lines, that link Montana with the national intercity network. In addition, the Missoula Ravalli Transportation Management Association (TMA) has implemented a regional vanpool program in western Montana that also provides one-time intercity rides.




Source: Montana Department of Transportation website.

***Figure 4–16. Regional transit in Montana.***

### *Flathead Transit*

The Flathead Reservation has a little over 1.2 million acres of land in four counties: Lake, Sanders, Missoula, and Flathead. The reservation is unusual in many ways. Eighty percent of the people living on the reservation are not members of the tribes. The tribes are self-governed; they have their own tribal court and college. Population density for the counties served by the Confederated Salish and Kootenai Tribes' public transit systems in that region is low. As shown in Table 4–5, the average population density is 20.43 people per square mile for the four counties combined. Currently, the region is served by two transit systems run by the CSKT. CSKT Transit provides public transportation throughout the Flathead Reservation and surrounding areas and Flathead Transit provides intercity transportation between Whitefish, total population of 6,357, and Missoula, total population of 66,788.

## Organizational Structure

In 1998, the tribes created the Department of Human Resources Development (DHRD), to address the 41 percent unemployment rate for tribal members. At the time, social services for

**Table 4–5. Population and land area for CSKT Transit's service area.**

| Four Counties Combined | Total Population | Total Land Area (Square Miles) | Population Density (Per Square Mile) |
|---|---|---|---|
| Four Counties Combined | 243,744 | 11,931.81 | 20.43 |
| Flathead County, MT | 92,373 | 5,087.68 | 18.16 |
| Lake County, MT | 28,987 | 1,490.17 | 19.45 |
| Missoula County, MT | 111,011 | 2,593.42 | 42.8 |
| Sanders Coun ty, MT | 11,373 | 2,760.54 | 4.12 |
| Montana | 1,006,370 | 145,546.56 | 6.91 |
| United States | 314,107,083 | 3,531,932.26 | 88.93 |

Source: U.S. Census Bureau. American Community Survey, 2010–2014.

Source: Courtesy of Kim Swaney, *Char-Koosta News*.

***The fleet of 2010 DHRD buses.***

**CSKT Flathead Transit partners with Montana DOT & Greyhound to implement service between Missoula and Whitefish; Replacing service dropped by Rimrock Stage Lines**

Source: www.greyhound.com/en/media/2013/12-09-2013.

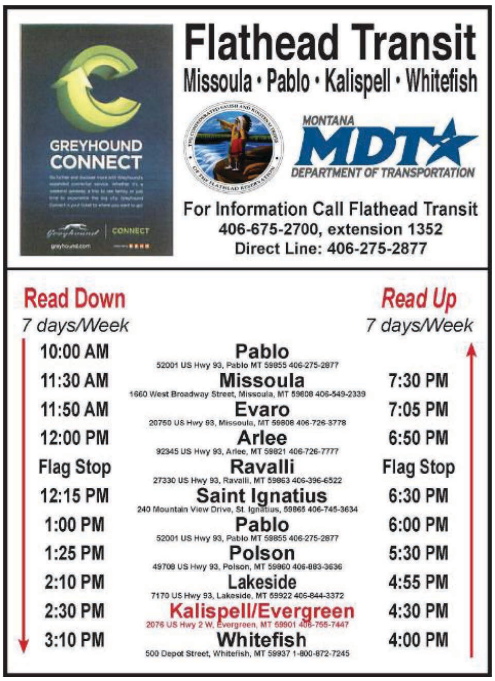
***Greyhound press release.***

tribal residents were spread over a large geographic area with limited transportation options. As part of the DHRD program, the services were combined in one location, creating a one-stop center and removing the burden of travel to different locations to access services. The services offered at the one-stop center include Temporary Assistance for Needy Families (TANF), Workforce Investment Act (WIA), Vocational Rehabilitation, Fatherhood, Low-Income Energy Assistance (LEAP), Office of Community Services, all Elder programs, and Food Stamps. The Food Stamp program is run by the county so the tribes gave the county office space in their one-stop center and eliminated the need to travel to a separate location for county services. The DHRD director, Arlene Templer, in her 2013 presentation at the Native Nations Institute for Leadership, Emerging Leaders Seminar, recounted that combining all the programs under one roof eliminated turf issues.

The DHRD found that TANF participants were missing appointments and unable to stay employed due to a lack of transportation. In response, DHRD bought two vans for the TANF program. Eventually, DHRD started receiving state transit funding through Montana's TransADE funding program, later switching to FTA funding through the state, including Section 5311 and JARC. Tribal transit funding is also used to support the CSKT Transit services. Through an earmark, the DHRD was able to buy a facility that included offices to use as a transportation hub. CSKT used their own local funding to purchase a gas station that is also located at the one-stop center. Revenue from the gas station is used to match the federal transportation grants. DHRD used a second earmark to build service bays to maintain the vehicles. The DHRD also receives a grant to conduct Commercial Driver's License training, which serves as workforce development and provides "homegrown" drivers.

### *Flathead Transit Services*

Today, Flathead Transit, a service of the CSKT, provides daily passenger service between Missoula and Whitefish. The schedule is shown in Figure 4–17. The route starts in Pablo at




Source: Courtesy of Confederated Salish and Kootenai Tribes.

***Figure 4–17. Flathead Transit schedule.***

10:00 a.m., arrives in Missoula at 11:30 a.m., and then continues to Whitefish, arriving at 3:10 p.m. There are 10 stops (Missoula, Evaro, Arlee, Ravalli, Saint Ignatius, Pablo, Polson, Lakeside, Kalispell, and Whitefish) along the 200-mile one-way route. The 22-passenger van leaves Whitefish at 4:00 p.m. and arrives back in Pablo at 8:30 p.m., with the same 10 stops along the way. The average fare is $33 one way. Tickets can be purchased in Saint Ignatius (Stuart's Cenex), Pablo (Quick Silver), Polson (KwaTaqNuk), and Kalispell (Brian's Conoco).

Passengers can connect with Greyhound, Jefferson Lines, and local transit services in Missoula, and with Amtrak in Whitefish. The bus service is funded through MDT's 5311(f) program and is matched with Greyhound miles. No state or local funds are required because of the Greyhound match. Using intercity bus "miles" to match 5311(f) funds is an innovative way to fund regional transit services. By partnering with a private intercity bus service, rural transit providers can use 5311(f) funds to provide feeder routes to intercity bus services and count miles from the intercity section of the route, operated by a private agency as the match for their feeder service.

Corky Sias, the CSKT Tribal Transit Program Manager reports that the Flathead route averages about 11 riders a day. Riders include older adults, people connecting to other regional routes, college students, and tourists visiting national parks.

Flathead Transit added a 12-foot trailer to the back of the bus so that the bus can also carry commercial freight on the route from Missoula to Whitefish. Mr. Sias estimates that packages average about 200 pounds each and the cargo mainly consists of car parts, tires, and blood for the Red Cross. The packages are picked up from the Greyhound and Jefferson lines and Flathead Transit takes them north. The revenue from the cargo transport goes back into the transit system and helps sustain the route, which is funded through the MDT 5311(f) program.

The Flathead Reservation has a Section 5311 funded deviated fixed route transit system: CSKT Transit. It serves the reservation area 5 days a week from 6:00 a.m. to 5:30 p.m. (Monday through

**Table 4–6. Population and land area for the NCMT service area.**

| Area | Total Population | Total Land Area (Square Miles) | Population Density (per Square Mile) |
|---|---|---|---|
| Two Counties Combined | 23,010 | 7,126.51 | 3.23 |
| Blaine County | 6,576 | 4,227.56 | 1.56 |
| Hill County | 16,434 | 2,898.95 | 5.67 |
| The Town of Havre | 9,668 | 3.80 | 2,543.05 |
| Hill County without Havre | 6,766 | 2,895.15 | 2.34 |
| Montana | 1,006,370 | 145,546.56 | 6.91 |
| United States | 314,107,083 | 3,531,932.26 | 88.93 |

Source: U.S. Census Bureau. American Community Survey, 2010–14, Source geography: Tract (Community Commons).

Thursday) and 8:00 a.m. to 4:30 p.m. on Friday. The system averages 200 riders a day. A one-way fare is $2.00 unless the trip is covered by a social service program. The service also goes to Missoula and Kalispell twice a day. Passengers can use this route to connect with the Flathead route.

### *North Central Montana Transit*

NCMT is a public transportation system designed to serve the Hi-Line communities of Hill and Blaine Counties in north central Montana. As given in Table 4–6, these counties have a population density of 3.23 per square mile with a total combined population of 23,010 people spread over 7,126 square miles. NCMT serves the surrounding communities and connects with the Fort Belknap and Rocky Boy Reservations.

Rocky Boy Reservation is the smallest in Montana, located in the Bear Paw Mountains. The tribe owns a ski area and steel manufacturing facility. Despite these activities, unemployment is high and almost half of the reservation's 1,931 members live in poverty. Most residents live far away from towns and services. The Fort Belknap Reservation and additional tribal lands encompass 650,000 acres of plains and grasslands. Some points of interest on Fort Belknap Reservation are Aaniiih Nakoda College, Saint Paul's Mission Church, and natural areas that serve as tourist sites.

## Organizational Structure

Northwest Area Foundation
Reducing Poverty. Building Prosperity.

Source: Courtesy of Northwest Area Foundation, www.nwfa.org.

Opportunity Link
Uniting people. Linking resources. Fighting poverty.

Source: Courtesy of Opportunity Link, Inc.

***Opportunity Link logo.***

The Northwest Area Foundation (NWAF) is an organization dedicated to helping communities in eight states (Idaho, Iowa, Minnesota, Montana, North Dakota, Oregon, South Dakota, and Washington) and 75 Native Nations. It established Opportunity Link, Inc. (OL), in 2004. OL is a non-profit organization committed to assisting 11 counties and 3 reservations in Montana to achieve and sustain independence, prosperity, and a better way of life.

NCMT is operated by OL and was established in partnership with North Central Montana area organizations including local and tribal government agencies, social service organizations, and educational institutions. NCMT serves Hill and Blaine Counties and the surrounding communities. This includes coordinating services with Fort Belknap and Rocky Boy Reservations' transit systems.

Blaine County is located just below Canada's border. It has a population density of 1.56 persons per square mile. Hill County's population density is higher at 5.67 because the

Town of Havre (population density 2,543.05) is located in this county. If you subtract the Town of Havre, Hill County would have a population density of 2.34, well below the national (88.39) and state (6.91) averages. Havre is the County Seat of Hill County and the largest town in that region. People living in this region often have to travel long distances to access employment, educational services, and health care needs. These great distances make providing public transit challenging.

OL recognized the need for a transportation service to connect people living in this region with services in Havre and Great Falls. In 2008, OL enlisted the Western Transportation Institute (WTI) at Montana State University–Bozeman to develop a plan for implementing public transportation in the region. WTI's research team conducted meetings with tribal and county officials to identify needs and local resources. WTI formed a transportation advisory committee (TAC) consisting of elected officials, representatives from senior centers, transportation agencies, medical and educational facilities, social service providers, and community based and minority advocacy organizations. The TAC also included representatives from the Fort Belknap and Rocky Boy Reservations. In 2009, the TAC approved a coordinated transportation plan for the north central Montana region and by early 2010, NCMT was serving approximately 350 rides per week. In addition to state and federal funding, local partners including Blaine and Hill Counties, Northern Montana Hospital in Havre, and local organizations help to support the service.

### *NCMT Services*

NCMT runs several routes throughout the Hill and Blaine County region, connecting rural residents with services in Havre. They also have a route that connects their region to the City of Great Falls, over 100 miles away, with larger medical, educational, and retail facilities (see Figure 4–18).

The Havre to Great Falls route runs one round trip on Tuesdays and Thursdays. In the mornings, the trip starts at 6:40 a.m. in Fort Belknap with more than 10 pick-up points in the Havre/Fort Belknap area, including a park and ride lot. The route then runs 112 miles to the Great Falls Transfer Center and ends at GTF International Airport at 10:45 a.m. The afternoon trip starts at 2:15 p.m. at the airport and ends at 6:20 p.m. in Fort Belknap via Havre.


Source: Courtesy of Opportunity Link, Inc.

***Figure 4–18. NCMT route Great Falls to Fort Belknap.***


Source: Great Falls Transit District website, http://www.gftransit.com/transfer_center.htm.

***Figure 4–19. The Great Falls downtown transfer center.***

The Great Falls Transfer Center is on the corner of 4th Street and 1st Avenue South, downtown Great Falls, Montana (see Figure 4–19). The Great Falls Transit District (GFTD) acquired the vacant Greyhound bus depot on July 28, 2000, using a Montana Air Quality and Congestion Initiative (MACI) grant and property-tax funds. Since January 2002, the transfer center offers connections to intercity bus service. Riders of NCMT can connect with GFTD systems and Rimrock Trailways. GFTD's transit system serves the communities of Great Falls and Black Eagle.

OL is in a unique position to break down historically isolated silos of service and act as a resource broker between diverse communities, races, incomes, and governments. Their success stems from being able to contribute big picture strategic thinking along with ground level achievements as well as providing critical services as a collaborator, innovator, and facilitator.

## Factors for Success

Both of these transit systems are good examples of coordination and support among multiple community players, including tribal and local governments, community organizations, private intercity bus companies, social service agencies, and educational institutions. In both cases, community organizations with a broader mission than just transit identified transportation as a need for the well-being of the populations they serve and took on the role of coordinating and meeting transit needs for the region.

In northwest Montana, the CSKT recognized the need for transportation to help their community reach services and employment. They leveraged several resources and strategies to meet the transportation needs of the community, including land use. By creating a one-stop center, they reduced transportation needs without driving more miles. People can access all the social services and educational programs in one place.

The CSKT leveraged multiple funding sources and programs, combining transportation into the network of services provided to their members. For example, they leveraged vocational dollars to train drivers, whom they could then hire. The tribes partnered with the state and private transportation companies and used federal 5311 and 5311(f) funding to meet the transportation needs of their region and connect people in rural areas to population centers in Kalispell and Missoula.

In north central Montana, OL—committed to assisting 11 counties and 3 reservations achieve and sustain independence, prosperity, and a better way of life—also took on the role of public transportation provider. OL was able to leverage community partners and state and federal support to connect its rural community with resources 100 miles south in Great Falls, Montana.

In rural areas, underserved populations can become isolated. Without transportation, these populations are unable to access services and amenities needed to live a healthy life. Both of these social welfare organizations recognized the need for intercity transportation and developed partnerships and unique systems to meet that need for the populations that they serve.

## Lessons Learned

- Coordination and support among multiple community players, led by community organizations with a broader mission than just transit, helped make these two examples a success.
- Leveraging multiple community partners, funding sources, programs, and land use was important in these efforts.
- Creating a one-stop center reduces the need for transportation to multiple destinations.
- In Montana, the major factor influencing the development of rural regional services is demand. State policies and programs have not limited the development of regional services, which have emerged in response to local needs.

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# Case Study: New Mexico

## New Mexico Regional Transit Districts, North Central Regional Transit District

### Introduction


Source: North Central Regional Transit District Facebook page, https://www.facebook.com/ridethebluebus/photos.

***NCRTD bus.***

The state of New Mexico allows Regional Transit Districts (RTDs) to hold referendums to increase local taxes to help fund transit. As of June 2016, New Mexico has four RTDs, two of which have passed an increase to the GRT for financial support. In addition to local and regional transit providers, the state DOT also provides regional transit services directly, including a commuter rail line (Rail Runner), and a network of regional commuter buses (park and ride services).

The North Central Regional Transit District (NCRTD) was the first RTD and the first to pass a GRT. NCRTD connects communities and pueblos throughout north central New Mexico, covering Los Alamos, Rio Arriba, Santa Fe, and Taos Counties. There are six pueblos in NCRTD's service area: Ohkay Owingeh, San Ildefonso, Tesuque, Pojoaque, Santa Clara, and Nambé. NCRTD initiated service in 2007 and has a unique service model for a rural system. In general, it charges no fares to ride and the service is mostly flex route, providing over 20 flex routes in the over 10,000-square-mile service area.


Source: North Central Regional Transit District website, http://www.ncrtd.org/.

***NCRTD logo.***

The NCRTD system illustrates the ability of a regional entity to develop and implement regional services with additional connectivity provided by services developed and implemented by the state. This is a good example of a regional taxation authority enabling the creation of a largely rural regional transit system that crosses jurisdictional boundaries.

### State Context and Policy Development

In 2003, New Mexico passed the Regional Transit District Act, NMSA 1978, Chapter 73, Article 25. This allowed and encouraged the formation of RTDs in New Mexico to provide, among other things, regional public transit services.

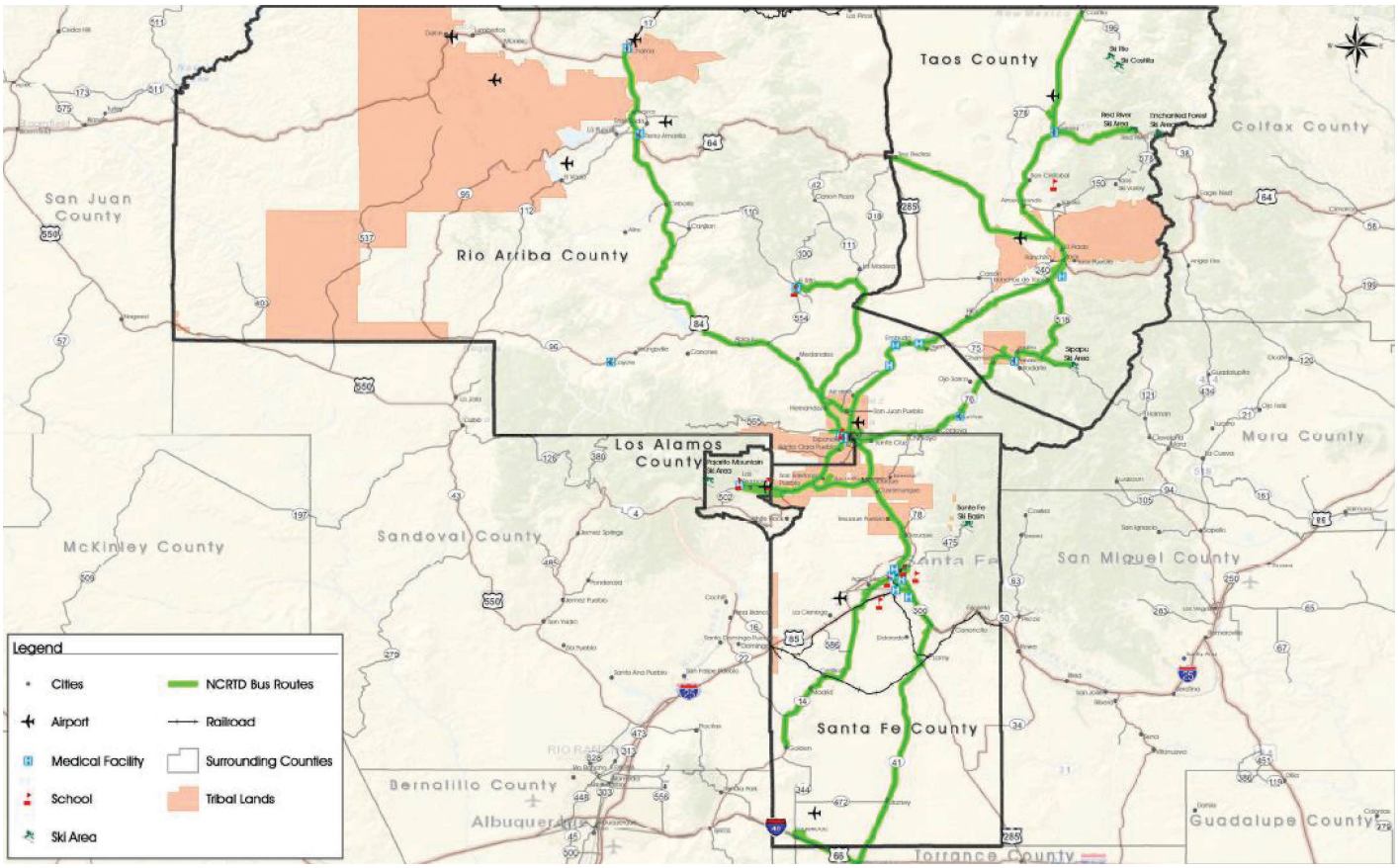
### Example of Regional and Intercity Services

#### *History and Organizational Structure*

In November 2003, an Organizing Committee (then called the Working Group) began meeting and established the major guiding principles of the NCRTD. This 10-member entity was certified as the NCRTD by the New Mexico Transportation Commission in 2004, making it New Mexico's first RTD. In 2006, NCRTD developed a service plan, consolidating existing services in the City of Española and Rio Arriba County under the NCRTD. Taos County joined the NCRTD in 2007.

Figure 4–20 outlines the geographic area of the NCRTD service area (note: the bus routes are outdated); NCRTD has added more routes since the Long Range Strategic Plan was published. Figure 4–21 provides an updated route map in the Regional and Intercity Services section of this case study.

NCRTD is governed by a 14-member board of directors consisting of local officials representing four counties, four cities, and six tribal entities. It serves as the administrative entity




Source: NCRTD Long Range Strategic Plan.

***Figure 4–20. Map of the NCRTD.***

responsible for administration of transit services for north central New Mexico. NCRTD covers a service area of 10,079 square miles with a fleet of 43 buses. Table 4–7 outlines the details of the fleet.

NCRTD funds regional services using revenue from the GRT. It funds transit services, operated by Los Alamos County, the City of Santa Fe, and Rail Runner.

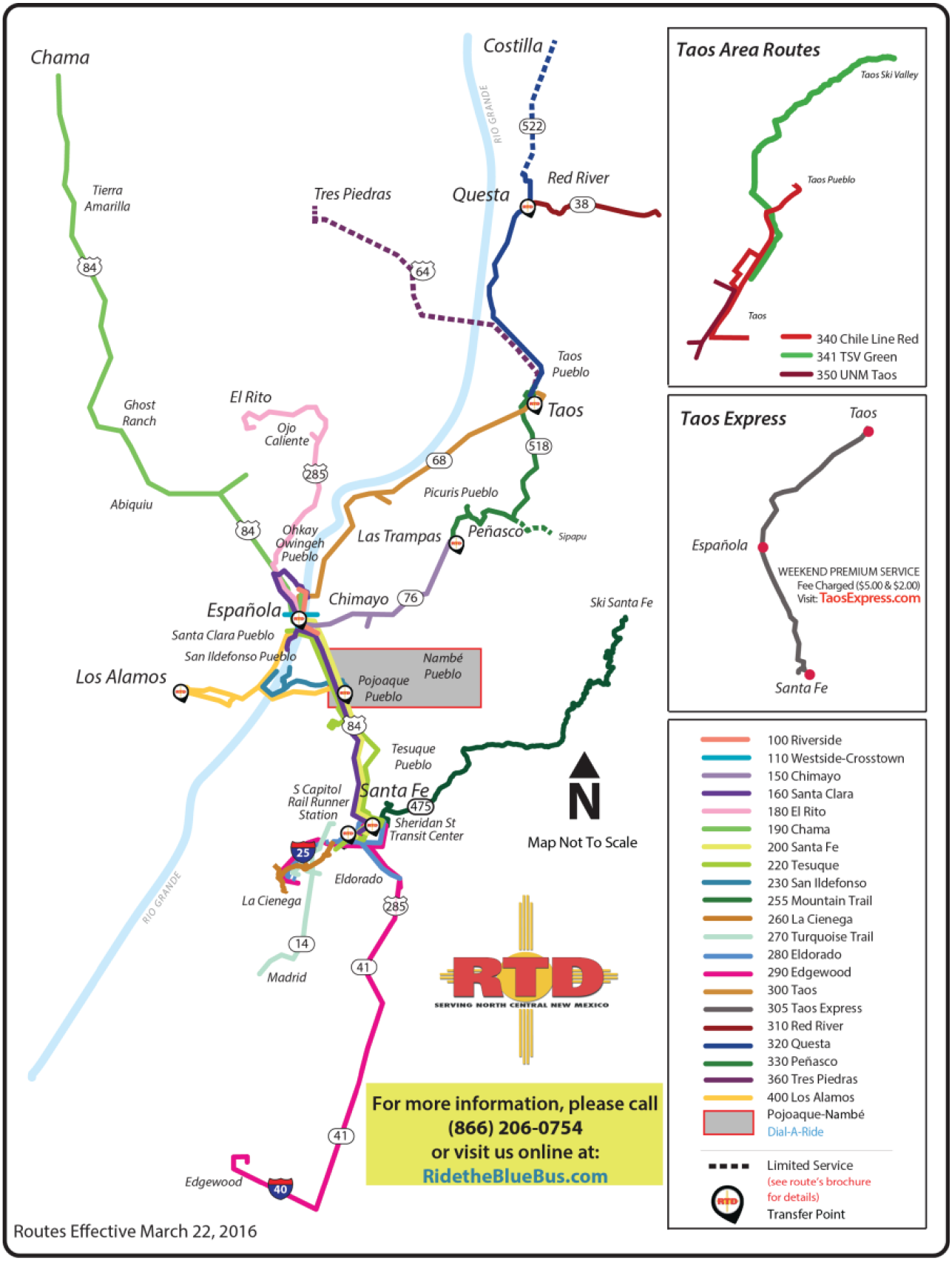
The 2015 NCRTD Long Range Strategic Plan reports that "NCRTD does an excellent job coordinating with transit systems in the four-county region. Coordination includes route planning and funding to ensure a high level of regional mobility."

### *Regional and Intercity Services*

NCRTD operates 20 flex routes. It also operates 2 fare-based premium services: the Taos Express (now called the Chile Line) and the Mountain Trail Route. Fares are charged on both premium services, but not on the other routes.

Routes are divided into the following service areas and run mostly weekdays:

- Rio Arriba/Espanola
- Los Alamos
- Northern Pueblos
- Santa Fe
- Taos




Source: NCRTD Website http://www.ncrtd.org/ncrtd-routes.aspx.

***Figure 4–21. NCRTD route map.***

**Table 4–7. NCRTD fleet.**

| NCRTD Vehicle Fleet | |
|---|---|
| **Number of Vehicles** | **Type of Vehicle** |
| 3 | 25- to 28-Passenger Buses |
| 8 | 8- to 14-Passenger Buses |
| 21 | 5-passenger Paratransit Vans |
| 3 | Contingency Fleet |

Source: http://www.ncrtd.org/about-ncrtd.aspx.

NCRTD also operates a reservation-based dial-a-ride service in the Pojoaque and Nambé Pueblos.

Mountain Trail Route is a premium service to ski and tourist attractions. The route begins at the South Capital Rail Runner Station (connecting to multiple regional and local services) continues through downtown Santa Fe north on Route 475 to Ski Santa Fe recreational areas. This route charges a fare: tickets are $5 each way and bikes are accommodated on a first-come, first-served basis.

The Chile Line provides seasonal connections between the Town of Taos and the Village of Taos Ski Valley some 20 miles away. Unlike the rest of the Chile Line, this is a fare-based service. Passengers pay between $2.00 and $5.00. The Chile Line flex route operates along 10 miles of State Highway 68 and makes connections to service throughout Taos County and to Santa Fe, connecting with the New Mexico Rail Runner which goes all the way to Albuquerque.

NCRTD buses serve key regional destinations including the Los Alamos National Laboratory, Buffalo Thunder Resort and Casino, and Cumbres and Toltec Scenic Railroad in Chama at the region's northern most reaches.

In Santa Fe, NCRTD buses connect with New Mexico Rail Runner Express to Albuquerque and Belen. New Mexico Department of Transportation's (NMDOT) park and ride regional bus network operates four routes in the North Central Region. NCRTD coordinates with and connects to all NMDOT routes in their region.

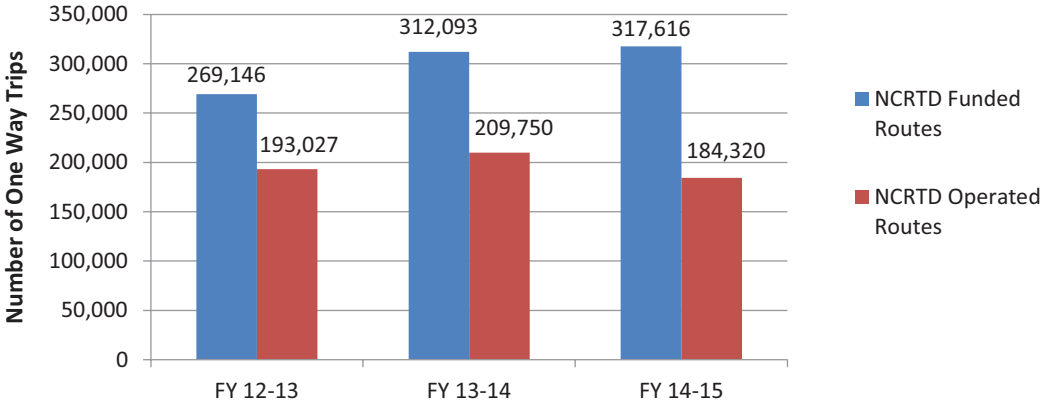
## Ridership and User Characteristics

NCRTD provided 184,320 annual passenger trips in FY2015 on routes it operated. The routes funded by NCRTD provided an additional 317,616 annual passenger trips. Figure 4–22 provides ridership data for FYs 2013, 2014, and 2015.

The U.S. Census Bureau, American Community Survey (2010–2014), estimates the total population for the NCRTD to be 237,446, over 10,083 square miles, making the population density approximately 23.55 persons per square mile. Table 4–8 breaks down the population and total land area for the NCRTD region by county.

RTD conducted an overall needs assessment based on the transit dependence index analysis in the 2014 Transit Service Plan Update, identifying the Town of Taos, the area southeast of Taos, the City of Espanola, and the County of Santa Fe as having the greatest need for transit services. This analysis utilized factors related to population density, age, income status, and vehicle availability. Figure 4–23 illustrates the location of higher transit dependent populations.

In addition to identifying major trip origins and destinations, the 2014 Transit Service Plan Update reviewed current transit services in the region and recommended revisions that



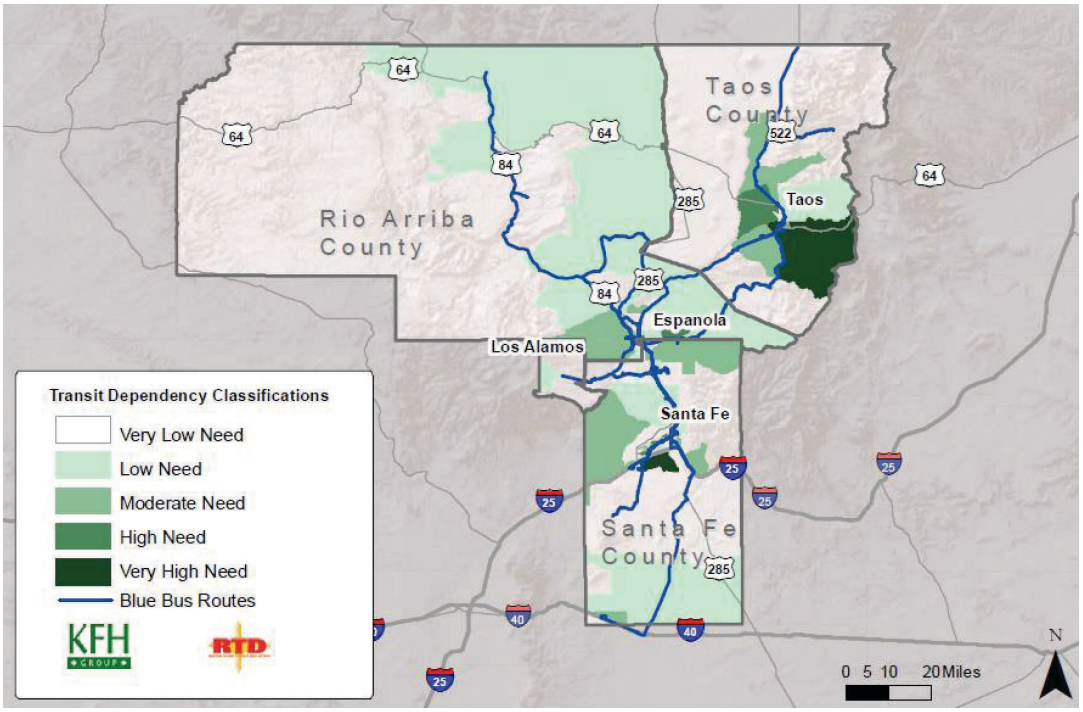

Source: NCRTD website, 2016 Ridership Reports. http://ncrtd.org/ridership-reports.aspx.

***Figure 4–22. NCRTD ridership.***

**Table 4–8. NCRTD population and land area.**

| Report Area | Total Population | Total Land Area (Square Miles) | Population Density (Per Square Mile) |
|---|---|---|---|
| Report Area | 237,446 | 10,082.52 | 23.55 |
| Los Alamos County, NM | 17,974 | 109.17 | 164.64 |
| Rio Arriba County, NM | 40,155 | 5,860.83 | 6.85 |
| Santa Fe County, NM | 146,361 | 1,909.43 | 76.65 |
| Taos County, NM | 32,956 | 2,203.09 | 14.96 |
| New Mexico | 2,080,085 | 121,298.4 | 17.15 |
| United States | 314,107,083 | 3,531,932.26 | 88.93 |

Source: U.S. Census Bureau. American Community Survey, 2010–14, Source geography: Tract.




Source: 2014 Transit Service Plan Update.

***Figure 4–23. NCRTD transit dependent populations.***

**Table 4–9. Students in the NCRTD area.**

| County | City | College/University | 2012 Student Population |
|---|---|---|---|
| Los Alamos | Los Alamos | University of New Mexico | 710 |
| Rio Arriba | Española | Northern New Mexico College | 3,873 |
| Santa Fe | Santa Fe | Institute of American Indian Arts | 350 |
| Santa Fe | Santa Fe | Santa Fe Community College | 6,480 |
| Santa Fe | Santa Fe | Santa Fe University of Art and Design | 650 |
| Santa Fe | Santa Fe | St. John's College | 450 |
| Taos | Taos | University of New Mexico | 1,705 |
| **NCRTD Regional Total** | | | **14,218** |

Source: 2014 NCRTD's Transit Service Plan Update.

coordinated directly with the five other systems in the NCRTD service area. This resulted in changing competing routes into complementary routes. The Transit Service Plan Update helped NCRTD increase connectivity by making recommendations that eliminated service duplication, modified existing routes and schedules, reduced the number of timing points, and tailored service for seasonal fluctuations when serving tourist areas and colleges.

There are seven colleges and universities in NCRTD's region. Table 4–9 lists educational institutions, student population, and locations in the region. Many institutions' students and employees use NCRTD's services. For example, four of the seven Santa Fe routes bringing people into Santa Fe from the surrounding areas stop at the Santa Fe Community College.

## Funding

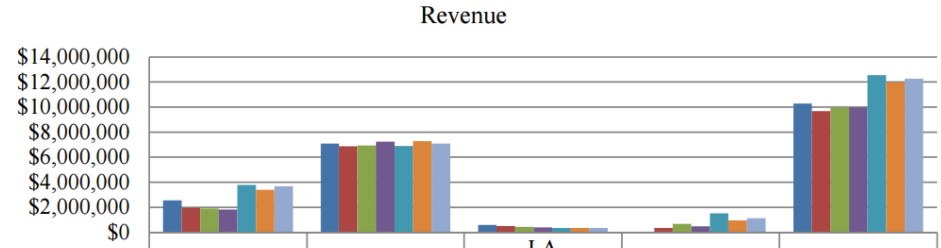
In 2008, NCRTD was the first RTD to secure a GRT for public transit, adopting a 0.125 percent tax. In FY2015, NCRTD reported that 75 percent of their revenue ($7.2 million) was from GRT, 19 percent from federal grants, 4 percent from member local match, and 2 percent miscellaneous. The Fiscal Year 2017 Budget report adopted on June 10, 2016, shows a decrease in the percentage of GRT revenue and an increase in federal allocation. In its FY2017 budget, NCRTD is proposing that the GRT source will provide 58 percent of operating revenue, federal allocations 30 percent, Los Alamos County contributions 3 percent, and miscellaneous revenues 9 percent. The Fiscal Year 2017 Budget reports that the region has been in a recession and tax revenue reflects this, showing limited growth. Figure 4–24 contains a summary of NCRTD's revenue over the last 5 years.

NCRTD develops and delivers rural regional services and supports regional routes delivered by other entities. It also connects with regional transit providers, for example, NMDOT runs the Park and Ride Express, which connects with NCRTD services.

New Mexico and the federal government recognized NCRTD for its outstanding services. In 2015, Therese McMillan, FTA Acting Administrator, presented NCRTD with the FTA Administrator's Award for Outstanding Public Service in Rural Transportation. NCRTD was also the NMDOT FY2014 Section 5311 Transit System of the Year recipient.

## Lessons Learned

- NCRTD's success in increasing and expanding transportation services since its inception in 2004 illustrates the ability of a regional entity to develop and implement services with




| | Federal Funds | Transit Tax | LA Contribution | Miscellaneous | Total |
|---|---|---|---|---|---|
| 2012 Act. | $2,566,482 | $7,083,927 | $600,000 | $38,859 | $10,289,268 |
| 2013 Act. | $1,957,130 | $6,871,270 | $500,000 | $357,312 | $9,685,712 |
| 2014 Act. | $1,902,036 | $6,941,122 | $450,000 | $681,436 | $9,974,594 |
| 2015 Act. | $1,833,820 | $7,246,641 | $400,000 | $490,387 | $9,970,848 |
| 2016 Budget | $3,781,539 | $6,903,500 | $350,000 | $1,513,504 | $12,548,543 |
| 2016 Proj. | $3,398,010 | $7,279,131 | $350,000 | $955,652 | $11,982,793 |
| 2017 Prop. | $3,684,876 | $7,095,000 | $350,000 | $1,144,957 | $12,274,833 |

Source: NCRTD Fiscal Year 2017 Budget.

***Figure 4–24. NCRTD revenue.***

additional connectivity provided by other agencies. This example demonstrates the role of the regional taxation authority in enabling the creation of a largely rural regional transit system.

- In FY2014, NCRTD conducted a route and schedule analysis. After consolidating routes and adjusting service times to connect to other regional services, NCRTD ridership increased by 8.6 percent, to 209,750 riders for FY2014. This increase is eight times the 2013 national average for increased trips on public transportation.

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# Case Study: Oregon

## Oregon Department of Transportation Transit Network Program and Northwest Connector Program

### Introduction

Source: Tillamook County Transportation District.

***Connector logo.***

The Northwest Connector is a multi-county regional transit network that provides transit services across five counties in Northwestern Oregon. Recently rebranded from its former name, the North by Northwest Connector, its services are designed to attract multiple types of riders.

It has a number of strategic partners including two tribal confederations, an urbanized area transit system, Greyhound, Amtrak Thruway bus, and local towns that are supporting improved pedestrian access and stops. The five county transit agencies listed below form a multi-county regional transit network, the Northwest Oregon Transit Alliance (NWOTA), that facilitates Northwest Connector service:

- Tillamook County Transportation District—The Wave
- Lincoln County Transportation Service District (LCT)
- Columbia County (CC Rider)
- Sunset Empire Transit District (SETD)
- Benton County Rural Transit (BCRT)


Source: Tillamook County Transportation District.

***North by Northwest Connector bus.***

The project began with a $3.5 million U.S. DOE grant and is defined by a regional intergovernmental agreement. Partner agencies remain independent. They jointly apply for funding and share administrative costs for the NWOTA. The project includes development of regional routes (by modifying local services) and higher quality transfer points at major stops where riders could make scheduled connections. New services are combined under a common brand which is incorporated into existing agency brands. A regional visitor pass is common to all the participating systems, supporting regional travel between Willamette Valley and the coast, but each retains its individual local fare structure.

## Organizational Structure

In 2010, the five transit agency directors, informally supported by state and regional technical support staff, applied for a grant from U.S. DOE Energy Efficiency and Conservation Block Grant (EECBG) Program, under the General Innovation Fund category and were awarded a 3-year, $3.5 million pilot project using bus service to reduce fossil fuel emissions.

The two counties and three transit districts developed a coordinating council and intergovernmental agreement, officially forming the NWOTA. The grant allowed the partners to launch a pilot program of regional strategies aimed at increasing transit use by commuters and visitors, and decreasing community dependence on fossil fuels. These strategies included the following:

- Co-branding and marketing;
- Regional route and service coordination;
- Increasing frequency and days of service;
- Construction of bus-stop furnishings;
- Creating a centralized website; and
- Partnership development for the NWOTA partners.

Today, Northwest Connector transit services are supported by the individual partner transit agencies, state and federal grants, and other partnerships. All the transit agency partners are financially independent and receive individual financial support through ODOT grants and local support. The Lincoln County Transportation District, Tillamook County Transportation District (TCTD), and Sunset Empire Transportation District have local property tax support as well. Several of the intercity services are supported by 5311(f) funds. For example, ODOT funded the Lincoln City to Grand Ronde/Salem service with Section 5311(f) intercity funds. The local match for this particular route is being provided by the Confederated Tribes of the Grand Ronde and the Confederated Tribes of the Siletz Indians.

The North by Northwest Connector coordinates and co-markets Columbia County Rider, Sunset Empire Transportation District, Tillamook County Transportation District, Benton County Transit, and Lincoln County Transit. It combines the resources of the partner transit agencies to provide seamless transit services along the northwest Oregon coast from Astoria to Newport with connections to inland population centers including Albany, Salem, and Portland, and transit connections in Rainier.

## State Context and Policy Development

The overall ODOT intercity program is called the Transit Network Program. It uses a number of funding sources including 5311(f), 5311, and state dollars. It is described in the Oregon State Management Plan. It has five components: information systems (GTFS for all transit providers, timetables, and maps); state contracted service (ODOT's POINT network and Amtrak Thruway); intercity bus discretionary grants; multimodal transit hubs; and transportation options program coordination. Recently ODOT purchased route planning software for use by all transit providers, enabling them to use their GTFS data for service planning and Title VI compliance.

ODOT encourages private for-profit companies to compete for service contracts. They are eligible for capital grants, but not for operating grants. The grant program is described as discretionary (local transit providers initiate projects, the state evaluates and selects among them), but the state may fund intercity projects of statewide importance outside the discretionary grant program by providing either contracts or grants. Thus, ODOT can design and fund an intercity grant project as well as a contracted project.

For the original development of the Northwest Connector, ODOT was not a co-applicant for the DOE funding. It provided only staff time in an advisory role. The routes included in the Northwest Connector network are funded under various grant programs, including Section 5311(f).

Given this basic program structure, it is not surprising that Oregon has several examples of rural regional mobility covering large regions in addition to the North by Northwest Connector. The Confederated Tribes of the Umatilla Indian Reservation KAYAK network covers a large area whose jurisdictional boundaries are based on historic tribal areas and meets transit service needs. Another regional network with regional services is Cascades East Transit, operated by Central Oregon Intergovernmental Council. ODOT is supportive of the development of regional networks and regional services, and sees that there is potential for additional regional service development in other areas, if there is funding and willing local leadership.

## Examples of Regional and Intercity Services

The Northwest Connector system provides transit services across five counties in northwestern Oregon. The system also provides connections to Amtrak and cities in the I-5 corridor including Kelso, Portland, and Albany (see Figure 4–25).

The NWOTA coordinates services by improving and, in some cases, eliminating transfer points. For example, the TCTD service used to stop in Otis and passengers had to transfer to Lincoln County's bus services. Now TCTD goes into Lincoln City, eliminating the transfer, and the agencies share the cost of the extended run.

Route and service changes built on the strengths of the five existing systems took into account connections to intercity transit services and focused on improvements that served major travel markets identified by a market study. Route and service changes implemented under the Northwest Connector focused on improving connections between the partner agencies. Connecting


Source: North by Northwest Connector website: http://nworegontransit.org/.

***Figure 4–25. Map of the Connector service area.***

routes between counties existed before the project; however, except for one route from Portland to Tillamook, all other inter-county transit travel required a transfer, usually in a remote area near a county line. Also, while inter-county trips can be made using the regional visitor pass, transferring to the next county still requires passengers to pay a new fare.

The final report for the U.S. DOE grant, North by Northwest Connector: Successes and Lessons Learned reported the following major service adjustments during the initial years of program implementation covered by the grant.

### *Lincoln-Benton County Connections*

**Before.** BCRT and LCT were cooperating to provide "Coast to Valley" service from Corvallis to Newport. The service was fixed route service funded with New Freedom funding, primarily serving medical and hospital access needs for coastal residents. The LCT bus started in Newport

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and travelled inland (east), and the BCRT bus started in Corvallis and travelled west. The two buses would meet at Ellmaker Wayside, a remote rest area roughly near the mid-point, exchange passengers, and then go back to their respective starting points.

**After.** Seven-day fixed route service was initiated on this route as part of the Connector pilot project, and a new connection to the Albany Amtrak station was made. In addition, BCRT and LCT set up a more efficient arrangement to eliminate the mid-point transfer. The LCT bus now makes one run all the way from Newport to Albany/Corvallis and back twice a day while the BCRT bus runs between Albany and Corvallis. Because operational costs for each party were roughly the same, no cost-sharing arrangement was needed for this change.

### *Tillamook-Lincoln County Connections*

**Before.** Between Tillamook and Lincoln counties, the transfer point was Otis (population approximately 10), and the layover time for a transit connection was typically several hours.

**After.** As a result of the Connector project, the TCTD bus now runs all the way into Lincoln City and LCT helps defray TCTD's extra operational costs. The change also provided an opportunity for direct service from Tillamook to the Chinook Winds Casino in Lincoln County (for access to both jobs and recreation). On weekdays, the connection to Salem is made by Salem Area Mass Transit District (SAMTD), but on weekends, TCTD operates the full trip to Salem and Lincoln two times per day. To address the cost of the service changes, LCT secured FTA 5310 funds for service between Nehalem (in Tillamook County) and Lincoln City (in Lincoln County) and used these funds to pay TCTD for providing the service as a contractor. The 5310 funds provide a 90/10 federal/local match, with the local share provided by the tribes.

### *Clatsop-Tillamook County Connections*

**Before.** Between SETD in Clatsop County and TCTD in Tillamook County, the transfer point was Tolovana Park, located south of Cannon Beach.

**After.** SETD and TCTD moved the transfer point to a better location in mid-town Cannon Beach, where riders can access a greater number of community amenities and services, and also connect to the ODOT-funded NW POINT intercity passenger service that serves Portland and the north coast. Schedules have been adjusted to reduce transfer wait times. Both partners were able to absorb minor operational cost increases resulting from these changes through efficiencies gained through service adjustments elsewhere.

### *Columbia-Clatsop County Connections*

**Before.** Travel from Portland to Astoria on the northern tier of the system (along the Columbia River Highway U.S. 30) required two transfers and about 6 to 8 hours. A transfer between Columbia County Rider buses was required in St. Helens, and an additional transfer was needed in Westport, a rural community with limited amenities, to access the SETD system. Service was available weekdays only.

**After.** Connecting times between SETD and Columbia County Rider have been better coordinated and the Connector pilot project allowed SETD and Columbia County Rider to test 7-day service. However, there is still significant room for improvement between Portland and the coast via this route. An interim recommendation from the consulting team was to move the SETD/Columbia County Rider transfer point to Clatskanie, a larger community with significantly more destinations and services than Westport. However, political and financial constraints in Columbia County precluded SETD's ability to provide service within Columbia County during the pilot project.

Currently, the transfer point is at the Rainier Transit Center, and this trip takes approximately 3.5 hours. Plans call for the transit center site (formerly a gas station) to be re-developed to meet public transit needs. The transit center will have rider amenities such as restrooms, a place to wait for the bus, and park and ride parking on site. The Oregon Connect V Program and a federal intercity grant to be used as the match dollars provided funding for this project. The Connect V funding totaled $678,308 and a federal intercity grant totaled $135,662. Weekday intercity service from the Amtrak station in Kelso, Washington, to Astoria, Oregon, was initiated in 2013, allowing travel through Columbia and Clatsop counties without a transfer.

Because changes to connections and service between Columbia County Rider and SETD have yielded minimal improvements to efficiency and convenience, SETD is working on an alternate initiative to help improve visitor access via the northern tier of the Northwest Connector system. The ODOT POINT bus traveling on Highway 26 has fewer stops and is a much faster way to reach Portland.

## Ridership and User Characteristics

Like most rural areas, Columbia, Clatsop, Tillamook, Lincoln, and Benton Counties' primary mode of travel was by single-occupant vehicle. Seasonal travel to the coast caused traffic congestion on several routes but the counties wanted to keep their rural small town character and not expand their roads. Also, the seasonal nature of the traffic made highway expansion and funding difficult to justify. The majority of transit users are transportation disadvantaged: people with disabilities, older adults, those without access to a personal vehicle, and people with lower incomes.

The five counties served by the Northwest Connector cover 4,245 square miles with a combined population of 244,067, making the average population density 57.5 people per square mile. Table 4–10 breaks out the population, land area, and population density for the five counties and compares it with the state and United States. The coastal counties have lower population densities and are attractive vacation and recreational destinations for the more densely populated Willamette Valley.

By creating the regional network, the local transit providers were able to expand their ridership. The participating Northwest Connector agencies added new types of riders, namely, tourist and recreational riders with their intercity services making connections to the Willamette Valley.

**Table 4–10. Five-county population, land area, and population density.**

| Report Area | Total Population | Total Land Area (Square Miles) | Population Density (Per Square Mile) |
|---|---|---|---|
| Report Area | 244,067 | 4,244.8 | 57.5 |
| Benton County, OR | 86,034 | 676 | 127.27 |
| Clatsop County, OR | 37,236 | 829.08 | 44.91 |
| Columbia County, OR | 49,325 | 657.38 | 75.03 |
| Lincoln County, OR | 46,138 | 979.76 | 47.09 |
| Tillamook County, OR | 25,334 | 1,102.58 | 22.98 |
| Oregon | 3,900,343 | 95,988.34 | 40.63 |
| United States | 314,107,083 | 3,531,932.26 | 88.93 |

Source: U.S. Census Bureau. American Community Survey, 2010–14, Source geography: Tract.

The NWOTA developed a marketing and branding strategy that incorporated the Northwest Connector name into existing individual agency brands and identities. This helped connect the five diverse counties and attract multiple types of riders. Tourists and employees from the Willamette Valley could use the Northwest Connector service to travel out to the coast and between the five counties using regional bus passes. The idea was that consistent branding would help visitors use the system. The name and brand are currently being updated. Over 1,600 Connector visitor bus passes were sold in 2014.

## Funding

In 2010, the five transit agencies were awarded a $3.5 million grant from the U.S. DOE EECBG Program to initiate the North by Northwest Connector pilot project. This is the first project of its kind funded by the U.S. DOE, and serves as a national model for rural transit coordination in other areas of the country. The pilot program funding was for a 3-year project covering planning, administration, and service expansion.

A key task of the U.S. DOE grant was to examine ways to sustain the program after grant funds expire. Example strategies include new revenues from sales of regional advertising and visitor passes, charitable fundraising activities in partnership with the North by Northwest Transportation Foundation, Oregon's energy tax credit program, tribal partnerships, business sponsorships, and ongoing funding from the FTA.

The Northwest Connector's coordinating agency, NWOTA, is supported through contributions from the five partners and additional grant funding, including grants awarded by ODOT specifically to support the partnership. In addition, each of the five transit partners contributes approximately $10,000 a year to the NWOTA. About one-half of this is used for administrative expenses. Other NWOTA expenses include items such as website maintenance, national conferences, legal/audit/insurance, and marketing. NWOTA contracts with the Columbia Pacific Economic Development District to provide the equivalent of one full-time administrator.

## Factors for Success

The new Northwest Connector services established an integrated, multi-tier, vertical, and horizontal mobility network—supplemented by Amtrak's Cascades service through the Willamette Valley as well as private intercity bus routes—creating a ladder-like matrix of connectivity throughout the region. With services that are frequent, reliable, and easy to understand, the Northwest Connector appeals to a wider audience of travelers. From people looking for essential transit options to reach employment or health care to tourists looking for a way to reach key destinations along the coast or in the valley and college students and faculty accustomed to living less dependent on private automobile ownership, the Northwest Connector system meets more types of travel needs.

After the NWOTA formed, it started community outreach and branding efforts in 2011 and launched the NW Connector system in 2012. As a result of the U.S. DOE pilot project, the five-county region now has the following:

1. Centralized coordination program (NWOTA),
2. Centralized website,
3. Regionalized transit services,
4. Regional route and service coordination,
5. Regional bus stop furnishing and improved pathways,
6. Regional fare system,
7. Enhanced branding and marketing system, and
8. Employer and visitor transit programs.

The coordinating council meets monthly to collaborate and monitor progress on major tasks. The U.S. DOE final report, North by Northwest Connector: Successes and Lessons Learned, reported that "All partners had to broaden their perspectives beyond the customer base in their individual service areas. Achieving a regional outlook required compromise, and sometimes challenging financial tradeoffs."

The centralized NWOTA website provides public information about the Northwest Connector, and is being updated to improve its functionality. This includes coordinated route and fare information for riders across all five counties. The website also has a member's only side with management tools to benefit all five partner agencies. Originally, the agency-only side of the website was developed to manage regional GTFS data to facilitate adjustment of routes and stops, but ODOT now provides for GTFS feeds for each agency across the state. The route and stop module is also set up to keep track of stop furnishings, and provide information on available stop amenities to users.

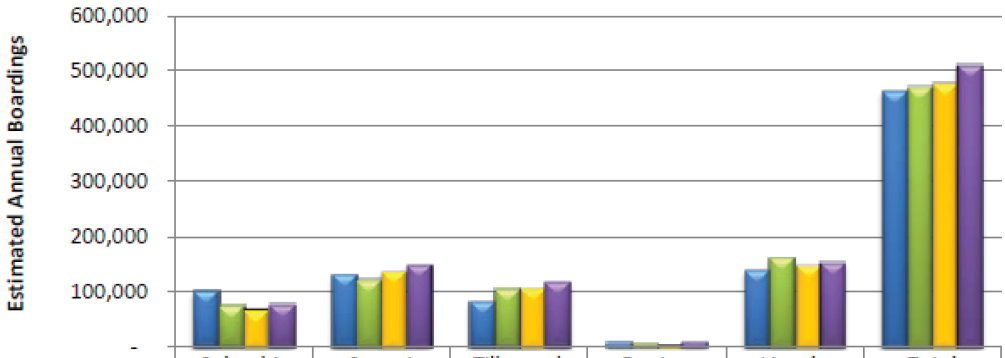
Careful analysis of data and market trends helped to focus regionalization efforts where they are most effective. The Northwest Connector program has achieved two major regional service planning objectives: (1) improved connections between the five partner agencies' transit systems and (2) improved connections between the Willamette Valley population centers and the five counties. To make responsible service changes, a detailed market analysis was performed during system implementation. The market analysis looked at identifying new markets for transit services.

The market analysis served as a powerful tool to help agencies make data driven decisions regarding local and regional routes and schedules; stops and connections; service provision; and expansion. Analysis of data and market trends helped focus regionalization efforts where they would be most effective. For example, developing a regional fare structure for both commuters and visitors was considered early on. However, the market analysis helped the partners understand that investment in a regional commuter pass program most likely would not be worth the potential return. Alternatively, the analysis provided significant justification for a visitor pass program, including valuable information on geographic areas where marketing activities would likely have a positive effect.

Small adjustments to regional routes and coordination of services between the partner agencies helped improve services and increase ridership. Specific improvements to intercity services were discussed in the Factors for Success section. In addition to regional transfer adjustments, service hours and fare structures were also analyzed for seamless coordination. Routes and service that existed at the onset of the project were used as a foundation for regionalization. Significant ridership increases on the system have resulted from the partnerships. For example, since TCTD's Route 4 was extended to Lincoln City in the spring of 2012, ridership on this route has increased over 74 percent on weekends and 71 percent on weekdays. To implement the route changes, however, LCT had to be willing to allow TCTD to operate within its service area, reduce its own service, and pay TCTD for increased operational costs.

The North by Northwest Connector: Successes and Lessons Learned report found that when the partner agencies evaluated their individual services in the context of a regional system, many partners identified future partnering opportunities. The following are examples:

- TCTD worked with SETD and local veterans to identify better ways of providing veterans in Tillamook County with transportation to appointments at Camp Rilea in Clatsop County.
- LCT worked with TCTD and both the Siletz and Grand Ronde Tribes, to explore connections between the Chinook Winds Casino in Lincoln City, and the Spirit Mountain Casino in Grand Ronde.
- The Connector Alliance, as a group, is also exploring new service to Salem along the Salmon River Highway in partnership with the Tribes. (LCT is sponsoring this initiative for the group.)




| | Columbia | Sunset | Tillamook | Benton | Lincoln | Total |
|---|---|---|---|---|---|---|
| Annualized Ridership Nov 2011 | 102,247 | 131,612 | 82,888 | 8,060 | 140,377 | 465,184 |
| Annualized Ridership Feb 2012 | 75,238 | 124,190 | 104,962 | 6,006 | 161,749 | 472,145 |
| Annualized Ridership Sep 2012 | 71,418 | 141,024 | 108,732 | 5,616 | 151,466 | 478,256 |
| Annualized Ridership Jun 2013 | 78,696 | 149,396 | 119,340 | 9,724 | 154,047 | 511,203 |

Source: North by Northwest Connector: Successes and Lessons Learned report

***Figure 4–26. Connector systemwide annual ridership from 2011 to 2013.***

- SETD identified a need for Amtrak Thruway bus service from the train station in Longview/Kelso to Astoria, and is working to incorporate new intercity service on that route into the Connector system.

Performance measures gathered during the DOE grant period showed that on the whole, regional ridership increased. Figure 4–26 shows the overall systemwide ridership, including all fixed routes within all five transit service areas.

The North by Northwest Connector: Successes and Lessons Learned report found that transit service provided by the five Connector agencies is responsible for about 5 million fewer miles driven in the region each year. This reduction in total vehicle miles traveled (VMT—statistics that are influenced by the number of transit riders served per mile of bus operation) in turn has the potential to relieve congestion, reduce vehicular delay, and decrease greenhouse gas emissions.

In addition to the increased services and service hours of the Connector, NWOTA was recognized by the National Association of Counties with its 2013 Achievement Award.

## Lessons Learned

- A highly connected, ladder-like mobility network with services that are frequent, reliable, and easy to understand appeals to a wide audience of travelers.
- Partners need to broaden their perspectives beyond their individual customer base. Compromise and financial tradeoffs may be needed to achieve a regional outlook.
- Community outreach and branding efforts are important, as is a centralized regional website that is well-maintained.
- Careful analysis of data and market trends helps to focus regionalization efforts where they are most effective.
- Small adjustments to regional routes and coordination of services between the partner agencies help improve services and increase ridership.
- Participating partners may identify future partnering opportunities.

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# Case Study: Vermont

## Rural Regional Services—Joint Schedules on Regional Routes

### Introduction

Over the past 15 years, the Vermont Agency of Transportation (VTrans), with the support of the state's legislature, has worked with the state's local transit providers to address the need for regional connectivity. The result is an extensive network of regional services providing regional commuter services and rural regional links between rural transit system services. The state transit funding program has used CMAQ funding to support the development of many regional routes. In many cases, transit operators have developed unique ways of jointly implementing regional services, sharing costs, and providing a convenient one-seat ride. This case study will examine the role of the state program in supporting the development of regional service, and provide an example that illustrates ways that rural transit operators have implemented services that increasingly offer a high level of statewide rural regional mobility.

Source: DVTA

***The Moover Bus used on the Bennington-Brattleboro Service.***

### State Context and Policy Development

#### *State Policies and Development of Rural Regional Services*

VTrans administers federal transportation programs in Vermont, including FTA Section 5311 and Section 5311(f) rural transportation assistance programs and Section 5310 for non-urbanized areas.

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The state has only one urbanized area, Burlington, and transit service in that area is provided by the state's only public transit authority, Chittenden County Transportation Authority (CCTA). CCTA is considered a municipality. It serves the communities of Burlington, Essex, South Burlington, Shelburne, Williston, Winooski, Milton, Hinesburg, and a portion of Colchester. CCTA operates regional express routes under the name LINK Express that serve Montpelier, Middlebury, and St. Albans (located outside the urbanized area). In 2011, CCTA and Green Mountain Transit Agency (GMTA) became a single organization, making CCTA a regional transit authority because of GMTA's services in Washington, Lamoille, Franklin, and Grand Isle Counties.

CCTA is governed by a 13-member board of commissioners, including 2 commissioners from Burlington and 1 from each of the other towns and counties in its expanded service area.

Outside the CCTA/GMTA service area, all of Vermont's transit providers are private non-profit organizations. Figure 4–27 presents a map of public transportation providers. In Vermont, the role of county governments is limited to functions related to law enforcement, courts, and local jails, so many services are provided through private non-profit organizations. Service areas of transit providers are not always defined by county or township boundaries.

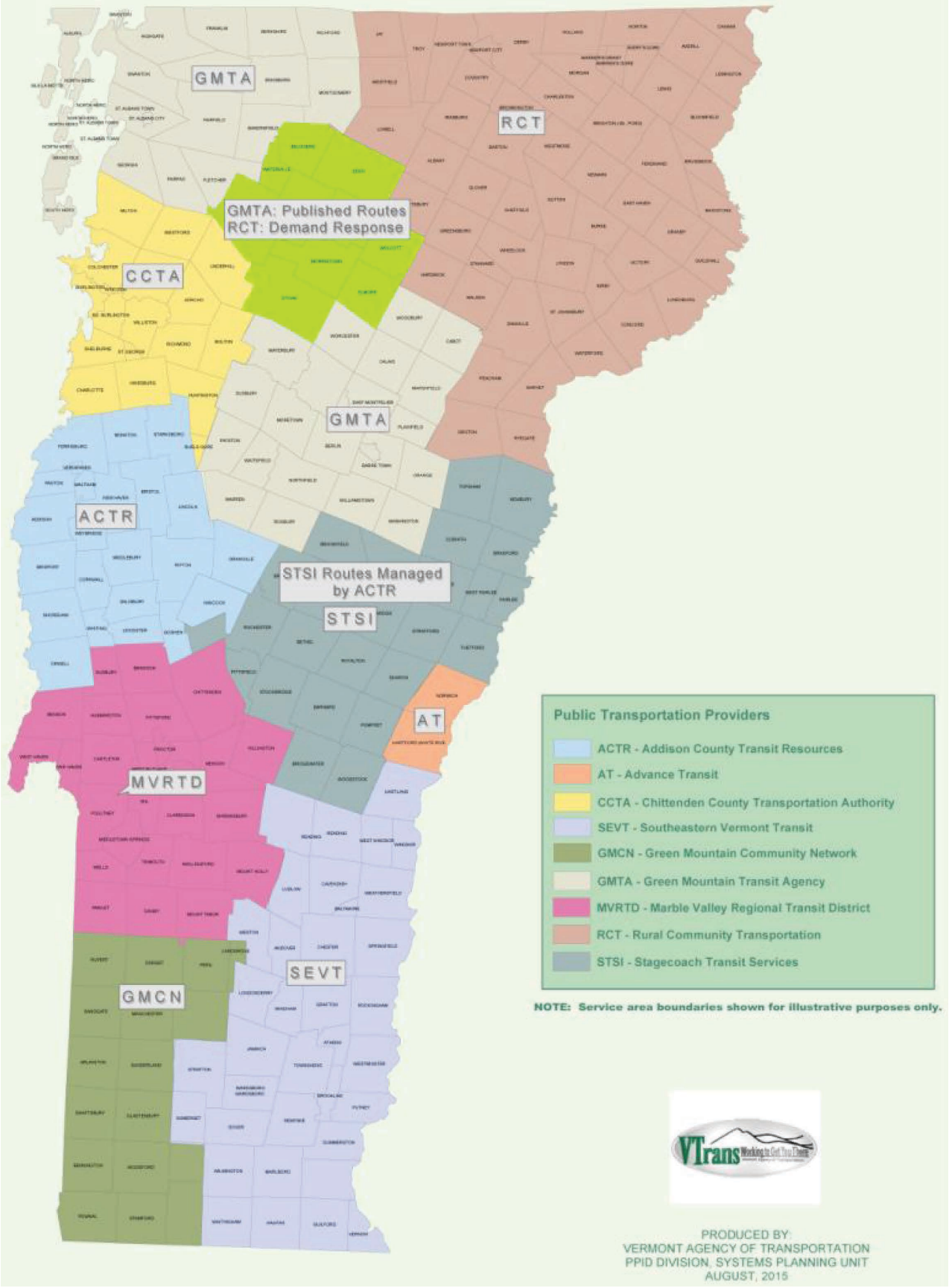
### *Development of Regional and Intercity Services Statewide*

The focus on regional solutions began with the realization that regional and intercity bus services provided by the state's regional intercity bus carrier, Vermont Transit, were rapidly shrinking. Deregulation of the intercity bus industry in 1982 started the reduction, and subsequent events led to continued service reductions. The Vermont Statewide Intercity Bus Study performed for VTrans in 1998 documented a reduced network providing service to 50 cities and towns in the state. By the most recent update in 2013, this number had declined to only six places with intercity service. Efforts to use FTA Section 5311(f) funding to maintain service in some corridors by providing bus capital were not successful in retaining service. In 2005, Greyhound Lines, owner of Vermont Transit, closed the firm and maintained limited Greyhound frequencies in two corridors. This gap initially became most apparent at the local level when the need to provide regional work trips was identified in CCTA planning.

CCTA is a public entity providing transit service to the Burlington urbanized area (Vermont's only UZA). In 2003, CCTA conducted a Short-Range Transit Plan. While it addressed many needs within the CCTA service area, it also identified a need for work trips from rural areas into Burlington, from Burlington to the state capitol, Montpelier (which is non-urbanized), and to the state office complex in Waterbury (non-urbanized and located between Burlington and Montpelier). The 2003 transit plan defined potential commuter routes between Burlington, Montpelier, Waterbury, St. Albans, and Middlebury.

At the same time, VTrans was developing a state "new starts" policy that would provide funding to local public transit providers for new services at the state level for a limited period. At the end of the period, if the service met performance thresholds established for that type of service, it would be included in the ongoing program with state and FTA funding support. VTrans identified CMAQ funding as the source of support for the new starts program, with 3 years of operating funding to allow service to develop full ridership.

CCTA used the new funding to develop three regional routes, all branded as new LINK services. Commuter schedules from Burlington to Waterbury and Montpelier (2003); from Middlebury to Burlington (2004); and from St. Albans to Burlington (2005) were implemented by CCTA. Service to Middlebury has weekday service provided by CCTA and Saturday service provided by ACTR. These services featured a limited number of stops, schedules that allowed travel in either direction morning and afternoon, and commuter (multi-ride) fares. Stops included downtowns and park and ride lots, and they were launched with a significant marketing effort.




Source: Vermont Agency of Transportation PPID Division, Systems Planning Unit.

***Figure 4–27. Vermont's public transportation providers.***

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Success of these routes and support of the VTrans funding program led other transportation providers across Vermont to implement regional commuter routes, and connect rural, non-urbanized places to each other. Many services were entirely within the service area of a particular provider, but operators (most of them private non-profit organizations) also worked with each other to jointly develop and operate connecting routes. By 2010, there were 12 regional commuter routes statewide, operated by 9 different providers. Organizational consolidation reduced the number of providers over time, and these routes are still operating. Additional routes have been developed and implemented using CMAQ funding through VTrans. There are now 31 routes that VTrans classifies as rural commuter, and 10 routes that are classified as express commuter as part of its annual statewide assessment of transit performance. Figure 4–28 presents a map of Vermont showing regional commuter routes.

In addition to these regional routes, VTrans uses CMAQ funding, transferred into its Section 5311(f) rural and intercity program, to fund three rural intercity routes: one connecting Burlington to Albany via Rutland and Bennington; a second route connecting White River Junction with Springfield (Massachusetts) via Brattleboro; and a third route connecting Rutland and White River Junction. VTrans also provides comprehensive transit information covering all transit providers serving the state on its Go! Vermont website and telephone information source (which also provides car- and vanpool matching, bicycle information, and intercity bus schedules).

## Examples of Regional and Intercity Services

Many routes in Vermont link rural areas multiple times per day, and connecting routes may be jointly operated without requiring riders to change buses at the border of the provider's service area.

### *Route 2 Commuter*

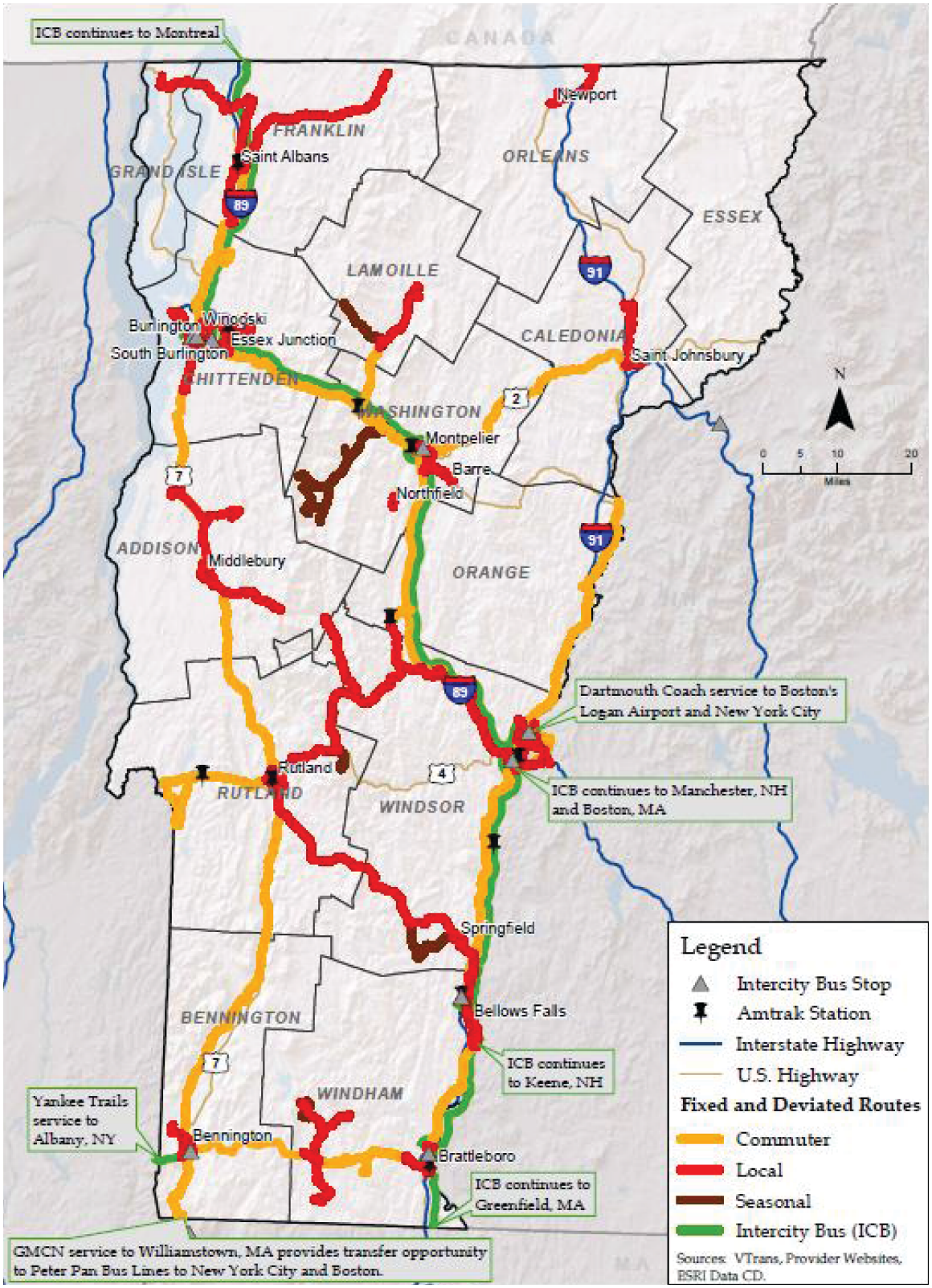
One early example of this service model is the Route 2 Commuter, which operates between St. Johnsbury (2010 population 6,193) and Montpelier (2010 population 7,855). The trip takes 80 minutes each way, including stops, to cover 36.1 miles. The Route 2 Commuter schedule includes two morning and two evening schedules between Montpelier and St. Johnsbury, an additional morning trip to Montpelier from a park and ride lot midway between these two towns, and a mid-day round trip between Montpelier and the park and ride lot.

Two providers jointly operate this service. Rural Community Transit (RCT), a private non-profit based in St. Johnsbury, operates two round trips. The other schedules are operated by GMTA, the Montpelier-based arm of CCTA. The complete timetable is presented by both providers in their public information. There are different fares: RCT trips are fare-free and GMTA trips have a $2.00 fare. Productivity on this route averages six boardings per hour. Schedules are designed to connect to other regional routes in Montpelier, facilitating trips beyond this one route.

The significant lesson of this service is that it serves two rural towns in different transit service areas through a cooperative service that does not require passengers to change buses at the border, and does not require a complicated cost allocation or contract.

### *Bennington-Wilmington*

This model has most recently been implemented in the southern part of the state by two private non-profit transit providers. Both Southeast Vermont Transit, Inc. (SEVT), and Green Mountain Community Network, Inc. (GMCN), are private non-profit organizations created to provide public transportation in their respective service areas. SEVT was formerly known as the




Source: KFH Group from data provided by VTrans provider websites, ESRI Data.

***Figure 4–28. Regional commuter routes in Vermont.***

Deerfield Valley Transit Association (DVTA). Its routes and services are now called The Moover. Originally, DVTA and GMCN both applied to VTrans for funding to operate scheduled service between Bennington (GMCN's hub on the west end) and Wilmington (the main hub for The Moover services), filling a gap in the state's transit network. VTrans provided 3 years of operating support using CMAQ funding, and the service started on July 9, 2012.

The original grant proposal was jointly submitted by the two organizations in late 2011. Ten years earlier, DVTA led a regional team in producing the Brattleboro-Bennington Feasibility Study, which included focus groups, surveys, public hearings, and meetings with local policy-makers. The proposed route also included a number of subsequent regional and statewide transit plans. The service was designed to service demand from many different ridership markets: persons connecting to intercity bus services at either end of the route, persons seeking medical and shopping services not available in the towns along the route, veterans needing access to VA medical facilities, employees, students, persons making recreational trips, riders with special needs, and anyone without access to a personal vehicle. Though it is a handshake agreement between GMCN and SEVT, the application addressed the administrative and operational roles of each agency. The service pattern originally called for each operator to provide two round trip per day schedules, with GMCN reducing its service to one round trip for 3 months each year. The Moover operates two morning round trips from Wilmington (2010 CDP population 463) to Bennington (2010 CDP population 9,074). GMCN operates the late afternoon round trip. Both operators show all schedules in their information.

Schedules are designed to facilitate connections at each end. The Bennington terminus (see Figure 4–29) is the GMCN transit center which offers multiple routes to other towns, including the GMCN connection to Williamstown, Massachusetts (connects to Peter Pan intercity bus service to New York), and regional GMCN service to Manchester, Vermont (where it connects to Marble Valley Regional Transit Authority service to Rutland). The GMCN transit center in Bennington is also the stop for Vermont's Section 5311(f)-funded Vermont Translines service between Albany and Burlington, and is the stop for the Yankee Trails local commuter bus service to Albany.

In Wilmington, there is a timed connection to The Moover service to Brattleboro, which offers a connection to southbound Greyhound service (funded by VTrans with Section 5311[f]).


Source: DVTA.

***Figure 4–29. Green Mountain Community Network (GMCN) Bennington Transit Center.***

Both operators agreed to follow the DVTA fare-free policy on this route (even though GMCN has fares on its other routes). Deviations are provided by advance reservation. The one-way trip between Wilmington and Brattleboro takes 40 to 45 minutes and covers 22 miles.

Schedules are designed to allow for work trips, and the service carries a limited number of employment trips, student trips, and mobility for seasonal workers in resort areas of southern Vermont. A 2014 survey of riders and potential riders demonstrated the variety of potential markets, with 29 percent of respondents working in one of the endpoints, 32 percent seeking connections to points out of the region, 6 percent desiring school trips, and 42 percent seeking to make trips for medical purposes, shopping, and other purposes. Ridership has not grown as rapidly as hoped, with a combined annual ridership in 2015 of 4,142, approximately three boardings per service hour for the combined service. The route uses Route 9 through Green Mountain National Forest and Woodford State Park, areas which generate little ridership. A transfer in Wilmington is required for persons making the trip across southern Vermont from Brattleboro (2010 CDP population 7,414) to Bennington. The connecting buses are shown in schedules, and there is minimal wait time. Nevertheless, these factors may be affecting ridership.

Because the Bennington-Brattleboro route is fare free, there is no farebox contribution to either participating transit system. Both DVTA and GMCN had applied to VTrans for CMAQ funding for the initial 3 years of operation, with the thought that at the end of 3 years, if the service met the state's performance criteria, they would be folded into the base combined state/federal operating grant for each system. However, at the end of the third year the route had not yet achieved the minimum state target for boardings per hour for rural commuter services; however, it was providing acceptable performance on the other performance measure: cost-effectiveness (defined as the cost per passenger trip). The use of performance measures to evaluate each system's portion of service separately is problematic for The Moover because it operates two daily round trips, whereas GMCN operates only a single trip for 3 months per year. The Moover's costs are higher because of the additional round trip, but the ridership is similar to that of the single GMCN schedule so its performance appears lower. When the two routes are combined, the overall boardings per hour measured for the combined service is higher than for The Moover alone, but still below the VTrans ridership standard, though the cost-effectiveness of the combined route meets the state's criteria. SEVT and VTrans are working on ways to increase ridership through schedule changes and marketing.

## Lessons Learned

- **State support is important.** Although rural regional routes have been implemented in a number of states that do not have an explicit policy supporting this type of service, the statewide experience in Vermont demonstrates that local public transit operators can and will implement regional routes that provide connections if there is policy and funding support from the state. The use of CMAQ funding for startup and initial operation of rural regional (commuter) routes proved to be a boon to the creation of a statewide network of connected regional services, allowing the systems to design the connections and test the markets. In addition, Vermont provides a high level of state funding to support public transportation.
- **Cooperation between operators.** Neighboring transit systems can jointly develop services that do not require passengers to change at service area borders and still meet multiple regional needs. In particular, splitting schedules between operators means (a) passengers get a one-seat ride, (b) each system shares the cost, and (c) each system gets to count a proportionate number of riders and share in the revenue. Splitting schedules can be accomplished with minimal effort through memoranda of understanding (MOUs), cost allocation studies, and contracts.
- **Need for regional performance evaluation.** Vermont's annual transit performance evaluation, which is used as a factor in funding decisions, includes categories by service type. Rural

regional routes across the state are compared with each other, rather than with other types of services. Nevertheless, the process does not treat joint operations as a single project, which can mean that the performance of operators in a joint service can appear to differ. This does not present an accurate picture of the combined service, and may jeopardize ongoing funding because one or more schedules appear to have an unacceptable performance.

- **Ability to link very small towns.** Although some of Vermont's regional routes were designed to provide service to commuters traveling to and from the state's only urbanized area (Burlington), many regional routes link small towns with each other. This demonstrates that careful consideration of needs and trip purposes can lead to successful rural regional services that do not necessarily have a trip end in a large population center.
- **Network connectivity.** Designing services so that they have scheduled connections to rural regional services increases overall feasibility and provides for much more widespread rural regional mobility.

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## Case Study: Wisconsin

## Regional Service in Southwest Wisconsin, Scenic Mississippi Regional Transit Bus

### Introduction

SMRT is a rural regional bus system serving Crawford, Vernon, and La Crosse Counties in southwest Wisconsin. The service is intended to serve a variety of users: commuters, seniors, disabled persons, riders going to medical facilities or on educational trips, shoppers, and the general public.


Source: http://lacrossetribune.com/news/local/smrt-bus-service-up-and-running/article_9ecfa0a4-a7d4-11e2-adce-0019bb2963f4.html.

***New SMRT bus connects La Crosse, Vernon, and Crawford Counties.***

### State Context and Policy Development

The Wisconsin Department of Transportation (WisDOT) supports the development and provision of public transit in the state's urban and rural areas, along with a statewide intercity bus network. Federal funding, including rural transit assistance under Section 5311 and the rural intercity program under Section 5311(f), is used together with State Urban Mass Transit Operating Assistance. The state funding is provided on a formula basis to eligible applicants including municipalities with populations greater than 2,500 and transit authorities and commissions.

There is no particular program designed to support rural regional transit services; however, the state has provided funding through its normal programs to support service such as that provided by SMRT. In addition to SMRT, there are several other regional services in the state, such as the Ozaukee County Express, the Washington County Commuter Express, Bay Area Rural Transit, and the Beloit-Janesville Express. These are categorized by the state as commuter/regional bus routes in the Wisconsin Get-Around Guide, which provides details on public transit services in the state.


Source: Courtesy of the City of Prairie du Chien.

***SMRT logo.***

## Example of Regional and Intercity Services

### *How It Came to Be*

The concept for a regional service developed from a desire for a transit service to provide employment trips between Prairie du Chien (population 5,757) and La Crosse (population 52,440). The city of Prairie du Chien developed an interest in a regional transit solution as a result of the findings of a business retention and expansion survey that found a shortage of qualified employees and a lack of reliable transportation options. The city's shared-ride subsidized taxi service did not provide a regional connection, and did not address this need for work trips. From the city's perspective, the primary rationale for developing regional transit service was to support economic development.

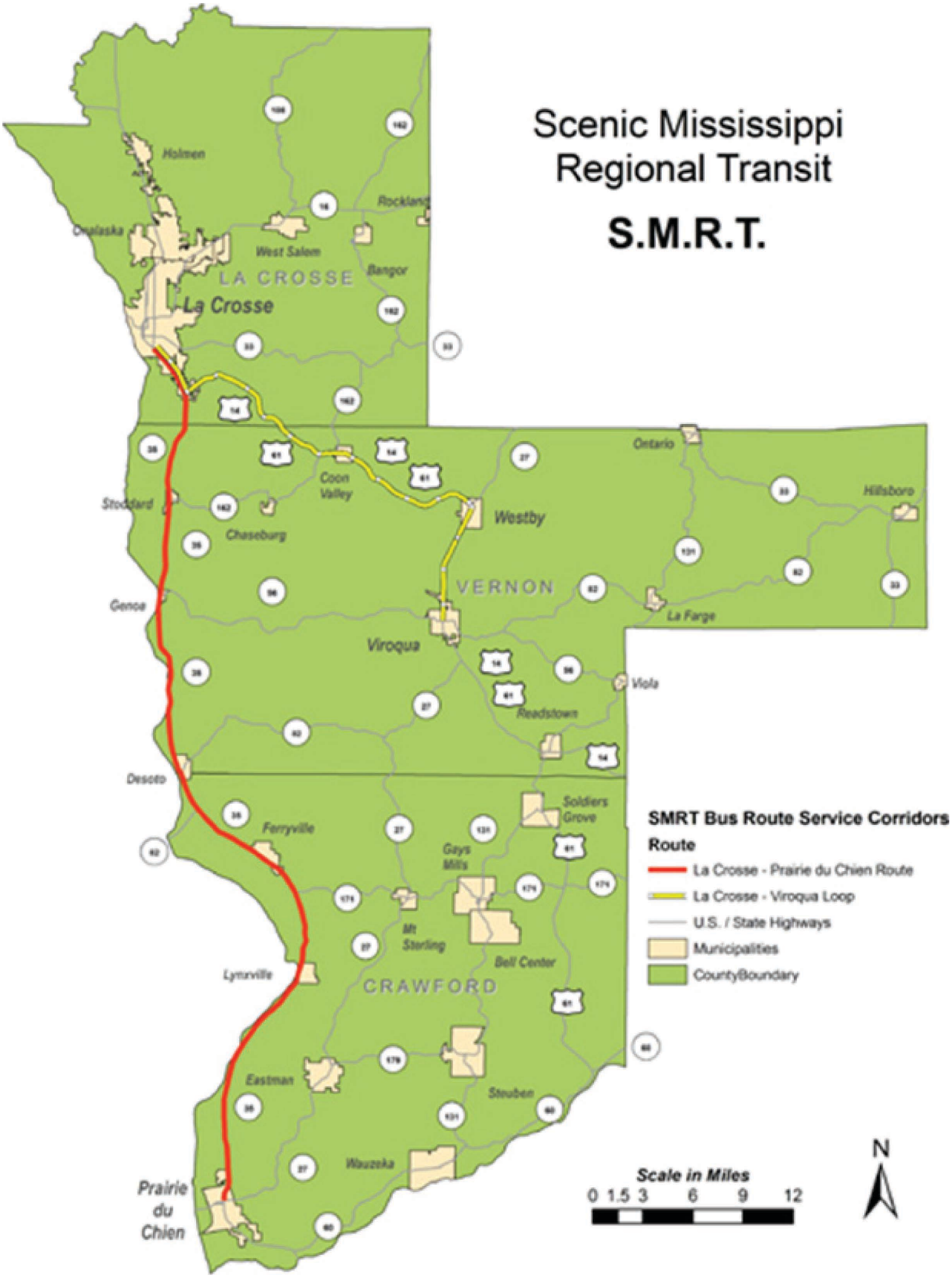
When the concept was introduced to the Crawford County Transportation Coordinating Committee (TCC), additional goals were identified. The regional planning organization, Mississippi River Regional Planning Commission (MRRPC), participated in the Crawford TCC, and also in the coordination committees in Vernon and La Crosse Counties. Once aware of the general concept, coordinating committees recommended expanding the concept to include stops in their counties. A regional advisory committee was formed that included representatives of MRRPC and three transportation coordinating committees. Prairie du Chien engaged a consultant to perform a feasibility study. It examined demographic and travel pattern data, engaged stakeholders, included open houses, and presented service options and ridership forecasts. The study expanded its focus to include multiple markets such as work, medical, shopping, and educational trips. Connectivity with service providers was identified as a key aspect of service design. The study team worked with the staff of the WisDOT and the state committed to funding startup if local match could be obtained.

During 2011 and 2012, there were difficulties with the implementation process. Prairie du Chien agreed to contract for the service, but the local match was an issue. MRRPC sought local funding support from governments, businesses, and institutions in the region. Eventually, WisDOT operating and capital funding availability coincided with the provision of local support. Two rounds of bidding for operation of the system resulted in the selection of a contract operator. Buses arrived and service operations began on December 2, 2012.

### *The Regional Services*

There are three fixed routes: the Blue, Yellow, and Red Routes (see in Figure 4–30). On the map, the Blue Route is not shown separately, because it follows the same route as the Yellow Route, but with different stops and schedules. All three routes are fixed route, fixed schedule services, with one bus on each route. Service is operated Monday through Friday only. Service hours vary as follows:

- The Blue Route links Viroqua, Westby, and Coon Valley with La Crosse, with a morning round trip (5:37 a.m. to 8:24 a.m.), a mid-day trip (10:30 a.m. to 12:40 p.m.), and a late afternoon trip (4:05 p.m. to 6:49 p.m.). Routings of the three trips vary somewhat.




Source: Courtesy of the City of Prairie du Chien.

***Figure 4–30. SMRT routes and service area.***

- The Yellow Route serves the same towns as the Blue Route, but has alternative stops, and complementary schedules, with two morning services, a mid-day service, and an afternoon return trip.
- The Red Route is in a different corridor, starting in Prairie du Chien and linking Lynxville, Ferryville, De Soto, Genoa, Stoddard, and La Crosse. There is an early morning schedule, a mid-day schedule, and an afternoon service.

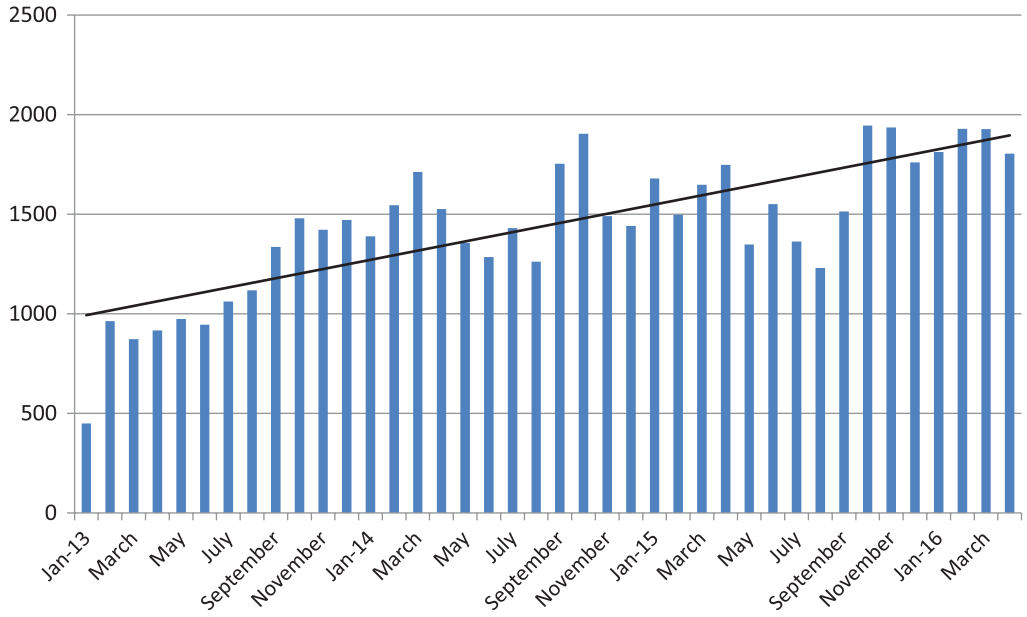
The schedules offer an early morning route and return service that would allow for a full 8-hour workday in La Crosse, with the overall span of service beginning at approximately 5:45 a.m. and final drop-offs at approximately 6:15 p.m. The exact time varies by route.

Stops are located at major employers, downtown areas, medical facilities, Technical College (students and faculty ride free with ID), University of Wisconsin–La Crosse campus, Viterbo University, major shopping destinations (Walmart and Shopko), and the Amtrak station (optional on demand). Stop locations in towns are defined, with flag stops offered in rural areas between towns. In La Crosse, six stops are at the shelters/stops of the local bus system, and free transfers are available.

The fare is $3.00. There are discounted punch cards (20 percent savings) and a monthly pass for regular users. Buses are 26-passenger body-on-chassis buses, with lifts and two wheelchair positions, bike racks, and Wi-Fi internet access. The buses are publicly owned. The service is operated by a private contractor, with buses that are owned by Prairie du Chien.

## Ridership

Figure 4–31 presents the growth of ridership since the project's inception (not including the partial first month). Ridership grew steadily over the first 22 months, flattening out in late 2014. A reduction in service hours of approximately 20 percent accounts for this flattening out of ridership. The year of 2015 proved to be highly variable, with some months showing increases




Source: Data supplied by Peter Fletcher, Mississippi River Regional Planning Commission.

***Figure 4–31. SMRT ridership.***

over the previous year. Revisions to routes and schedules in October 2015 led to an upturn in ridership, and the first quarter of 2016 showed continued increases.

Some lessons learned as routes and schedules have been developed are that the heaviest ridership is directional, going from rural areas and smaller cities toward the larger employment market/services of La Crosse, and it is heavier in the peak hours. There is limited demand for trips between small towns. A review of ridership for a week in March 2016 reveals that the average boardings per vehicle trip (10 trips per day) was 7.42, with the highest average of 18 riders on the first morning inbound trip.

## Sustainability and the Future

Based on the continued growth of ridership, support of sponsors and communities, continued support of Prairie du Chien, and the continuation of funding through WisDOT, it would appear that existing services will continue. Looking ahead, at the request of La Crosse County, MRRPC has initiated a planning study to look at the feasibility of additional SMRT service routes that would connect Monroe and Trempealeau Counties with La Crosse.

## User and Trip Purpose Characteristics

A user survey is performed periodically. The most recent survey showed that service addresses a number of different markets:

- Gender of riders
  - 49.1%, male
  - 50.9% female
- Age of riders
  - 20.8% under age 25
  - 37.7% ages 25 to 44
  - 37.7% ages 45 to 64
  - 3.8% age 65 or older
- Trip purpose
  - 54.1% work
  - 14.8% school
  - 13.1% medical
  - 18% other
- Rider satisfaction
  - 78.7% very satisfied
  - 21.3% satisfied
  - 0.0 % unsatisfied

Source: Courtesy of the City of Prairie du Chien.

***Bus service replaced vanpool service to Organic Valley Cooperative.***

Services are intended to meet needs for work, educational, medical, and general trip purposes, and apparently they meet that need. Unusual for a rural service is the low percentage of senior riders and the equal gender balance. It would appear that riders are quite satisfied with the service.

## Organizational Structure

SMRT can be characterized as having a very lean organizational structure. The City of Prairie du Chien is the lead agency, acting as both fiscal agent and grant applicant. The service is operated under contract by Running, Inc., a private firm that operates the city's shared-ride taxi

service under a separate contract. The city provides a limited amount of funding to MRRPC for staff time to oversee the contractor and work with regional partners. Policy guidance is provided by the advisory committee of the original feasibility study, which includes representatives of the transportation coordinating committees of the three counties, MRRPC, and the City of Prairie du Chien.

## Funding

The FY2016 operating budget for SMRT is $352,483: $49,500 in user fares, $60,000 in contributions, $73,313 in local general fund match revenue from the City of Prairie du Chien, and a $169,670 grant from WisDOT. The WisDOT grant utilizes FTA Section 5311 rural program funding combined with state match from the State Urban Mass Transit Operating Assistance program. Funding under this program is formula-based.

The funding from contributions represents a unique aspect of SMRT funding. While the city provides a significant amount of the local operating match, other villages, towns, and counties in the service area have been asked to contribute as well. There is no allocation or mandated amount, and the system's service design is not based on whether a jurisdiction has provided funding or not. The theory is that if a regional system had to depend on getting a certain amount of funding from each jurisdiction served, it probably would not be implemented. The willingness of Prairie du Chien to provide the match regardless of the contributions of others has been key to the initiation and continuation of service.

The other aspect of the use of contributions is that the request for funding support is also made to the business community, medical providers, educational institutions, foundations, and other organizations. As a result there are a number of sponsors featured on the system website and in other publicity. They include Gundersen Health System, Vernon Memorial Healthcare, Dairyland Power Cooperative, Crossing Rivers Health, Organic Valley Cooperative (dairy), Otto Bremer Foundation, and Ho-Chunk Nation (which provides funding through Vernon County).

## Lessons Learned

- **Combine multiple markets**. Include commuters, students, medical trips, and shoppers as potential riders.
- **Complement and connect with other services**. SMRT connects with the local bus in La Crosse, at park and ride lots, serves the Amtrak stop, and connects with the City of Prairie du Chien shared-ride taxi service for first-mile/last-mile service.
- **Seek support from the business community**. Sponsorships help provide local match and are recognized on the SMRT website and schedules. Services are identified in business publications.
- **Provide information to riders**. Even if there is a limited marketing budget, be sure to work with county aging units and have an up-to-date website.
- **Local champions are important**. The MRRPC has played a significant role in developing and implementing this regional service. The City of Prairie du Chien's role as lead agency, grant applicant, and guarantor of local share has been crucial.

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CHAPTER 5

# Lessons Learned—Toolkit

## Introduction

The case studies presented in the Chapter 4 were selected to provide a wide variety of rural regional examples, varying in organizational structure, funding source, target markets, and service characteristics. However, a number of common themes emerged. These are presented in this chapter to assist those who are considering how to address needs for rural regional transit services. The lessons learned can be summarized in seven themes:

1. Lesson One: State Policies Can Make a Difference
2. Lesson Two: Different Organizational Approaches Can Work
3. Lesson Three: Local Champions Are Required
4. Lesson Four: Needs of Multiple Markets Should Be Addressed
5. Lesson Five: An Appropriate Service Design Will Attract More Riders
6. Lesson Six: Connectivity and Providing Service Information Are Important
7. Lesson Seven: Creative Funding May Be Needed

## Lesson One: State Policies Can Make a Difference

The case studies involved services in a number of states with different approaches to regional transit, suggesting that it is possible to develop rural regional services regardless of whether or not a state transit program has any specific policy or support for regional efforts. A number of projects appeared to benefit from an environment in which state transit programs specifically addressed the need for regional transportation or supported the development of regional transit organizations. Supportive state policies included the following:

- **Direct state provision of regional services.** In these cases, the state transit program became the direct provider of regional services designed to address needs identified as having a statewide significance. The state program contracts directly for operation on specific routes and schedules, with specified stops and connectivity. In some cases, these services might also be considered rural intercity services. The Colorado case study provides an example of direct state operation.

**Bustang—Direct State Operation of Regional Service in Colorado**

The Colorado case study identified the current development of the Bustang commuter bus network and its planned expansion to more rural areas (under the Bustang Outrider brand name) as an example of a DOT that conducted a planning

process identifying intercity and regional needs, and subsequently began implementation of services. The Bustang service is designed, branded, and marketed as a CDOT service, using buses purchased by the state, although the actual operation is contracted out. The Bustang Outrider services use state funded vehicles, but the operation may be either contracted or provided by local transit providers.

- **State programs providing demonstration or incentive funding.** In several instances, states supported the development of regional services by providing a separate pool of funding available to local transit providers seeking to develop regional services, often as part of a regional organization. The Kansas and Minnesota case studies provide examples of state funding programs supportive of regional transit.

**KDOT Funding for Regional Transit**

KDOT provided a separate funding category for Regional Transit Approaches as part of its 2010 T-WORKS Transit Program, allowing this funding to be used for a variety of operating, administrative, and capital purposes in support of regional services. Subsequently, the Kansas Regional Transit Business Model Implementation allocation of increased state funding provided for a higher state/federal share for intercity services, and 100% non-local funding for capital (for the first year), leading to implementation of new regional services.

**Minnesota Transit for Our Future Initiative**

In Minnesota, the Transit for Our Future Initiative provided a policy structure supporting the development of regional providers and services, and a separate special funding program providing funding for restructuring studies. An additional separate funding program under this initiative provides funding that can be used for service modifications that include regional routes.

- **State legislation allowing local revenues.** The New Mexico case study presented an example of state legislation permitting localities to collect a particular tax (the gross receipts tax) to provide support for RTDs. The districts are then in a position to implement regional services, as documented in the case study of the NCRTD. This district provides funding to local providers in its region, but also operates rural regional routes that connect the local systems, and connect to the state operated Rail Runner Express rail passenger service and regional commuter bus services operated under the New Mexico park and ride network.
- **Section 5311(f).** In a number of states, the FTA Section 5311(f) program has been used to provide support for services that meet the intercity bus criteria of the program (making meaningful connections with the national intercity network), and also meet regional needs. In a number of cases, the private intercity carriers have provided the in-kind match allowed under this program, further reducing the cost of these regional services. Examples from the case studies include Lake Transit in California and the ShuttleBus-Zoom in Maine.

- **Case-by-case support.** If the state program is designed to fund projects (which may be regional) rather than simply sub-allocate funding to local operators on a formula basis, state transit programs can also offer support for rural regional services on a case-by-case basis, providing funding for feasibility studies, service operation, or vehicle capital as part of the normal program management. For example, a local operator may be under political constraints to address local needs with a funding allocation, but would apply for additional funding for a regional project. States can support the development of regional services using demonstration or other funding not tied to regional organizational structures. An example is Vermont's use of CMAQ program funding for new services, particularly regional connections.

## Lesson Two: Different Organizational Approaches Can Work

Among the case studies, the study team found no single organizational model that is more appropriate for regional services. The common thread among the various organizational structures used to develop rural regional services is the inclusion of regional stakeholders in the development and oversight of the project, whether or not they are an advisory committee, board members of a transit provider or regional planning organization, members of a legally constituted authority, coordination committee members, or otherwise constituted. The case studies identified the organizational structures summarized in Table 5–1.

Which organizational approach to use is determined in part by the following factors:

- **Legal Authority.** Groups seeking to develop rural regional services have been helped by having a legal framework that can be used to create a policy board with the authority needed to apply for grant funding, and contract and operating services.
- **Role of Regional Planning Agencies.** Regional planning agencies play an important role in identifying the need for service, planning, and oversight of ongoing regional service.
- **Need for Regional Input and Oversight.** Ongoing input from other organizations served by regional transit services can be beneficial. Input could be obtained through a regional governing board or advisory committee. For some regional services, ongoing communications between connecting transit operators may suffice.
- **Who Operates the Service?** Regional transit needs could be met by a single local transit operator, joint operations by multiple operators, or a private transit contractor.

### Legal Authority

Aside from the fact that there are a number of organizational models, one factor that stands out is that a number of states have enacted state legislation that makes the creation of multi-jurisdictional regional services easier to implement by providing the legal and administrative framework. In some cases, this legislation is the general statute that allows governmental entities to enter into agreements with other governments for a specific set of purposes, for example, the California statutes that govern JPAs. Most states have similar statutes, sometimes described as inter-local agreements, but some state statutes limit the purposes of joint agreement entities, and not all include public transportation as an eligible purpose.

Other states have specific legislation that provides a general authority for the creation of regional transit entities, whether they are authorities or districts. For example, Michigan's Act 196 was used to create the ALTRAN. New Mexico's Regional Transit District Act of 2003 provides both the legal framework for regional transit entities and the potential for dedicated

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**Table 5–1. Organizational structures found in the case studies.**

| State | Case Study Site | Type of Organization |
|---|---|---|
| California | Lake Transit | JPA between two cities and a county |
| Colorado | Bustang | State Agency |
| | South Central Council of Governments | Regional Council of Governments |
| Iowa | Dennison to Harlan Commuter, Western Iowa Transit | Council of Governments |
| Kansas | Flint Hills Coordinated Transit District | Coordinated transit district (under state transit legislation) |
| | Flint Hills ATA | |
| Maine | ShuttleBus-Zoom | Inter-local agreement between cities and towns, with joint oversight committee |
| Michigan | Alger County Transit (ALTRAN) | Transit authority under state transit legislation |
| Minnesota | Central Community Transit | JPA agreement between cities and counties |
| Montana | Flathead Transit | Department of Tribal Government |
| | North Central Montana Transit | Private non-profit with board composed of tribal, service, and educational institutions |
| New Mexico | North Central Regional Transit District | Transit district organized under state enabling legislation |
| Oregon | Northwest Oregon Transit Alliance | Five separate transit agencies operating under an intergovernmental agreement. |
| Vermont | Southeast Vermont Transit, Inc., and Green Mountain Community Network, Inc. | Handshake agreement between two private non-profit agencies |
| Wisconsin | Scenic Mississippi Regional Transit | Regional advisory committee, lead agency (city government) is grant applicant and fiscal agent |

taxing authority. In Kansas, state funding is tied to the coordinated transit districts created by the T-WORKS legislation.

In all these states, the groups seeking to develop rural regional services have been helped by having a legal framework that can be used to create a policy board with the authority needed to apply for grant funding, and contract and operating services.

## Role of Regional Planning Agencies

The case studies include a number of rural regional services that are provided under the auspices of regional COGs. Examples include the Region XII COG in Iowa and SCCOG in Colorado. A full read of the case studies reveals an important role for regional planning agencies in identifying the need for service, planning, and oversight of ongoing regional service. For example, the MRRPC in southwest Wisconsin was a key participant in the work of the Crawford County TCC where the need for regional transit was identified as a priority. MRRPC staff played a key role in the feasibility study that led to the creation of the SMRT system.

### Need for Regional Input and Oversight

If the organizational structure does not provide for representation from the different jurisdictions being served by the regional service (as in the case of a COG or regional planning agency), there is a need to consider whether or not such input is needed on an ongoing basis, and how to solicit this input. If the governing board is not regional by definition, a regional advisory committee (perhaps under the auspices of a regional planning agency) is a strategy used to ensure that the service meets regional needs or at least to ensure communication. There may be cases where regional services operated by a single entity for the benefit of its own residents do not require regional oversight; instead, communication between transit operators suffices. Examples are the coordinated services jointly operated by GMCN and DVTA/SEVT in southern Vermont and ALTRAN into Marquette.

### Who Operates the Service?

Another aspect of rural regional service organization is the question who operates the services. A local transit operator may be able to expand service to meet a regional need (as in the case of ALTRAN), but several examples demonstrate that if multiple operators are involved, a service can be jointly operated and run buses through to destinations or to connecting points on alternating schedules so that riders do not have to change buses at the county line. Good examples include a number of regional services in Vermont, which have a combined schedule with different trips operated by the participating transit agencies, and the North by Northwest Connector network in Oregon. In other cases, in the absence of existing transit operators with capability, the regional service is operated under contract by a private transit contractor, as in the case of the Bustang service in Colorado or the SMRT service in southwest Wisconsin.

## Lesson Three: Local Champions Are Required

The process of gathering information for the case studies reinforced the importance of local champions in creating and maintaining rural regional transit services. There were clearly identifiable persons that had taken on this role for a regional project. It may be that this role is even more crucial for regional projects because these services are still outside the norm for rural public transportation; they often involve coordination with more agencies, jurisdictions, and operators; and they are likely to require innovative approaches to a multitude of issues such as funding and operations.

### What Do We Mean By a Local Champion?

The general meaning of a "local champion" is a person or persons who take on the responsibility for the following:

- Realizing the need for a rural regional solution and helping to define the vision;
- Creating a team that includes representatives of all key stakeholders, helping them identify shared goals and objectives, and maintaining focus and action;
- Working with that team to develop feasible options, assess them, and select solutions;
- Bringing best practices and resources to the project;
- Identifying problems or barriers, finding solutions, and maintaining momentum toward service implementation;
- Communicating the vision, goal, recommended solutions, and resource needs to both the stakeholder team and the broader community to obtain and then maintain community support; and
- Taking and keeping ownership of the project as it is implemented to meet user needs, overcome problems, and improve or expand the service.

### Where Can They Be Found?

In the case studies, it was apparent that virtually every project had one or more local champions in the following organizations:

- Local coordination committees,
- Regional planning agencies,
- Mobility management programs,
- State transit programs,
- Tribal organizations,
- Economic development organizations, and
- Transit systems.

This person may be the director of a transit provider, a planner with a regional planning agency, or a person who is aware of the needs of human service or economic development agencies. The key factor is that they went above and beyond their normal duties to innovate and problem solve to create rural regional services.

## Lesson Four: Needs of Multiple Markets Should Be Addressed

Many rural transit systems provide regional trips on a demand response basis, and these services are designed to serve one specific client group or trip purpose—which limits the potential ridership, and makes fixed route, fixed schedule service infeasible. Many of the case study rural regional routes make schedule service feasible by trying to address the needs of multiple user groups to increase ridership. Markets for services include the following:

- Employment,
- Medical appointments,
- Community college or high school,
- Intercity or commuter bus and train connections,
- Shopping and personal business, and
- Social and recreational needs.

Planning efforts and information sources that can be used to identify the transit needs of specific target markets include the following:

- Planning for rural regional services;
- Coordination planning process;
- Statewide planning studies; and
- Other sources (such as major employer requests, strategic surveys, and transit user requests).

These sources and approaches are described below, followed by approaches for estimating demand for specific user groups and the use of consulting services.

### Planning for Rural Regional Services

Assessing the feasibility of regional service begins with the identification of needs and potential markets. In some of the case study sites, local transit planning efforts resulted in identifying potential markets for rural regional services. These studies often addressed the specific requirements of different market groups, for example, scheduling to permit work trips or medical trips or to make connections to intercity bus and rail services. Often the planning process included an estimation of potential ridership by market segment. The case studies included several examples of how this process took place.

## Coordination Planning Process

In some cases, a project began as part of the work of the local coordination committees formed as part of the SAFETEA-LU transportation authorization planning requirements for JARC, New Freedom, and the Elderly and Disabled (Section 5310) program. The purpose of this planning process was to identify and prioritize strategies to address key transportation needs. In some cases, the need for regional transportation was identified as a local priority. As part of the process, the initial identification of potential market(s) included gathering information about populations involved and characteristics of need. For example, SMRT service in southwestern Wisconsin grew out of the coordination committee work in the affected counties.

## Statewide Planning Studies

Some projects resulted from statewide transit studies or initiatives that identified a need. For example, the Bustang program grew out of a statewide regional and intercity bus plan that provided a classification of services and identified regional gaps in the statewide network. In Kansas, the statewide process that was part of the KDOT Regional Transit Business Model Implementation included a needs analysis for development of regional services. In some cases, statewide intercity bus plans identified routes or gaps that are regional in nature. In Minnesota, the Greater Minnesota Transit Investment Plan set the stage for the Transit for Our Future Initiative, which included regional services. Often such planning studies identify the types of markets needing service, and whether the need is for medical services, employment trips, or intercity connections.

## Other Sources

Some of the case studies identified sources of information that helped to define the market. In Iowa, the closure of a local meatpacking plant led the Region XII COG to identify a regional commuter service to address the needs of displaced workers. Similarly, a business retention and expansion survey in Prairie du Chien, Wisconsin, was a factor in determining that the regional transit concept had to include commuters as well as medical and human service trips.

In Alger County, Michigan, the initial impetus for regional service into Marquette came from user requests for a commuter route, which the transit system was then able to expand with additional services focused on education and medical trips.

## Estimating Demand for Individual Markets

Demand for rural regional services can be estimated by looking at data sources that are appropriate for each market identified, and then summing the likely ridership. Individual markets include the following:

- **Employment trips:** Sources include the following:
  - **Census data.** The Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) data source provides annual employment statistics (LEHD Origin Destination Employment Statistics [LODES]) linking home and work locations all the way to the Census Block level, which can be accessed through the Census Bureau's OnTheMap interface. If there is no existing regional transit, this information will not reflect any transit mode share, but a reasonable, conservative potential transit mode share can be applied to develop a range of estimated work trips for a regional service.
  - **Employer-provided data.** Commuter trips focused on a particular employer might be estimated by obtaining data from that employer on the zip code of residence of existing employees, and applying a conservative transit mode share estimate. Another potential option is to work through the human resources offices at particular employers to identify needs or demand.

  - **Survey data.** Surveys aimed at general public commuters can be used, including surveys left on vehicles, at park and ride lots, well-publicized open online surveys through planning agency websites, or surveys distributed to employees at particular employers thought to have potential need for regional transit commuter services.
- **Medical trips.** For human service or medical trips, information on specific groups may be obtained from agencies that fund or contract for these services, such as appropriate agencies that fund Medicaid NEMT transportation or the Veterans Transportation Service mobility manager at the regional Veteran's Administration medical centers.
- **Educational trips.** Community colleges, colleges, and universities can provide data on the residence of commuting students, providing numbers of students by zip code of residence. For schools with a resident population, data on numbers of students by home residence location can be used with an estimate of trip frequency (e.g., every weekend, only at holidays) to estimate ridership. In some cases, potential ridership from an educational institution includes students, staff, and faculty.
- **Intercity trips.** Demand for trips making intercity connections can be estimated using the *TCRP Report 147: Rural Intercity Bus Demand Model*.
- **Other trips.** There may be trip purposes that are related to local market conditions that would add ridership to a local route. Examples include trips for retail purposes if local retail is no longer available, or trips to recreational destinations such as parks, cycling routes, or ski areas. Some case study providers (e.g., Northwest Connector and Flathead Transit) make visitors one of their key ridership groups.

### Consulting Assistance

A number of the case study projects used consultant assistance to assess the feasibility of regional services and to help design or refine services. For example, the City of Prairie du Chien contracted with a consulting firm to conduct a feasibility study. In Minnesota, the state transit program provides funding for consulting assistance to identify trip demand and regional providers as part of the Transit for Our Future Initiative. The Northwest Connector has used consulting assistance as part of its planning process. Often state transit programs can provide funding for studies to determine all potential markets, and help design services with the most feasible options.

## Lesson Five: An Appropriate Service Design Will Attract More Riders

Designing services that can attract riders with a wide variety of trip purposes is a difficult task, because each market has its own specific requirements in terms of route coverage, schedule, frequency, and span of service. Themes identified through the case studies for effective regional service planning included the following:

- Schedule service to meet the needs of multiple markets,
- Minimize transfers with through-routing, and
- Provide vehicle amenities.

### Schedule Service to Meet the Needs of Multiple Markets

Regional service should be scheduled to meet the needs of multiple user groups to make the most effective use of limited resources and attract ridership from multiple markets. The following transit needs are good candidates upon which to build a schedule for regional service:

- **Employment trips** require morning and evening peak hour service—all weekdays at a minimum.
- **Medical appointments** may require early morning trips, and multiple mid-day return trips—with even more specific schedule needs for dialysis.
- **Trips to and from educational institutions** can require morning peak service, with afternoon and evening return trips.

- **Connections to intercity bus or rail services** can require very particular schedules at any hour of the day to provide connections within a limited window of time around the intercity schedule, and also allowing for late services. The busiest intercity trip times are typically afternoons and evenings on Fridays and Sundays.

  In addition to being important for effective service design (and passenger convenience), meaningful connections are a federal requirement for Section 5311(f) funding. Greyhound (the source of most in-kind match used for the local/state share of Section 5311(f) rural intercity and regional services) provides in-kind match only for services that make a connection with their schedules at a common terminal within a 2-hour window on either side of the Greyhound schedule.

Providing services that meet the requirements of these varied markets, yet are financially feasible, is a key aspect of creating a viable rural regional transit service. Otherwise the ridership of one or two groups may not be enough to make the service feasible. The case studies from Wisconsin, California, Colorado, Iowa, and Michigan provide examples of effective scheduling to meet the needs of specific user groups.

**SMRT Multiple Markets**

SMRT services are designed to provide three daily round trips on each route: a morning commute time run, a mid-day trip, and a late afternoon/evening return trip, with routings designed to be inbound to the main regional employment center (La Crosse) over several different routings serving different rural towns. Stops are located at major employers, medical facilities, educational campuses, major shopping destinations, Amtrak stops, and intercity bus stops. Shared stop locations with local transit facilitate connections.

**Lake Transit Educational, Intercity, and Medical Trips on the Same Route**

Lake Transit's Route 7 operates four times per day between Lakeport and Ukiah. In Ukiah, there are connections to Greyhound (at the airport), Amtrak, and Mendocino Transit Authority. Other stops include Mendocino College and the Veterans Clinic in Ukiah. Routes are designed to accommodate intercity connections and college schedules. Other regional and intercity routes include more frequency to better serve employment trips, and provide connections to routes serving a casino and a major regional hospital. These services do not need to be scheduled around intercity schedules to make connections.

**SCCOG Transit Medical Trips**

SCCOG Transit in Colorado operates a long regional route from Trinidad to Pueblo. Services operate 3 days per week, and schedules are designed for arrival in Pueblo around 10:45 a.m. and a return leaving Pueblo around 3:30 p.m., with drop-off and pick-up at key medical facilities. Though the primary market is medical trips, the service is open to the general public, and there are passengers who travel for other trip purposes.

**Iowa Region XII COG Work Trips Service**

This regional service is designed for work trips to a particular employer, with schedules accommodating shifts. Services leave Denison at 5:00 a.m., 6:00 a.m., and 2:30 p.m., and return at 3:45 p.m. and 12:45 a.m. Although the service is open to the general public, it has schedules at shift changes, including the early morning trip home after the late shift.

**ALTRAN Schedules to Serve Commuters, Students, Medical Appointments, and Dialysis Trips**

ALTRAN'S Munising to Marquette Connection makes three round trips per day with inbound trips at 6:15 a.m., 11:15 a.m., and 3:15 p.m.; and outbound trips at 8:00 a.m., 1:00 p.m., and 5:00 p.m. This allows workers and students to arrive early at Marquette destinations, and dialysis patients to return home at 1:00 p.m. after treatment.

## Minimize Transfers with Through-Routing

Another aspect of service design found in several of the case studies is a focus on minimizing transfers, limiting them to the connections with intercity or local services in the destination city. Examples are provided in the Vermont and Oregon case studies.

**Vermont Joint Schedules**

Several of the Vermont regional connections have avoided transfers by having transit providers share operation of the route, with each providing trips over the full length of the route. On the Route 2 Commuter between Montpelier and St. Johnsbury, some trips are operated by RCT and some by GMTA. Shared service between Wilmington and Bennington includes one daily trip operated by GMCN and two by The Moover.

**Northwest Connector Through Service**

The Northwest Connector's Tillamook to Lincoln City service presents a regional service designed to minimize transfers. Formerly, making this connection required a transfer between a TCTD bus and an LCT bus at Otis, on the county line. Now, the TCTD bus runs all the way through to Lincoln, with LCT sharing in the cost. Elimination of the transfer allows passengers to reach a casino in Lincoln County for both work and recreation. Following the change, ridership on this route doubled, and has continued to increase.

### Provide Vehicle Amenities

A number of the case studies mentioned that vehicles used included amenities such as on-board Wi-Fi with electrical plug-ins, more comfortable seating, and bike racks—in addition to meeting ADA requirements for wheelchair access and positions. User surveys reveal that because regional services require a longer ride, passengers appreciate being able to access the internet, whether for work or pleasure, making use of their travel time. Comfortable seating for longer trips is obvious. Bike racks on the front of the bus offer the possibility of making first-mile, last-mile connections on their own bikes.

Another aspect of vehicle selection is the need to consider space for baggage. If the project will be utilizing Section 5311(f) rural intercity funding, it needs to offer passengers the capability to carry baggage for overnight trips. While large over-the-road coaches typically offer baggage space under the package deck, the smaller body-on-chassis vehicles used for rural regional connections are most likely to require a rear door with baggage space in the rear of the bus, or internal baggage racks like those found on rental-car shuttles. Some vehicles of this type can be specified with an under-floor luggage locker, but the space is limited. Both the under-floor locker and the baggage space at the rear will require the driver to provide access and to load and unload baggage. At least one of the case studies found that bus package express (freight) is another potential source of revenue. In Montana, the Flathead Transit buses tow a 12-foot trailer to carry express freight from their intercity connection, meeting additional local needs and providing additional revenue.

## Lesson Six: Connectivity and Providing Service Information Are Important

Many of the case study operations have designed services and schedules to provide a high level of connectivity between the regional service, other local transit services, available Amtrak service, and Greyhound or other intercity bus services. If the regional service is funded in part with Section 5311(f) rural intercity funding, connectivity with Greyhound is required if the project uses the value of in-kind miles from Greyhound for match. Lessons learned about connectivity and providing service information can be grouped into the following categories:

- Spatial connections: shared stops, park and ride lots, and first-mile/last-mile deviations;
- Interline ticketing: single ticket to ride local transit connecting with intercity service; and
- Marketing and service information: cross-marketing of connecting services, Google Transit maps.

### Spatial Connections: Shared Stops, Park and Ride Lots, and First-Mile/Last-Mile Deviations

Depending on the service design, a rural regional service will likely originate in a small town and terminate in a larger activity center that offers more regional destinations. At the origin end, riders may need to be picked up at their homes or at key stops such as a senior center. Opportunities for passengers to park their own vehicles and ride the regional service should be provided, whether by using official state park and ride lots, arranging for the use of parking at public facilities (e.g., a downtown lot, a senior center), or at private facilities (e.g., a church parking lot, or excess parking at a retail or business location). At stop locations on the route, connectivity is facilitated by serving park and ride locations. In destination cities passengers may need multiple stops at various locations, but mobility can be enhanced if the regional service shares stops with local public transit. Connections with more local routes can be made if the rural regional service uses the same main transfer point as the local transit service. If there are multiple regional routes, scheduling and shared stops can increase access and ridership by connecting more destinations. The Wisconsin and California case studies provide examples.

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**SMRT Connectivity at Stop Locations**

In La Crosse, SMRT shares stops with the local urban transit system (Municipal Transit Utility [MTU]) at locations that are served by both. In addition, SMRT will serve the Amtrak station in La Crosse on request. The Jefferson Lines intercity service is located in the MTU's La Crosse Downtown Transit Center, which is two blocks from the SMRT stop in downtown La Crosse.

**Lake Transit Interlined Regional Routes with Local Transit Connections**

Lake Transit's Route 7 connects with Mendocino Transit Authority and Amtrak Thruway buses at the Pear Tree Center in Ukiah, and with Greyhound at the Ukiah Airport. At the other end of the route, it is interlined with Lake Transit Route 4 to Clearlake. In Clearlake, there is a scheduled connection with Lake Transit Route 3 which provides a connection to Napa County and the VINE Route 10 Calistoga and the St. Helena Shuttles.

## Interline Ticketing

Some regional services are designed to make connections with intercity services, bus, and rail. If Section 5311(f) funding is used, the regional service should make a meaningful connection with the national intercity bus network, meaning that it serves the intercity bus stop and is scheduled to provide a convenient connection. A higher level of connectivity with intercity services is provided if the regional service offers interline ticketing with the intercity service.

Greyhound provides the value of its connecting unsubsidized service, which can be used as match under the Section 5311(f) program, but it requires that the regional feeder service serve the same stop as the unsubsidized service, be scheduled within a 2-hour window around the intercity service, and offer interline ticketing.

Through interline ticketing agreements, the rural regional provider can receive a proportionate share of the ticket revenue for intercity trips that originate or terminate on its service. The rural regional schedules appear in the Greyhound national website and Greyhound can sell tickets that include the rural regional service, providing for increased ridership (and revenue) from inbound passengers who would otherwise not be aware of the service. The Maine and Montana case studies provide examples of interline ticketing arrangements.

**ShuttleBus-Zoom Portland Intercity Service/Greyhound Interline Ticketing**

A customer in Boston (or anywhere on the Greyhound network) traveling to Biddeford, Maine, can obtain schedule information and purchase a ticket for the entire trip (including the ShuttleBus-Zoom portion) on the Greyhound website. In Portland, Maine, the passenger transfers from the Greyhound bus to the ShuttleBus-Zoom vehicle at the Greyhound station, which is served by both carriers. The transfer wait time is between 10 and 50 minutes, depending on the trip.

**Flathead Transit Greyhound Interline Connection**

The Flathead Transit connection between Missoula and Whitefish, Montana, offers interline ticketing with Greyhound lines. Inbound passengers can get schedule information and tickets from Greyhound.

Rural regional providers should be aware that interlining with intercity bus carriers triggers some administrative requirements including registration as an interstate carrier with the Federal Motor Carrier Administration (FMCSA).[9]

Another opportunity for rural regional providers able to connect with Amtrak rail passenger service is joining with Amtrak as an Amtrak Thruway bus feeder connector. Under a thruway agreement, the provider's connecting schedules are included in Amtrak timetables, and Amtrak can sell tickets that include the regional carrier's services; however, there must be a rail component to the combined trip. None of the case study sites are currently listed as Amtrak Thruway carriers, though a number offer pick-up and drop-off at Amtrak stations.

## Marketing and Service Information

For the most part, the case studies' sites offer standard websites that provide information about service, routes, schedules, fares, and stop locations. A number of them also mentioned the importance of marketing through organizations with direct links to potential user groups—for example, (a) making presentations and providing information at senior centers or through senior networks, at hospitals, and at clinics that are destinations, or (b) working with key employers to inform staff about the availability of service.

Because ridership on rural regional services is likely to be higher with increased connectivity, better schedule information (especially if combined with interline ticketing) about how to make connections is likely to be a benefit to users and providers alike. One way to do this is through interline ticketing with intercity carriers.[10] Another way is for the rural regional operator to work with the connecting regional and urban transit systems to provide publicly available GTFS data on routes and schedules so that Google Transit and other applications can provide information on trips involving more than one carrier.[11] Figure 5–1 provides an example of a regional transit route map available through Google Transit.

The Vermont and Oregon case studies provide examples of marketing and service information indicative of regional connectivity.

**Go! Vermont Bus Information**

VTrans provides statewide information on bus services, car- and vanpooling, car share services, bicycles, ferries, and trains. This includes a direct link to Google Transit, where Vermont's local, regional, and intercity bus and rail service information is provided to facilitate multimodal trip planning.

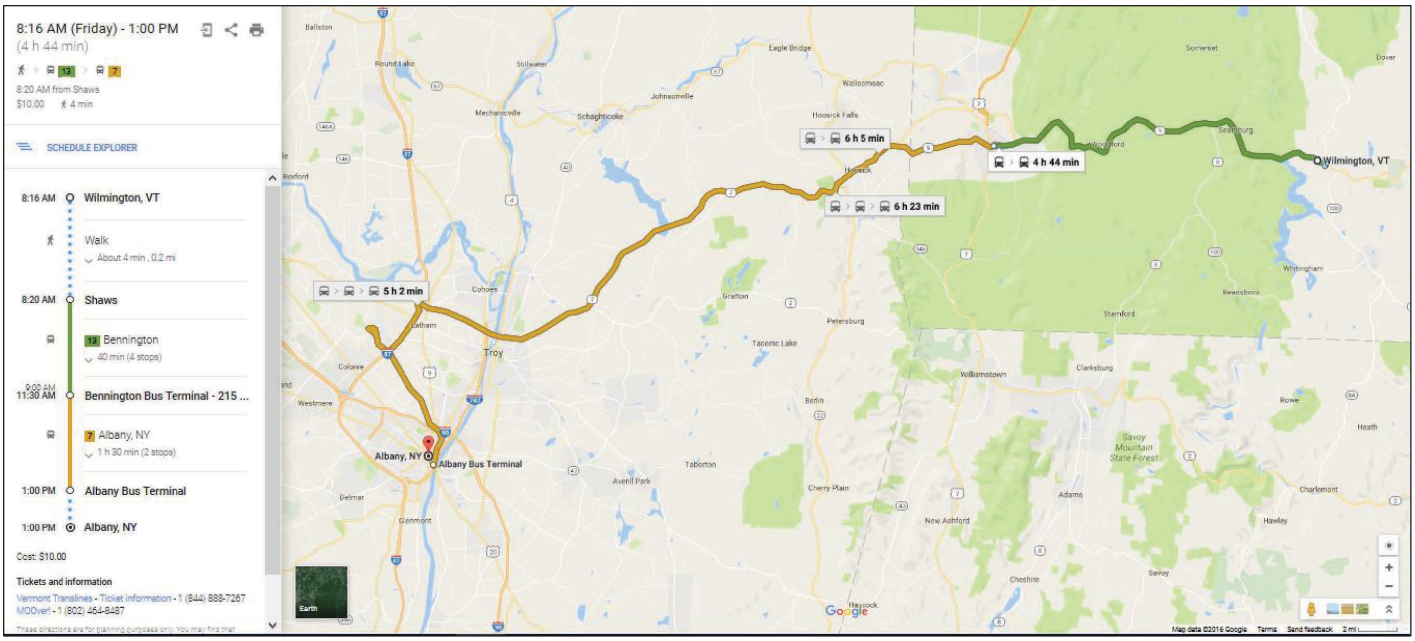


***Figure 5–1. Google Transit information showing connections between rural regional and intercity service.***

**Oregon Department of Transportation Support for GTFS Data**

As part of its goal to provide a statewide network of connected services, ODOT has contracted for a firm to work with transit and intercity providers statewide to develop and update GTFS data and make it publicly available to developers for use in information systems such as Google Transit. Three of the five local systems participating in the Northwest Connector have their GTFS data included in the statewide program. The NWOTA is currently conducting a website development project that includes trip planning functionality to present Northwest Connector routes as prioritized routes in Google Transit.

## Lesson Seven: Creative Funding May Be Needed

One of the most significant things demonstrated by the case studies is that such services are likely to require a creative approach to funding. To some extent the case studies were selected to demonstrate a wide variety of funding, but the variety of sources and combinations is particularly noteworthy.

Regional services often require a special approach because there is no federal source that is designated or set-aside for services with a particular "regional" classification—though there is nothing that prevents funds allocated to a particular jurisdiction from being used for regional services. Those proposing a regional service often encounter a major barrier in that local policymakers providing match may insist that the match not be used to transport residents outside their jurisdiction, fearing that there will be a loss of economic activity or that local tax dollars (and associated state and federal funds) will benefit another jurisdiction.

The following sources and approaches to funding regional services are described:

- Section 5311—formula grants for rural areas;
- Section 5311(f)—FTA Rural Intercity Bus Program;
- Section 5311(f) In-kind match;
- CMAQ program;
- State funding—special programs supporting regional organizations or regional service;
- Special funding sources;
- Medicaid NEMT;
- Partnerships—sponsorships from local businesses; and
- Combining sources.

## Section 5311—Formula Grants for Rural Areas

Many of the case study sites rely on FTA Section 5311 funding for capital and operating funding (including JARC projects). This program provides funding for capital, planning, and operating assistance to support public transportation in non-urbanized areas (populations less than 50,000).[12]

Funding is provided to the state DOTs on a formula basis based on land area, population, revenue vehicle miles, and rural low-income population. Federally recognized Indian Tribes are also eligible recipients. Eligible subrecipients include state or local public bodies, non-profit organizations, and operators of public transportation or intercity bus service (including private for-profit operators of rural intercity bus service).

There are limits on the federal share for different types of projects. The maximum federal share for capital projects (such as vehicle purchases) is 80 percent, with the remainder from local funds (provided by the state, locality, or carrier). The 80 percent maximum federal share also applies to the net operating cost of paratransit (demand responsive) services required by the ADA. On other operating projects, the maximum federal share is 50 percent of the net operating deficit (costs less fare and other revenue). States are given a great deal of discretion in the distribution and allocation of Section 5311 funds, with a major requirement being that it is fair and equitable.

There is no federal requirement that Section 5311 funds be used within a particular jurisdiction's boundaries. Section 5311 funded services can operate from non-urbanized rural areas into and out of urbanized areas (populations of 50,000 or more) as long as the primary purpose is to provide access to rural residents.

There is no requirement or set-aside in the overall Section 5311 program that favors regional services, but one could view the requirement that each state spend no less than 15 percent of the annual apportionment on rural intercity bus services (the Section 5311[f] program) as potential support for non-local rural transit.

## Section 5311(f)—FTA Rural Intercity Bus Program

One element of the overall Section 5311 program is the Intercity Bus Program.[13] A state is required to spend at least 15 percent of its overall Section 5311 apportionment on intercity bus projects, unless the Governor of the state certifies to the Secretary of Transportation that the intercity bus needs of the state are met. To make this certification, the state must conduct and document a consultation process that assesses the needs—with input from the intercity service providers and other stakeholders—and analysis of current services and needs. In a number of states this consultation process has helped to identify the need for rural regional services.

The definition of intercity service in the Section 5311 circular describes it as regularly scheduled bus service open to the general public that operates with limited stops on fixed routes connecting two or more urban areas not in close proximity, with the capacity to transport passenger baggage and make meaningful connections to the national network of intercity bus service. It specifically excludes commuter service, and the FTA guidance has language that excludes service providing extensive circulation within a region as opposed to regular but infrequent service to limited points in the destination community. Another provision allows for the provision of "feeder service," which does not need to have the same characteristics as intercity bus service, and may provide access to intercity connections to rail or air services. The need to prioritize a meaningful connection with the national intercity bus network is apparent for both rural intercity and feeder services under the FTA guidance.

The requirement for a meaningful connection never specifies what constitutes a meaningful connection, but language describing eligible services implies that it includes the use of common stop locations and facilities, and scheduling that facilitates connections to national intercity services.

**Lake Transit Use of Section 5311(f) Funding**

In California, Lake Transit uses Section 5311(f) funding to support operating expenses on services that make meaningful connections, and for vehicle capital. In the hierarchy of Lake Transit services, Routes 3, 4, and 7 are classified as intercity routes, and are funded with FTA Section 5311(f) funding, matched with local and state funding. Under California's Section 5311(f) program, additional new services could use toll credits as local match.

## Section 5311(f) In-Kind Match

One of the unique features of the FTA Section 5311(f) program is the ability to use the value of connecting unsubsidized intercity bus services as in-kind match for the intercity segment requiring assistance. This approach is seen in at least two of the case study sites. The project is redefined (when compared with conventional Section 5311 funding) as a combination of a route segment that requires subsidy and a connecting unsubsidized service. The connecting unsubsidized service is valued in terms of the operating cost per mile for the connecting schedules, and this value is counted as match for the federal funds needed to subsidize operations of the other segment that has an operating deficit. The approach is described in detail in the FTA Circular.[14]

By making sure the connecting unsubsidized segment is long enough to produce the amount of in-kind match (valued in terms of the fully allocated cost per revenue mile) that is equivalent to the net operating deficit of the subsidized segment, it is often possible to obtain enough Section 5311(f) funding to cover the entire operating deficit of the subsidized segment. One condition of this funding approach is that the carrier operating the subsidized service must obtain an agreement from the carrier operating the unsubsidized segment, designating the connecting services and providing a valuation of the unsubsidized revenue miles to be used as match.

While there are several private intercity bus companies that are willing to provide the value of in-kind match for connecting services requiring subsidy, Greyhound Lines is the operator

with the unsubsidized service in most cases. Greyhound has several requirements for operators seeking to obtain in-kind miles, most of which are designed to facilitate connections between the services and generate feed traffic for the national network. Greyhound requests that the connections be in their terminals or at their stops (this may require a bus terminal agreement with Greyhound), that the services be scheduled within a 2-hour window of the connecting Greyhound schedule(s), that the service operates daily at least 5 days per week, and that the operator of the subsidized service agrees to interline ticketing.

The ability to use the in-kind match depends a great deal on being able to develop routes and schedules that meet regional needs and also provide connectivity to intercity bus services, which may not be possible in all cases.

**Flathead Transit Use of In-Kind Match**

The Flathead Transit service runs between Missoula and Whitefish, Montana, on a daily (7 days per week) round trip schedule. In Missoula, the Flathead Transit service stops at the Missoula Bus Station, which is the Greyhound stop. Greyhound contributes the value of the miles it operates on its connecting schedules from Missoula to Moses Lake, Washington. The 11:30 a.m. arrival of Flathead Transit in Missoula picks up inbound passengers from the 11:15 a.m. Greyhound arrival.

**ShuttleBus-Zoom Portland Intercity Route Use of In-Kind Match**

In Maine, ShuttleBus-Zoom is funded with Section 5311(f) operating assistance through the Maine DOT, with the local match provided with the value of unsubsidized Greyhound service. The ShuttleBus-Zoom route connects with Greyhound in Portland. No local cash match is required for this service as a result of using the in-kind match. The six local trips are timed to serve Greyhound to permit passengers to transfer to and from the four daily schedules.

## CMAQ Program

Another federal funding program used in a case study site is the CMAQ program. Originally authorized in 1991 and administered by the FHWA, the program was designed to support surface transportation projects that contribute to air quality improvements, provide for reduced traffic congestion, or both. The funding is provided to areas in nonattainment status with regard to ozone, carbon monoxide, and particulates. Even states that have no nonattainment or maintenance areas receive a minimum apportionment.

Under the CMAQ program, all operating costs of new transportation services can be funded with the non-federal share requirements appropriate to the FTA program. Recent changes in the program allow a new start to utilize CMAQ funding for operations for up to 5 years (an increase from the 3-year limitation previously in place). The third year of funding can now be spread over years 4 and 5 to taper to a source of ongoing support.[15]

**VTrans Use of Flexible Funding**

VTrans uses CMAQ program funding to support transit operations for new, primarily regional routes. Vermont is an attainment area under the CMAQ program, providing the state with greater flexibility in using CMAQ funds for transit. The CMAQ operating funds are used to support new starts, which then have 3 years to achieve performance goals required to obtain continued support in the baseline transit program. In addition VTrans flexes Surface Transportation Program funding into the transit program for capital, administrative, and maintenance expenses. The flexed funding has been a significant factor supporting the statewide development of regional services.

## State Funding—Special Programs Supporting Regional Organizations or Regional Service

Several of the case study sites made use of state funding, but there were also specific examples of state programs that provided funding on a competitive basis for projects that had a regional focus. These programs were described in Lesson One: State Policies Can Make a Difference. Such programs may include funding for feasibility studies, planning, and technical assistance in support of developing regional entities and services; capital for vehicles to provide regional service; or funding for technology and marketing. In many cases, the states already provide funding that can be used for such purposes, but the state has not set aside any particular amount to support the goal of regional service. In the case of Wisconsin, the state supported the SMRT service by funding a feasibility study, and later provided capital for vehicles and ongoing operating assistance, although there is no particular program supporting regional service. Other state programs with a particular regional focus include the Kansas DOT funding available under T-WORKS used by the Flint Hills ATA for regional services, and the Minnesota Transit for Our Future Initiative which has funded studies and technical assistance supporting the development of regional systems such as CCT and feasibility studies addressing the need for and feasibility of regional routes.

## Special Funding Sources

At least two of the case study sites initiated service using funding sources quite different from those usually used for transit—EECBG funding from the U.S. DOE and CDBG funding from the U.S. HUD.

These sources may not be available for other projects, but their use demonstrates that rural regional services may benefit from or require funding innovation, at least for part of the funding mix.

**Region XII COG Use of CDBG Funding**

This CDBG funding is a grant provided to the state by HUD and administered by the Iowa IEDA. Crawford County, Iowa, was awarded a Career Link transportation grant by the IEDA to fund a portion of operating expenses for rural regional

services linking Dennison, Iowa, to Harlan, Iowa, providing service to the Monogram Foods plant. The IEDA grant is paying 50% of the cost of service, Monogram Foods 37.5%, and fares are expected to cover 12.5%. There are eligibility requirements for this grant funding including income guidelines and residence in non-entitlement cities with populations under 50,000.

**Northwest Oregon Connector Alliance Use of EECBG Funding**

This consortium of five rural systems started the regional system with a grant from the U.S. DOE's EECBG Program under the General Innovation Fund category. This provided funding for a consultant to assist in analysis of needs, service planning, implementation of the regional concept, and development of a centralized website for public information and project coordination including development of a visitor pass program. The funding was also used for project management expenses, development of a brand, and marketing. The $3.5 million EECBG grant was supplemented by ODOT funding from the Section 5311(f) rural intercity program for new routes and mobility management; Statewide Transportation Improvement Program funding for improved stops, access, and shelters; and Section 5304 planning funds. The EECBG funding may represent a unique opportunity because it was part of the 2009 American Recovery and Reinvestment Act, and so is not an ongoing funding source.

## Medicaid NEMT

At least one of the case studies, the SCCOG in Colorado, operates a regional service that is open to the general public but is using Medicaid NEMT funding for a substantial amount of support. In part, this is possible because the NEMT program in that location has a payment schedule for services for multiple riders on a multi-passenger vehicle that pays for client transportation on a multi-passenger vehicle by paying the full rate for the first client riding the longest distance, one-half of the rate for the client traveling the second farthest, and one-quarter of the rate for additional clients. The NEMT program benefits from having clients share the ride, and the transit provider has a major contribution to the expenses of the regional route. Long-distance medical transportation needs are likely to be a major element of the need for rural regional services, whether or not funded by Medicaid. If Medicaid client trips are likely to be a significant part of the ridership, those designing the service should make an effort to work with the Medicaid program or broker to include them in the service design and funding mix. It is likely, however, that in many cases the Medicaid program will only pay the fares of clients who are using a general public service.

## Partnerships—Sponsorships from Local Businesses

One part of the funding mix to consider is working with local business and community institutions to obtain funding support as well as political support. It is unlikely that such sponsorships will generate enough funding to cover the entire local operating cost, or even the entire local share, but they have been used by at least one of the case study sites.

**SMRT Local Sponsorships**

The SMRT service in southwestern Wisconsin has obtained support from a number of local businesses and institutions, including the Organic Valley dairy company, Dairyland Power Cooperative, Gundersen Health System, Vernon Memorial Healthcare, Crossing Rivers Health, and the Otto Bremer Foundation. In addition, the Ho-Chunk Nation tribal government provides funding through Vernon County. All of this sponsorship funding is combined with Section 5311 funding from the WisDOT and match from local governments to support the service. The system requests funding from each jurisdiction served; however, local contributions are not required from each in order to obtain service.

### Combining Sources

One last finding is that virtually all of the case studies involve a combination of funding sources, whether it be Section 5311 federal rural transit funding, Section 5311(f) rural intercity funding, private carrier in-kind match, CMAQ/Surface Transportation Program flexible funding, economic development funding, energy funding, business and community sponsorships, local match, or dedicated tax revenue plus state/federal funding. In many cases, the role of the state transit program is crucial in making the federal funding available, assisting in finding other sources, or in providing state funds (or local taxing authority) in such a way that regional services can be implemented.

## Summary of Lessons Learned

The following are the key takeaways from the lessons learned in this research:

- **Lesson One**: State Policies Can Make a Difference
  Effective approaches include the following:
  - Direct state provision of regional services
  - State programs providing demonstration or incentive funding
  - State legislation allowing local revenues
  - Section 5311(f)
  - Case-by-case support
- **Lesson Two**: Different Organizational Approaches Can Work
  Factors that determine appropriate approaches include the following:
  - Legal authority
  - Role of regional planning agencies
  - Need for regional input/oversight
  - Who operates the service
- **Lesson Three**: Local Champions Are Required
  They have an important multifaceted role and can be found in various organizations.
- **Lesson Four**: Needs of Multiple Markets Should Be Addressed
  - Sources of data can include the following:
    - Planning for rural regional services
    - Coordination planning process
    - Statewide planning studies
    - Other sources such as major employer requests, strategic surveys, and transit user requests
  - Consider the demand for individual markets

    - Employment trips
    - Medical trips
    - Education trips
    - Intercity trips
    - Other trips (e.g., retail, recreational)
  - Consider whether consulting assistance is appropriate
- **Lesson Five**: An Appropriate Service Design Will Attract More Riders
  - Schedule service to meet the needs of multiple markets. Core markets should include the following:
    - Employment trips
    - Medical trips
    - Education trips
    - Intercity trips
  - Minimize transfers with through-routing
  - Provide vehicle amenities (e.g., bike racks, baggage racks, Wi-Fi)
- **Lesson Six**: Connectivity and Providing Service Information Are Important
  These can be achieved through the following:
  - Spatial connections: shared stops, park and ride lots, and first-mile/last-mile deviations
  - Interline ticketing: single ticket to ride local transit connecting with intercity service
  - Marketing and service information: cross-marketing of connecting services, Google Transit maps
- **Lesson Seven**: Creative Funding May Be Needed
  Potential funding sources and approaches include the following:
  - Section 5311—formula grants for rural areas
  - Section 5311(f)—FTA Rural Intercity Bus Program
  - Section 5311(f) In-kind match
  - CMAQ program
  - State funding—special programs supporting regional organizations or regional service
  - Special funding sources
  - Medicaid NEMT
  - Partnerships—sponsorships from local businesses
  - Combining sources

CHAPTER 6

# Developing a Rural Regional Route—Checklist

The checklist is organized in the following major steps:

- Step 1: Identify Needs
- Step 2: Establish Planning Leadership
- Step 3: Goals and Vision—Public and Stakeholder Input
- Step 4: Identify Resources
- Step 5: Develop Alternatives
- Step 6: Assess Feasibility
- Step 7: Prioritize—Recommended Plan
- Step 8: Detailed Service Plan
- Step 9: Detailed Organizational Plan
- Step 10: Implementation Plan and Action Items
- Step 11: Initiate Service
- Step 12: Evaluate and Fine Tune—Iterative Process

## Step 1: Identify Needs

- ☐ **Identify sources of information**
  - ☐ Statewide studies
  - ☐ Local coordination plans
  - ☐ Local transit development plans
  - ☐ Regional planning organizations
  - ☐ External events (plant closing, loss of intercity bus service, parking issues)
- ☐ **Define needs**
  - ☐ Demographic analysis
  - ☐ Specific populations needing service—numbers of persons/trips
  - ☐ Trip characteristics—schedule requirements, seasonality, weekday/weekend
  - ☐ Special needs—accessibility, key destinations, maximum ride time

## Step 2: Establish Planning Leadership

- ☐ **Identify potential sources of support**
  - ☐ Local coordination committees
  - ☐ Metropolitan and rural regional planning organizations
  - ☐ Local transit providers
  - ☐ Local planning staff
  - ☐ Business community
  - ☐ Elected officials

- ☐ **Identify lead agency—define roles**
- ☐ **Identify lead individual/team**
- ☐ **Create regional steering committee**
  - ☐ Define role
  - ☐ Set expectations

## Step 3: Goals and Vision—Public and Stakeholder Input

- ☐ **Community input**
  - ☐ Online surveys
  - ☐ Public meetings and workshops
  - ☐ Presentations at other community meetings
  - ☐ Pop-up surveys at transportation hubs or community events.
- ☐ **Interview stakeholders**
  - ☐ Human service agencies
  - ☐ Health-medical community
  - ☐ College and university staff
  - ☐ Employers/business community
  - ☐ Local governments—planning, economic development, public works staff
  - ☐ Elected officials
- ☐ **Surveys**
  - ☐ General public
  - ☐ Existing transit users
  - ☐ Carpool and vanpool riders
  - ☐ Park and ride lot users
  - ☐ Employees of specific destinations
  - ☐ Seniors
  - ☐ Students—community college, college, and university

## Step 4: Identify Resources

- ☐ **Inventory existing services**
  - ☐ Transit
  - ☐ Ridesharing—carpool and vanpool
  - ☐ Intercity bus
  - ☐ Passenger rail
- ☐ **Identify potential funding and partners**
  - ☐ Federal transit funding programs
    - ○ Section 5311 rural
    - ○ Section 5311(f) intercity
  - ☐ Potential for use of Section 5311(f) in-kind (based on schedules, potential connectivity)—intercity bus companies
  - ☐ State transit funding programs
    - ○ Special incentives for regional organizations/services
  - ☐ Potential for innovative funding sources

- ☐ Local match sources
  - ○ Local governments
  - ○ Sponsorships—businesses, community institutions, foundations

## Step 5: Develop Alternatives

- ☐ **Estimate ridership—develop range for each target submarket**
  - ☐ Work trips
  - ☐ Human service trips
  - ☐ Intercity connections
  - ☐ Personal business and shopping
  - ☐ Social and recreational
  - ☐ School, community college, college, and university trips

- ☐ **Develop potential routes and schedules—alternatives**
  - ☐ Weekday morning and evening for work trips
  - ☐ Dialysis
  - ☐ Other Medical trip needs (including Medicaid non-emergency transportation)
  - ☐ Connections to intercity schedules
  - ☐ Evening work/school trip requirements
  - ☐ Weekend needs
    - ○ Work trips
    - ○ Dialysis trips

- ☐ **Identify key stops**

- ☐ **Estimate required hours and miles of service**

- ☐ **Estimate number and size of vehicles required**

- ☐ **Determine infrastructure needs**
  - ☐ Park and ride lots
  - ☐ Maintenance facilities
  - ☐ Secure storage
  - ☐ Fares and information technology

- ☐ **Propose likely fare levels**

## Step 6: Assess Feasibility

- ☐ **Estimate revenue based on fare structure**

- ☐ **Estimate operating costs for each service alternative option**

- ☐ **Determine net operating deficit for each service alternative option**

- ☐ **Identify capital costs for each serviced alternative option**
  - ☐ Vehicles
  - ☐ Infrastructure

- ☐ **Identify potential organizational requirements**
  - ☐ Policy body
  - ☐ Need for multi-jurisdictional or multi-agency role
  - ☐ Grant application requirements (private non-profit or public agency?)
  - ☐ Operator—existing transit, contractor, new entity

- ☐ **Compare costs to potential funding sources**
  - ☐ Identify most likely
  - ☐ Estimate how feasible

## Step 7: Prioritize—Recommended Plan

- ☐ **Present alternatives and feasibility assessment to leadership**

- ☐ **Refine options, present to stakeholders**

- ☐ **Refine based on input, present to policy-makers**

- ☐ **Present to public—refine**

## Step 8: Detailed Service Plan

- ☐ **Develop final routes, stop locations, timetable**

- ☐ **Develop fare structure and level**

- ☐ **Develop procedures to maximize connectivity**
  - ☐ Transfers
  - ☐ Shared stops
  - ☐ Information

- ☐ **Regulatory and insurance requirements**

- ☐ **Fleet needs**

- ☐ **Infrastructure**
  - ☐ Operating facility
  - ☐ Secure vehicle storage
  - ☐ Stop locations, signs, shelters

- ☐ **Staffing needs**

- ☐ **Budget and funding plan**

## Step 9: Detailed Organizational Plan

- ☐ **Lead agency (existing/new)**

- ☐ **Legal authority/policy body—develop intergovernmental agreements**

- ☐ **Staffing**
  - ☐ Roles
  - ☐ Employer
- ☐ **Contracting—management, operations, maintenance, cleaning?**
- ☐ **Human resources functions**
- ☐ **Technology**
  - ☐ Fare collections
  - ☐ Passenger information
  - ☐ Data collection
- ☐ **Federal and state compliance responsibility**
- ☐ **Marketing/public relations**

## Step 10: Implementation Plan and Action Items

- ☐ **Identify tasks**
  - ☐ Institutional arrangements (MOUs, contracts)
  - ☐ Vehicle procurement
  - ☐ Office space
  - ☐ Operations facility
  - ☐ Infrastructure arrangements
  - ☐ Contracting or hiring staff, administrative and operating
  - ☐ Branding and marketing
- ☐ **Assign responsibilities**
- ☐ **Identify timeframes and interdependencies—phasing if appropriate**

## Step 11: Initiate Service

- ☐ **Branding**
- ☐ **Marketing campaign**
- ☐ **Initiate operations**

## Step 12: Evaluate and Fine Tune—Iterative Process

# Endnotes

1. Although the study scope referred to such services as intra-state, we anticipate that some systems or providers have developed regional services that cross state lines, and so we may well document such cases and include relevant best practices needed for such services (e.g., meeting Federal Motor Carrier Safety Administration requirements).
2. Firestine, T. The U.S. Rural Population and Scheduled Intercity Transportation in 2010: A Five-Year Decline in Transportation Access. U.S. Department of Transportation. Research and Innovative Technology Administration, February 2011, p. 3.
3. Fravel, F. Intercity Bus Links: Moving into New Territory. *TR News*, No. 225, MarchApril 2003, p. 24–29.
4. Mattson, J. Rural Transit Fact Book 2014. Upper Great Plains Transportation Institute, Small Urban and Rural Transit Center, North Dakota State University, for the U.S. Department of Transportation, August 2014, p. 10.
5. Hillman, N., and Weichman, T. Education Deserts: The Continued Significance of "Place" in the Twenty-First Century. Viewpoints: Voices from the Field, American Council on Education, Washington, D.C., 2016.
6. Thomas, S. R., Kaufman, B. G., Randolph, R. K., Thompson, K., Perry, J. R., Pink, G. H. A Comparison of Closed Rural Hospitals and Perceived Impact. Findings Brief, NC Rural Health Research Program, April 2015.
7. The use of the Five Myths format is inspired by the ongoing "Five Myths About" section in the Outlook section of the Sunday *Washington Post*.
8. Ohio Department of Transportation. Ohio Statewide Transit Needs Study, Final Report, January 2015, p.15.
9. More details on these requirements can be found in Federal Motor Carrier Safety Administration Regulations and Interlining Transportation for Rural Transit Providers, National Rural Transit Assistance Program (National RTAP) Technical Brief, 11/20/2008, available at: demopro.nationalrtap.org/emailResource.aspx?design=1&fileid=177 and Van and Bus Service Across State Lines, National Resource Center for Human Service Transportation Coordination, Community Transportation Association of America (CTAA), 6/1/2010, available at: http://web1.ctaa.org/webmodules/webarticles/articlefiles/FMCSA_MythsAndRealities_20100713.pdf.
10. Currently Greyhound Lines does not provide its schedule information through GTFS, preferring to use its own website, ticketing, and information system to provide information about the connections it offers with its interline partners. Amtrak does provide GTFS data, so connecting services do appear in Google Transit.
11. Resources to assist with the development of GTFS data include the following:
    Why GTFS? Technical Brief, National Rural Transit Assistance Program (National RTAP) Technical Brief, 3/21/2016, available at: demopro.nationalrtap.org/emailResource.aspx?design=1&fileid=1255
    GTFS Builder Getting Started Guide. National Rural Transit Assistance Program (National RTAP), 11/13/2013, available at: demopro.nationalrtap.org/emailResource.aspx?design=1&fileid=882
    GTFS Builder Checklist. National Rural Transit Assistance Program (National RTAP), 11/13/2013, available at: demopro.nationalrtap.org/emailResource.aspx?design=1&fileid=880
12. U.S. Department of Transportation, Federal Transit Administration. Formula Grants for Rural Areas: Program Guidance and Application Instructions, Circular C 9040.1G, 10/24/14.
13. U.S. Department of Transportation, Federal Transit Administration. Formula Grants for Rural Areas: Program Guidance and Application Instructions, Circular C 9040.1G, Chapter VIII, Intercity Bus, 10/24/14.
14. U.S. Department of Transportation, Federal Transit Administration. Formula Grants for Rural Areas: Program Guidance and Application Instructions, Circular C 9040.1G, Chapter VIII, Intercity Bus, 10/24/14, Section 5, p. VIII–4.
15. U.S. Department of Transportation, Federal Highway Administration. Office of Planning, Environment & Realty, Air Quality-Congestion Mitigation and Air Quality Improvement (CMAQ) Program, Revised Interim Guidance on CMAQ Operating Assistance under MAP-21, July 2014, http://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/cmaq13ig.cfm.

APPENDIX A

# Ratio of Intercity 5311 Subrecipients and Subrecipients That Serve Multi-State Areas

Table A-1 contains information about Intercity 5311 subrecipients and subrecipients that serve multi-state areas. This material is from the Rural National Transit Database.

**Table A-1. Ratio of intercity 5311 subrecipients and subrecipients that serve multi-state areas.**

| State | Total Number of 5311 Subrecipients | Number of Intercity 5311 Subrecipients | Ratio of Subrecipients That are Intercity | Number of 5311 Subrecipients That Report a Multi-County Service Area | Ratio of 5311 Subrecipients That Report a Multi-County Service Area | Number of 5311 Subrecipients That Report a Multi-State Service Area | Ratio of Subrecipients That Serve Multi-State Areas |
|---|---|---|---|---|---|---|---|
| AK | 30 | 1 | 3% | 6 | 20% | 0 | 0% |
| AL | 32 | 2 | 6% | 4 | 13% | 1 | 3% |
| AR | 9 | 0 | 0% | 7 | 78% | 0 | 0% |
| AZ | 32 | 0 | 0% | 6 | 19% | 0 | 0% |
| CA | 94 | 0 | 0% | 16 | 17% | 0 | 0% |
| CO | 30 | 0 | 0% | 9 | 30% | 1 | 3% |
| CT | 5 | 0 | 0% | 3 | 60% | 0 | 0% |
| DC | 1 | 1 | 100% | 0 | 0% | 0 | 0% |
| DE | 1 | 0 | 0% | 0 | 0% | 0 | 0% |
| FL | 44 | 1 | 2% | 7 | 16% | 0 | 0% |
| GA | 84 | 1 | 1% | 4 | 5% | 1 | 1% |
| GU | 1 | 0 | 0% | 0 | 0% | 0 | 0% |
| HI | 3 | 0 | 0% | 0 | 0% | 0 | 0% |
| IA | 27 | 2 | 7% | 17 | 63% | 0 | 0% |
| ID | 18 | 1 | 6% | 9 | 50% | 0 | 0% |
| IL | 42 | 0 | 0% | 11 | 26% | 0 | 0% |
| IN | 44 | 0 | 0% | 10 | 23% | 0 | 0% |
| KS | 89 | 2 | 2% | 8 | 9% | 1 | 1% |
| KY | 25 | 1 | 4% | 17 | 68% | 0 | 0% |
| LA | 32 | 0 | 0% | 0 | 0% | 0 | 0% |
| MA | 13 | 2 | 15% | 3 | 23% | 0 | 0% |
| MD | 18 | 1 | 6% | 2 | 11% | 0 | 0% |
| ME | 19 | 2 | 11% | 10 | 53% | 0 | 0% |
| MI | 73 | 3 | 4% | 5 | 7% | 2 | 3% |
| MN | 69 | 9 | 13% | 22 | 32% | 2 | 3% |
| MO | 25 | 0 | 0% | 2 | 8% | 0 | 0% |
| MP | 1 | 0 | 0% | 0 | 0% | 0 | 0% |
| MS | 22 | 2 | 9% | 14 | 64% | 1 | 5% |
| MT | 43 | 0 | 0% | 12 | 28% | 0 | 0% |

**Table A-1. (Continued).**

| State | Total Number of 5311 Subrecipients | Number of Intercity 5311 Subrecipients | Ratio of Subrecipients That are Intercity | Number of 5311 Subrecipients That Report a Multi-County Service Area | Ratio of 5311 Subrecipients That Report a Multi-County Service Area | Number of 5311 Subrecipients That Report a Multi-State Service Area | Ratio of Subrecipients That Serve Multi-State Areas |
|---|---|---|---|---|---|---|---|
| NC | 79 | 1 | 1% | 6 | 8% | 0 | 0% |
| ND | 34 | 0 | 0% | 9 | 26% | 0 | 0% |
| NE | 66 | 2 | 3% | 10 | 15% | 0 | 0% |
| NH | 7 | 1 | 14% | 4 | 57% | 0 | 0% |
| NJ | 18 | 3 | 17% | 4 | 22% | 0 | 0% |
| NM | 33 | 1 | 3% | 3 | 9% | 1 | 3% |
| NV | 17 | 0 | 0% | 3 | 18% | 0 | 0% |
| NY | 65 | 5 | 8% | 6 | 9% | 0 | 0% |
| OH | 37 | 1 | 3% | 6 | 16% | 0 | 0% |
| OK | 36 | 0 | 0% | 20 | 56% | 0 | 0% |
| OR | 50 | 7 | 14% | 20 | 40% | 2 | 4% |
| PA | 28 | 7 | 25% | 10 | 36% | 0 | 0% |
| PR | 5 | 0 | 0% | 0 | 0% | 0 | 0% |
| RI | 1 | 0 | 0% | 0 | 0% | 0 | 0% |
| SC | 21 | 1 | 5% | 2 | 10% | 0 | 0% |
| SD | 26 | 0 | 0% | 5 | 19% | 0 | 0% |
| TN | 12 | 0 | 0% | 7 | 58% | 0 | 0% |
| TX | 55 | 16 | 29% | 26 | 47% | 10 | 18% |
| UT | 6 | 0 | 0% | 2 | 33% | 0 | 0% |
| VA | 26 | 0 | 0% | 12 | 46% | 0 | 0% |
| VT | 11 | 0 | 0% | 8 | 73% | 1 | 9% |
| WA | 56 | 5 | 9% | 15 | 27% | 1 | 2% |
| WI | 59 | 1 | 2% | 3 | 5% | 1 | 2% |
| WV | 12 | 0 | 0% | 6 | 50% | 0 | 0% |
| WY | 19 | 2 | 11% | 3 | 16% | 0 | 0% |

Source: Rural National Transit Database, Report 2013, Subrecipient Contact Information Table.

**Total Number of 5311 Subrecipients** - Taken from the Sub Form column in the 2013 Subrecipient Contact Info (.xlsx) table in the 2013 - Rural NTD Data

**Intercity Bus Provider -** Under §5311(f) funding, the FTA requires States to set aside 15 percent of §5311 apportionment for intercity bus providers, unless the State's Governor certifies that intercity bus needs of that state are already being met. In most cases, a state DOT will report on behalf of the intercity bus provider.

**Intercity Bus (IB) (Rural Module)** - Regularly scheduled public service using an over-the-road bus that operates with limited stops between two urbanized areas or that connects rural areas to an urbanized area. Intercity bus mode should only be used by private, intercity bus providers. Can be found in: RU Introduction, RU-20

**FTA Other Than Urbanized Area Formula Program (Section 5311)** - Financial assistance from Section 5311 of the Federal Transit Act. This program provides formula funding to states and indian tribes for the purpose of supporting public transportation in areas with a population of less than 50,000. Funding may be used for capital, operating, state administration, and project administration expenses. Under Section 5311, SAFETEA-LU also includes provisions for growing states and high density states factors. Can be found in: Introduction, F-10, S&S Introduction, RU Introduction, RU-20

APPENDIX B

# Bus Facilities Serving Intercity and Local Regions

Table B-1 contains information about bus facilities that serve intercity and local regions. This information is from the Bureau of Transportation Statistics.

**Table B-1. Bus facilities servicing intercity and local regions.**

| State | # of Facilities with Intercity Bus Service | | # of Facilities with Local Bus Service | | # of Bus Facilities in Rural Regions That Serve both Intercity Bus and Local Bus Service | # of Bus Facilities in METRO and MICRO Regions That Serve Both Intercity Bus and Local Bus Service |
|---|---|---|---|---|---|---|
| AK | 28 | | 17 | | 0 | 7 |
| | Urban | Rural | Urban | Rural | | |
| | 20 | 8 | 17 | 0 | | |
| AL | 13 | | 6 | | 0 | 3 |
| | Urban | Rural | Urban | Rural | | |
| | 12 | 1 | 6 | 0 | | |
| AR | 20 | | 16 | | 0 | 4 |
| | Urban | Rural | Urban | Rural | | |
| | 14 | 6 | 16 | 0 | | |
| AZ | 47 | | 50 | | 0 | 18 |
| | Urban | Rural | Urban | Rural | | |
| | 44 | 3 | 49 | 1 | | |
| CA | 219 | | 721 | | 0 | 151 |
| | Urban | Rural | Urban | Rural | | |
| | 192 | 27 | 720 | 1 | | |
| CO | 52 | | 44 | | 4 | 12 |
| | Urban | Rural | Urban | Rural | | |
| | 22 | 30 | 38 | 6 | | |
| CT | 31 | | 53 | | 0 | 23 |
| | Urban | Rural | Urban | Rural | | |
| | 31 | 0 | 53 | 0 | | |
| DC | 10 | | 47 | | 0 | 9 |
| | Urban | Rural | Urban | Rural | | |
| | 10 | 0 | 47 | 0 | | |

**Table B-1. (Continued).**

| State | # of Facilities with Intercity Bus Service | | # of Facilities with Local Bus Service | | # of Bus Facilities in Rural Regions That Serve both Intercity Bus and Local Bus Service | # of Bus Facilities in METRO and MICRO Regions That Serve Both Intercity Bus and Local Bus Service |
|---|---|---|---|---|---|---|
| DE | 7 | | 11 | | 0 | 7 |
| | Urban | Rural | Urban | Rural | | |
| | 7 | 0 | 11 | 0 | | |
| FL | 57 | | 110 | | 0 | 34 |
| | Urban | Rural | Urban | Rural | | |
| | 54 | 3 | 110 | 0 | | |
| GA | 37 | | 45 | | 0 | 13 |
| | Urban | Rural | Urban | Rural | | |
| | 31 | 6 | 45 | 0 | | |
| HI | 0 | | 2 | | 0 | 0 |
| | Urban | Rural | Urban | Rural | | |
| | 0 | 0 | 2 | 0 | | |
| IA | 44 | | 16 | | 0 | 15 |
| | Urban | Rural | Urban | Rural | | |
| | 30 | 14 | 16 | 0 | | |
| ID | 40 | | 8 | | 1 | 4 |
| | Urban | Rural | Urban | Rural | | |
| | 26 | 14 | 6 | 2 | | |
| IL | 25 | | 368 | | 0 | 38 |
| | Urban | Rural | Urban | Rural | | |
| | 22 | 3 | 368 | 0 | | |
| IN | 55 | | 28 | | 0 | 23 |
| | Urban | Rural | Urban | Rural | | |
| | 50 | 5 | 28 | 0 | | |
| KS | 26 | | 8 | | 0 | 7 |
| | Urban | Rural | Urban | Rural | | |
| | 20 | 6 | 8 | 0 | | |
| KY | 17 | | 9 | | 0 | 7 |
| | Urban | Rural | Urban | Rural | | |
| | 14 | 3 | 9 | 0 | | |
| LA | 13 | | 29 | | 0 | 9 |
| | Urban | Rural | Urban | Rural | | |
| | 13 | 0 | 29 | 0 | | |
| MA | 62 | | 225 | | 0 | 48 |
| | Urban | Rural | Urban | Rural | | |
| | 62 | 0 | 220 | 5 | | |
| MD | 41 | | 122 | | 0 | 27 |
| | Urban | Rural | Urban | Rural | | |
| | 40 | 1 | 122 | 0 | | |
| ME | 39 | | 22 | | 0 | 13 |
| | Urban | Rural | Urban | Rural | | |
| | 22 | 17 | 18 | 4 | | |

*(continued on next page)*

**Table B-1. (Continued).**

| State | # of Facilities with Intercity Bus Service | | # of Facilities with Local Bus Service | | # of Bus Facilities in Rural Regions That Serve both Intercity Bus and Local Bus Service | # of Bus Facilities in METRO and MICRO Regions That Serve Both Intercity Bus and Local Bus Service |
|---|---|---|---|---|---|---|
| MI | 112 | | 42 | | 0 | 30 |
| | Urban | Rural | Urban | Rural | | |
| | 72 | 40 | 42 | 0 | | |
| MN | 87 | | 44 | | 0 | 27 |
| | Urban | Rural | Urban | Rural | | |
| | 68 | 19 | 44 | 0 | | |
| MO | 45 | | 32 | | 0 | 16 |
| | Urban | Rural | Urban | Rural | | |
| | 37 | 8 | 32 | 0 | | |
| MS | 27 | | 6 | | 0 | 6 |
| | Urban | Rural | Urban | Rural | | |
| | 20 | 7 | 6 | 0 | | |
| MT | 40 | | 7 | | 0 | 6 |
| | Urban | Rural | Urban | Rural | | |
| | 19 | 21 | 6 | 1 | | |
| NC | 60 | | 51 | | 0 | 30 |
| | Urban | Rural | Urban | Rural | | |
| | 56 | 4 | 51 | 0 | | |
| ND | 23 | | 4 | | 0 | 4 |
| | Urban | Rural | Urban | Rural | | |
| | 16 | 7 | 4 | 0 | | |
| NE | 16 | | 1 | | 0 | 1 |
| | Urban | Rural | Urban | Rural | | |
| | 14 | 2 | 1 | 0 | | |
| NH | 34 | | 17 | | 0 | 14 |
| | Urban | Rural | Urban | Rural | | |
| | 28 | 6 | 17 | 0 | | |
| NJ | 23 | | 159 | | 0 | 16 |
| | Urban | Rural | Urban | Rural | | |
| | 23 | 0 | 159 | 0 | | |
| NM | 24 | | 11 | | 0 | 6 |
| | Urban | Rural | Urban | Rural | | |
| | 17 | 7 | 11 | 0 | | |
| NV | 13 | | 16 | | 0 | 10 |
| | Urban | Rural | Urban | Rural | | |
| | 11 | 2 | 16 | 0 | | |
| NY | 277 | | 633 | | 1 | 134 |
| | Urban | Rural | Urban | Rural | | |
| | 237 | 40 | 632 | 1 | | |
| OH | 55 | | 55 | | 0 | 22 |
| | Urban | Rural | Urban | Rural | | |
| | 49 | 6 | 55 | 0 | | |

**Table B-1. (Continued).**

| State | # of Facilities with Intercity Bus Service | | # of Facilities with Local Bus Service | | # of Bus Facilities in Rural Regions That Serve both Intercity Bus and Local Bus Service | # of Bus Facilities in METRO and MICRO Regions That Serve Both Intercity Bus and Local Bus Service |
|---|---|---|---|---|---|---|
| OK | 19 | | 5 | | 0 | 4 |
| | Urban | Rural | Urban | Rural | | |
| | 17 | 2 | 5 | 0 | | |
| OR | 92 | | 84 | | 1 | 33 |
| | Urban | Rural | Urban | Rural | | |
| | 80 | 12 | 83 | 1 | | |
| PA | 144 | | 262 | | 1 | 66 |
| | Urban | Rural | Urban | Rural | | |
| | 132 | 12 | 261 | 1 | | |
| RI | 8 | | 14 | | 0 | 6 |
| | Urban | Rural | Urban | Rural | | |
| | 8 | 0 | 14 | 0 | | |
| SC | 32 | | 15 | | 0 | 14 |
| | Urban | Rural | Urban | Rural | | |
| | 31 | 1 | 15 | 0 | | |
| SD | 21 | | 3 | | 0 | 3 |
| | Urban | Rural | Urban | Rural | | |
| | 14 | 7 | 3 | 0 | | |
| TN | 29 | | 30 | | 0 | 20 |
| | Urban | Rural | Urban | Rural | | |
| | 29 | 0 | 30 | 0 | | |
| TX | 159 | | 143 | | 0 | 41 |
| | Urban | Rural | Urban | Rural | | |
| | 120 | 39 | 143 | 0 | | |
| UT | 36 | | 50 | | 0 | 21 |
| | Urban | Rural | Urban | Rural | | |
| | 30 | 6 | 50 | 0 | | |
| VA | 50 | | 77 | | 1 | 34 |
| | Urban | Rural | Urban | Rural | | |
| | 42 | 8 | 76 | 1 | | |
| VT | 10 | | 11 | | 3 | 6 |
| | Urban | Rural | Urban | Rural | | |
| | 7 | 3 | 8 | 3 | | |
| WA | 88 | | 106 | | 1 | 45 |
| | Urban | Rural | Urban | Rural | | |
| | 71 | 17 | 100 | 6 | | |
| WI | 81 | | 40 | | 0 | 31 |
| | Urban | Rural | Urban | Rural | | |
| | 69 | 12 | 40 | 0 | | |

*(continued on next page)*

**Table B-1. (Continued).**

| State | # of Facilities with Intercity Bus Service | | # of Facilities with Local Bus Service | | # of Bus Facilities in Rural Regions That Serve both Intercity Bus and Local Bus Service | # of Bus Facilities in METRO and MICRO Regions That Serve Both Intercity Bus and Local Bus Service |
|---|---|---|---|---|---|---|
| WV | 7 | | 7 | | 0 | 4 |
| | Urban | Rural | Urban | Rural | | |
| | 6 | 1 | 7 | 0 | | |
| WY | 26 | | 4 | | 0 | 4 |
| | Urban | Rural | Urban | Rural | | |
| | 11 | 15 | 4 | 0 | | |

Source: Bureau of Transportation Statistics, Intermodal Passenger Connectivity Database, Passenger Connectivity Table

The Passenger Connectivity data table consists of passenger transportation terminals, with data on the availability of connections among the various scheduled public transportation modes at each facility. The database is complete and includes data for terminals serving the scheduled public transportation system in the 50 states and the District of Columbia. Transit buses are shown only at locations where they serve a terminal served by another mode.

There are 7,239 Records in the Table

The Intermodal Passenger Connectivity Database (IPCD) is a nationwide data table of 7,000 rail, air, bus, and ferry passenger transportation terminals. The objective of the IPCD is to provide data to use in measuring the degree of intermodal connectivity in the passenger transportation system. Therefore, each terminal record in the data base describes the availability of intercity and transit rail, bus, and ferry service along with airline service as well. This data has been collected from various public sources to provide the only nationwide measurement of the degree of connectivity available in the national transportation system. Data collection was complete in mid-2012. The data for all modes is updated periodically.

Data collection has been ongoing since mid-2006. Data is as of the 'updated date' shown in the record for each terminal.

Intercity Bus Service - Facility is primarily served by intercity bus.

APPENDIX C

# Rural Regional Mobility Survey

Appendix C contains the Rural Regional Mobility Survey used for NCHRP Project 20-65, Task 56.

## NCHRP 20-65 (56) Rural Regional Mobility

**Thank you for electing to participate in this NCHRP study *Best Practices in Rural Regional Mobility* (Project 20-65, Task 56) conducted by KFH Group. The following text will help you define the types of rural regional transit examples that we are looking for. We hope to find examples to use as case studies for a national toolbox on improving rural regional mobility.**

**Background**

**To support efforts to improve rural regional mobility, the Transportation Research Board commissioned the KFH Group to identify and evaluate practices being used by state departments of transportation (DOTs), rural transit providers and rural regional planning agencies to plan and provide for rural regional transit, facilitating the travel of people from rural areas to locations in other jurisdictions that offer a range of opportunities and services not available in their home communities.**

**Definition of Rural Regional Transit**

**As presented in NCHRP's Preliminary Scope for the study, rural regional transit is a service that falls in the middle ground between rural public transportation and intercity bus service. The Preliminary Scope suggests that rural regional transit is typically "intra-state, cross-county transportation" that is open to the general public. It could include, for example, services that could be used for day trips to a regional medical center (e.g., a Veterans Administration Medical Center) for non-emergency services, a community college, as well as trips to access other transportation modes for longer distance travel (e.g., to an intercity bus terminal or airport). Or it could include services designed to provide work trips.**

**Building on the definitions of both rural public transportation and intercity bus service, we are defining a rural regional transit service, also referred to as rural regional mobility, as one that provides transportation open to the general public from a rural area across county or other jurisdictional boundaries[1] to a destination that has services (e.g., medical, educational, employment, retail, government, etc.) not available in the rural area. The rural regional mobility service may be supported with FTA S. 5311 and/or S. 5311(f) and S. 5311(c) funds and may be supplemented with other federal, state, or local funds in addition to passenger fares.**

**For the purposes of this study, the focus will be on regional services that address the kinds of trips that can be made in a day, rather than overnight (or longer trips), while considering the possibilities for also meeting intercity needs (and using intercity funding). The intercity program may well be a tool in the toolbox used to create regional services, but the focus of this study is on services that meet a different distinct need (even if they can sometimes be designed to qualify as intercity services).**

**If you have questions or if you would like to provide your comments via phone or email please contact:**

**Lucinda Shannon**
**Transportation Planner**
**KFH Group, Inc.**
**Phone 301-951-8660**
**Email lshannon@fkhgroup.com**

**[1] Although the study scope referred to such services as intra-state, we anticipate that some systems or providers have developed regional services that cross state lines, and so we may well document such cases and include relevant best practices needed for such services (for example, meeting Federal Motor Carrier Safety Administration requirements).**

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## NCHRP 20-65 (56) Rural Regional Mobility

**As part of the NCHRP study, Task 56, Best Practices in Rural Regional Mobility, the KFH Group is surveying state transit program managers and others to determine if they:**

**1) Have identified an unmet need for rural regional transit services (as defined above),**
**2) Have addressed these needs through any state program actions, policies, or programs, and**
**3) Are aware of any local or regional efforts to address these needs that we should contact as potential case studies.**

**We hope to identify practices being used by state departments of transportation (DOTs), rural transit providers and rural regional planning agencies to plan and provide for rural regional mobility, facilitating the daily travel of people from rural areas to locations in other jurisdictions that offer a range of opportunities and services not available in their home communities. The examples you provide may be selected as case studies in a national toolkit.**

**Please share information about how your state identifies unmet rural regional needs. How are these needs identified? Do you have examples of innovative processes to identify these needs? Please share details about these processes by answering the questions below.**

* 1. Have unmet needs for rural regional transit services been identified in your state?

- ◯ Yes
- ◯ No

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Please share the relevant details about your innovative approach to identify unmet rural regional mobility needs.**

* 1. Do you know of any statewide transit studies or plans that would be good examples for this study?

- ○ Yes
- ○ No

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Remarkable statewide transit needs studies or plans**

1. Please share details about your example of statewide transit studies or plans:

What is the name of the study or plan?

How can we find out more information about the study? Is there a link to the report?

Who should we contact to learn more about this study or plan? Please include name, phone number and email.

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Remarkable statewide transit needs studies or plans**

* 1. Do you know of a statewide intercity bus study or consultation process that is a good example of how to identify rural regional transit needs?

- ○ Yes
- ○ No

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Remarkable statewide transit needs studies or plans details**

1. Please share more details about your example of intercity bus studies or consultation process for identifying rural regional mobility needs.

| | |
|---|---|
| Name of the study or process | |
| How can we find more information about this process? Is there a link to the study? | |
| Who should we contact to learn more about this study? Please include name, phone number and email address. | |

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Coordinated planning**

* 1. Do you know of a good example of identifying rural regional transit needs through coordinated transportation plans?

- Yes
- No

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Coordinated planing details**

1. Please share more details about your example of the coordinated planning process.

The title and/or locality of the plan?

Why is it an exemplary example?

How can we learn more about this plan or process?

Who should we contact about the plan? Please include a name, phone number and email address.

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Transit development plans**

* 1. Do you have a good example of how a transit development plan or similar study helped identify unmet rural regional transportation needs in your state?

- ○ Yes
- ○ No

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Transit development plans details**

1. Please share details about your example of local transit development plans.

| | |
|---|---|
| Name of the study or plan? | |
| Is there a link to more information about this plan or study? | |
| Who should we contact for more information about this transit development plan? Please include a name, phone number and email address. | |

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Advisory or policy groups**

* 1. Do you have an example of how advisory or policy groups helped identify unmet rural regional transit needs in your state?

- ○ Yes
- ○ No

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Advisory or policy groups**

1. Please share more information about your example of how advisory or policy groups helped identify unmet rural regional transit needs in your state.

| | |
|---|---|
| What group or groups? | |
| Please share details about the process used and why it worked. | |
| Can we get a copy of their comment? Are they available online? Link? Website? | |

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Input through meetings or surveys**

* 1. Do you have any exemplary examples of meetings or surveys that helped identify unmet needs for rural regional transportation in your state?

- ○ Yes
- ○ No

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**NCHRP 20-65 (56) Rural Regional Mobility**

**Input through meetings or surveys**

1. Please share more information about the survey or public meeting process that helped identify unmet needs.

| | |
|---|---|
| Was this part of a study? If so, what study was it? | |
| Why was this example/process instrumental in identifying rural regional transit needs? | |
| How can we find out more information about this process? | |
| Who can we contact to find out more information about this process? Please include name, phone number and email address. | |

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## NCHRP 20-65 (56) Rural Regional Mobility

**We hope to identify practices being used by state departments of transportation (DOTs), rural transit providers and rural regional planning agencies to plan and provide for rural regional mobility, facilitating the daily travel of people from rural areas to locations in other jurisdictions that offer a range of opportunities and services not available in their home communities. *The examples you provide may be selected as case studies in a national toolkit.***

Have unmet needs for rural regional transit service been identified in your state, and if so through what process? Please share details about any processes that you think would be good examples to share with other states.

1. Briefly describe the unmet need as it has been identified. Be as specific as possible, e.g. work trips to urban areas, transportation to Veteran's Administration medical facilities, access to community colleges, long-distance medical trips, etc.

2. Has the state transit program addressed these needs through changes in policies, programs or funding?

- ◯ Yes
- ◯ No

Other (please specify)

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Do you have an example of enabling legislation that provides authority for jurisdictions to jointly fund and operate rural regional transit services?

- ○ Yes
- ○ No

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Please provide details about your example of enabling legislation that provides authority for jurisdictions to jointly fund and operate rural regional transit services.

| | |
|---|---|
| The legislation title? and URL? | |
| What were the results of the legislation related to rural regional service? | |
| Why is this a good example? | |
| How can we learn more about this initiative? | |
| Who should we contact to learn more about the legislation and its effects on rural regional mobility? Please include name, phone number and email address. | |

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Has providing funding earmarked for rural regional transit services (either state funds or state priorities for the use of available federal funding) helped improve rural regional transportation?

- ○ Yes
- ○ No

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## NCHRP 20-65 (56) Rural Regional Mobility

1. Please check which funds are used by your state to help improve rural regional transportation?

- [ ] Section 5311
- [ ] Section 5311(f)
- [ ] Section 5307
- [ ] CMAQ
- [ ] State funds (not local match for federal funds)
- [ ] State funds for local match for federal funds

Other (please specify)

2. Please share more details about how your state uses/allocates resources to support rural regional transit.

If you provide state funds, what is the source of those funds?

If you use federal funds to support regional transit, which funds and what percentage of them are allocated for regional transit?

Who can we contact to learn more about this initiative? Please include a name, organization, phone number and email address.

3. Are there any other details about this process used to support rural regional transit? Why would it make a good case study? What can other states learn from this example?

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Does your state or organization provide technical support to assist jurisdictions in planning and operating rural regional transit? Including funding for planning or feasibility studies of rural regional transit services.

- ○ Yes
- ○ No

Other (please specify)

KFH GROUP

**NCHRP 20-65 (56) Rural Regional Mobility**

1. Please describe the technical support provided to assist jurisdictions in planning and operating rural regional transit?

| | |
|---|---|
| Does the technical support include funding for planning or feasibility studies of rural regional transit services? If yes, how? | |
| Does the technical support include feasibility studies of regional services? How? | |
| Does the technical support include studies or plans in support of developing regional organizations? | |

2. Do you have an example of technical support you think would help other states support rural regional mobility? Please describe the program, explain why it is a good example and who to contact for more information about the program.

3. Who should we contact to learn more about this example of technical support, either on the state or recipient side.

| | |
|---|---|
| Name: | |
| Organization: | |
| Phone number: | |
| Email address: | |
| Other comments: | |

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Does your state fund demonstration projects that feature rural regional transit?

- ○ Yes
- ○ No

Other (please specify)

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Please tell us more about these state funded demonstration projects for rural regional transit.

| | |
|---|---|
| Who runs the demonstration projects? | |
| Would one of the projects make a good case study for a rural regional mobility toolkit? | |
| What is the name of this project? | |
| Where is it located? | |
| Who operates the project? | |
| What regions does it cover? | |
| Why would it make a good case study for rural regional mobility? | |
| Is there a website or other available source for more information about this project? | |
| Who should we contact to learn more about this project? Please include name, phone number and email address. | |

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Has your state developed policy, guidance and principles that support rural regional transit efforts?

- ○ Yes
- ○ No

Other (please specify)

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Please share more information about this policy or guidance.

| | |
|---|---|
| What is the name of this policy and/or guidance? | |
| When was it established? | |
| How has it helped to support rural regional mobility? | |
| How do we find out more about this policy/guidance? Is there a link to it? | |
| Who should we contact to learn more about how it helped rural regional mobility? Please include a name, phone number and email address. | |

2. Please share any other information about this policy, guidance and/or principles that you think would help build a case study about it. Why and how did it support rural regional mobility? What worked and what didn't work? Were there key partners in its implementation?

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Do you have examples of other state-level strategies to support rural regional transportation that you think should be included in the toolkit on rural regional mobility?

2. Who should we contact to learn more about this example, either on the state or recipient side.

| | |
|---|---|
| Name: | |
| Organization: | |
| Phone number: | |
| Email address: | |
| Other comments: | |

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**NCHRP 20-65 (56) Rural Regional Mobility**

1. Do you have examples of other state-level strategies to support rural regional transportation that you think should be included in the NCHRP toolkit on rural regional transportation?

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2. Please identify any rural systems or operations in your state that have developed or implemented regional transportation for the general public from a rural area across county or other jurisdictional boundaries to serve a destination that has services (e.g., medical, educational, employment, retail, government, etc.) not available in the rural area in your state (whether or not as a result of a state program initiative).

**Example 1**

Name of the system or operation:

Brief description of service:

Contact name, e-mail and phone contact:

**Example 2**

Name of the system or operation:

Brief description of service:

Contact name, e-mail and phone contact:

**Example 3**

Name of the system or operation:

Brief description of service:

Contact name, e-mail and phone contact:

3. Any other examples and comments:

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## NCHRP 20-65 (56) Rural Regional Mobility

### Last Question!

**Thank you for helping KFH Group identify and evaluate practices being used by state departments of transportation (DOTs), rural transit providers and rural regional planning agencies to plan and provide for rural regional mobility, facilitating the daily travel of people from rural areas to locations in other jurisdictions that offer a range of opportunities and services not available in their home communities.**

1. Please share your contact information so we may follow up with you. The results of this study will be published in an NCHRP toolkit on rural regional transportation. Your state program and its rural providers could be a model for the rest of the country.

| | |
|---|---|
| **Name** | |
| **Company** | |
| **Address** | |
| **Address 2** | |
| **City/Town** | |
| **State/Province** | -- select state -- |
| **ZIP/Postal Code** | |
| **Email Address** | |
| **Phone Number** | |

If you have questions or would like to provide further comments via phone or email please contact:

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*Abbreviations and acronyms used without definitions in TRB publications:*

| | |
|---|---|
| A4A | Airlines for America |
| AAAE | American Association of Airport Executives |
| AASHO | American Association of State Highway Officials |
| AASHTO | American Association of State Highway and Transportation Officials |
| ACI–NA | Airports Council International–North America |
| ACRP | Airport Cooperative Research Program |
| ADA | Americans with Disabilities Act |
| APTA | American Public Transportation Association |
| ASCE | American Society of Civil Engineers |
| ASME | American Society of Mechanical Engineers |
| ASTM | American Society for Testing and Materials |
| ATA | American Trucking Associations |
| CTAA | Community Transportation Association of America |
| CTBSSP | Commercial Truck and Bus Safety Synthesis Program |
| DHS | Department of Homeland Security |
| DOE | Department of Energy |
| EPA | Environmental Protection Agency |
| FAA | Federal Aviation Administration |
| FAST | Fixing America's Surface Transportation Act (2015) |
| FHWA | Federal Highway Administration |
| FMCSA | Federal Motor Carrier Safety Administration |
| FRA | Federal Railroad Administration |
| FTA | Federal Transit Administration |
| HMCRP | Hazardous Materials Cooperative Research Program |
| IEEE | Institute of Electrical and Electronics Engineers |
| ISTEA | Intermodal Surface Transportation Efficiency Act of 1991 |
| ITE | Institute of Transportation Engineers |
| MAP-21 | Moving Ahead for Progress in the 21st Century Act (2012) |
| NASA | National Aeronautics and Space Administration |
| NASAO | National Association of State Aviation Officials |
| NCFRP | National Cooperative Freight Research Program |
| NCHRP | National Cooperative Highway Research Program |
| NHTSA | National Highway Traffic Safety Administration |
| NTSB | National Transportation Safety Board |
| PHMSA | Pipeline and Hazardous Materials Safety Administration |
| RITA | Research and Innovative Technology Administration |
| SAE | Society of Automotive Engineers |
| SAFETEA-LU | Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005) |
| TCRP | Transit Cooperative Research Program |
| TDC | Transit Development Corporation |
| TEA-21 | Transportation Equity Act for the 21st Century (1998) |
| TRB | Transportation Research Board |
| TSA | Transportation Security Administration |
| U.S.DOT | United States Department of Transportation |

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