Toolkit for Estimating Demand for Rural Intercity Bus Services

DETAILS

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TRANSIT COOPERATIVE RESEARCH PROGRAM

TCRP REPORT 147

Toolkit for Estimating Demand for Rural Intercity Bus Services

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TRANSIT COOPERATIVE RESEARCH PROGRAM

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

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

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

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TCRP PROJECT B-37 PANEL
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The research conducted to produce this report under TCRP Project B-37, "Estimation of Demand for Rural Intercity Bus Services," was undertaken by the KFH Group, Inc. The final report was a collaborative effort by a number of contributors. Frederick D. Fravel, Vice President, was Principal Investigator. Reyes Barboza of the KFH Group had a major role in data collection and analysis. Jason Quan was instrumental in the development of the toolkit. We also wish to acknowledge the valuable contributions of Jason K. Sartori of Integrated Planning Consultants, LLC, who provided significant assistance in the statistical analysis and development of models. In addition, Nancy McGuckin, National Household Travel Survey support team member, was happy to help with trip rate data analysis. Additional contributors at KFH Group included Lib Fetting, Steve Gehrke, and Beth Hamby. Linda Lee Ryden of the KFH Group produced the report.

The study team would also like to thank the state program managers, project contacts, and bus operators who responded to our surveys and provided their insights regarding rural intercity bus demand. In addition, we appreciate the contributions of the project panel in guiding and assisting the project team.

FOREWORD

By Stephan A. Parker
Staff Officer
Transportation Research Board

TCRP Report 147: Toolkit for Estimating Demand for Rural Intercity Bus Services provides a sketch-planning guide and supporting CD-ROM–based tools that can be used to forecast demand for rural intercity bus services. The tools use several methods to estimate demand and the report describes key considerations when estimating such demand. The toolkit will be of interest to planners, service providers, state transportation program managers, consultants, trade and professional organizations, and other stakeholders involved in transportation planning.

Restructuring of intercity bus services has resulted in a shift away from serving rural communities to linking major cities and urbanized areas. Rural areas formerly served by these services are now lacking connections to the national intercity bus network. FTA Section 5311(f) funding is available to provide planning, capital, and operating assistance for intercity bus services serving rural areas. However, many states and rural (regional and local) operators are unsure about the potential demand for rural intercity bus service and how that demand might vary. Research was needed to develop tools for forecasting rural intercity bus ridership for use by both service providers and state transportation program managers.

Under TCRP Project B-37, KFH Group was tasked to develop a sketch-planning guide and supporting tools that could be used by state transportation department program managers and both public and private rural intercity bus service providers to forecast demand for rural intercity bus services. The study team accomplished the research objectives by (1) conducting stakeholder interviews of federal and state officials, industry and professional associations, key intercity carriers, consultants, and others to determine the current state of demand forecasting and identify examples of existing rural intercity services that were contacted to obtain service descriptions and ridership data; (2) conducting surveys of rural intercity projects to get details on the nature of the project, including service characteristics, service area, ticketing and information, ridership (including trends), and forecasting methods used to plan the services; (3) identifying and evaluating existing rural intercity bus forecasting methods from information supplied by stakeholders, providers, and the literature; (4) developing a sketch-planning guide and supporting tools, data, and methodologies to enable users to forecast rural intercity bus ridership; and (5) providing a final report and Microsoft® PowerPoint presentation to document the research process and the forecasting tools.

The toolkit can assist service providers in answering questions such as: What is the potential ridership for different routes serving different population centers? Would the ridership vary if the service provider is an intercity bus company as compared to another type of transit operator? What is the ridership impact of connecting to an airport? The toolkit can assist

state transportation program managers by providing ridership estimates that are needed to answer questions such as: How do the proposed services affect prioritization of resources? Does demand justify the requested subsidies? How do the proposed services fit into the overall long-range state or regional transportation plans?

The supporting tools are included on the accompanying CD-ROM that uses Microsoft Word and Excel files to enable the user to define potential routes, estimate ridership, and make adjustments to those estimates. Both a regression model and a trip rate model are employed, and both require U.S. Census data to be plugged into a formula. The CD-ROM includes the required Census population data for all urbanized areas (over 50,000 persons), urban clusters (2,500 to 50,000 persons), and Census-designated places (under 2,500 persons) from the 2000 Census.

This report includes (1) the final report, which documents the development of the toolkit, including a review of existing intercity bus ridership estimation techniques; documentation of the survey process used to collect data on ridership; and service characteristics of rural intercity routes; (2) the accompanying CD-ROM, which includes the Rural Intercity Bus Service Demand Model and supporting data; and (3) a set of instructions for using the CD-ROM.

A Microsoft PowerPoint presentation that provides some background on the model and a worked example showing how to estimate ridership on a proposed rural intercity bus route is available on the TCRP Project B-37 web page (apps.trb.org/cmsfeed/TRBNet ProjectDisplay.asp?ProjectID=1591).

CONTENTS

1 Summary

7 **Chapter 1** Introduction
7 Background
8 Objectives of the Research Project

10 **Chapter 2** Review of Rural Intercity Demand Methods and Rural Intercity Services
10 Literature Review: Approaches to Estimating Rural Intercity Bus Demand
13 Recent Examples of Efforts to Estimate Ridership on Rural Intercity Services
16 Other Issues Considered in Developing a Model

18 **Chapter 3** Inventory of Existing Rural Intercity Routes and Ridership
18 Data Requirements
18 Development of a Survey Tool
19 Identification of Potential Survey Respondents
19 Survey
23 Data Compilation

25 **Chapter 4** Rural Intercity Bus Classification Scheme
25 Traditional (Rural) Intercity Bus Service
29 Other Services: Regional Private and Rural Public
32 Adequacy of Survey Data
32 Reclassification
34 Unsubsidized Rural Routes

38 **Chapter 5** Development of the Sketch-Planning Tool
38 Need for Variety of Models/Tools
40 Development of Demand Models
47 Conclusions

48 **Chapter 6** The Toolkit
48 Format
57 Comparables/Route Descriptions
57 Other Issues That Were Addressed in the Final Version of the Toolkit

59 **Chapter 7** Conclusions
59 Conclusions
61 Ideas for Future Research

64 References

A-1 **Appendix A** Rural Intercity Provider Survey Form

B-1 **Appendix B** Simplified Survey

C-1 **Appendix C** GIS Maps of Rural Intercity Bus Routes

D-1 **Appendix D** Rural Intercity Bus Route–Level Data by State

E-1 **Appendix E** Instructions for Use of the Toolkit CD for Estimating Demand of Rural Intercity Bus Services

Note: Many of the photographs, figures, and tables in this report have been converted from color to grayscale for printing. The electronic version of the report (posted on the Web at www.trb.org) retains the color versions.

SUMMARY

Toolkit for Estimating Demand for Rural Intercity Bus Services

Purpose of Project

The objective of this research project was to develop a sketch-planning guide and supporting tools that could be used by state transportation department program managers and both public and private rural intercity bus service providers to forecast demand for rural intercity bus services. The research approach documented in this report accomplished this objective by:

- **Conducting stakeholder interviews** of federal and state officials, industry and professional associations, key intercity carriers, consultants, and others to determine the current state of demand forecasting and to identify examples of existing rural intercity services that were contacted to obtain service descriptions and ridership data.
- **Conducting surveys of rural intercity projects** to get details on the nature of the projects, including service characteristics, service area, ticketing and information, ridership (including trends), and forecasting methods used to plan the services.
- **Identifying and evaluating existing rural intercity bus forecasting methods** from information supplied by stakeholders, providers, and the literature.
- **Developing a sketch-planning guide and supporting tools, data, and methodologies** to enable users to forecast rural intercity bus ridership. Initially provided as a conceptual framework, these products were revised and refined following input from the TCRP Project B-37 panel to result in a user-friendly final product.
- **Providing a final report and Microsoft® PowerPoint presentation** to document the research process and the forecasting tools and to provide a presentation that was used by TCRP, the study team, and panel members to describe the research and tools.

The potential audience for this research includes state agency program officials and staff, planners, local officials, and existing and potential public and private operators and sponsors of rural intercity bus service.

Background

The national intercity bus network has been contracting in coverage for many years, but a substantial shift away from services in rural areas began with the passage of the Bus Regulatory Reform Act in 1982. Following the loss of substantial amounts of rural intercity bus service subsequent to regulatory reform, the Intermodal Surface Transportation Efficiency Act (ISTEA) passed by Congress in 1991 created the Federal Transit Act Section 18(i) program of assistance for rural intercity services, offering operating, capital, and administrative

funding to the states for use in maintaining or developing rural intercity services. This program subsequently codified as Section 5311(f) of Title 49.

The availability of this funding and the state-funded programs in several states calls for a tool to identify which potential rural intercity feeder markets make sense, based on the projected ridership and revenue. Currently there is no demand model, rule of thumb, or similar tool that is based on recent experiences to assist in determining the likely intercity-related ridership, and the impact of different arrangements on the potential demand. Most basically, a way to estimate intercity trip demand from rural areas to larger cities is needed to help in the design of projects that will link rural areas with major urban areas and the national intercity network. The level of demand obviously varies with population, and probably with frequency and service design, and is a major consideration in service design issues.

Review of Demand Estimation Methods

Chapter 2 of this report documents a number of approaches to the estimation of rural intercity bus demand. During the 1980s as the bus industry restructured following deregulation, the interest in potential state or federal programs to provide operating or capital assistance led to a number of efforts to develop demand models. More recent efforts at planning have used earlier models, or other sketch-planning techniques, to estimate potential ridership.

The approaches used in the various studies have varied according to the desired application and the available data. Approaches have included the use of:

- Per capita intercity trip generation rates
- Ridership on comparable services
- Historical data
- Stop-level regression models
- Route-level regression models
- City-pair regression models
- Network models

Several applications of these approaches are documented, including the use of trip rates in the Washington intercity bus plan and the use of a regression model to estimate demand and revenue for a Virginia study.

Inventory of Existing Rural Intercity Routes and Ridership

An important and significant part of the effort to develop a demand model for rural intercity bus ridership involved an effort to identify current or recent rural intercity bus services, their characteristics, and their ridership. These basic data elements are critical to the ability to calibrate or evaluate any type of technique for estimating ridership. Chapter 3 describes the type of data sought and the survey methodology to collect the data.

Initially all the service characteristics that could potentially affect ridership were identified, and the list used to develop a survey for completion by the agency or firm operating the service. Initial pilot tests of the survey resulted in a shortened version.

A second step involved the identification of rural intercity services. Because it was anticipated that the resulting models would be used primarily to estimate ridership on services funded with Section 5311(f) operating assistance, the approach taken involved contacting the transit programs in all of the state departments of transportation to determine if they had provided operating funding for rural intercity bus service in the past three years. If so, the study team requested contact information for the provider and any information available

at the state level on service characteristics or ridership. Additional effort went into using other data sources such as websites and industry schedule guides to develop service characteristics. The effort involved in identifying the state contacts, contacting carriers, and obtaining service and ridership data was significant.

The result was a database of routes, with data on the operator, route endpoints, stops, route length, frequency, fare (and/or fare per mile), corridor population, destination population, and the presence of key generators (college or university, major medical center, airport, etc.). Efforts to include more detailed demographic information were initiated but were difficult to apply on a corridor or route level. However, the result of the overall survey effort produced enough route-level data that creation of some kind of tool for estimating rural intercity demand was deemed possible. A total of 133 routes were identified.

Rural Intercity Bus Classification Scheme

With the database of routes and route characteristics in hand, the study team developed a classification of the services in an effort to combine services with similar characteristics into different classes as a means of possibly developing separate demand tools and clustering similar services to identify potential commonalities to assist in developing demand estimation techniques. This process is described in more detail in Chapter 4.

An initial classification was developed based on the type of provider. Three classes were developed:

- Services that are comparable to traditional intercity bus services
- Services that are regional in character, provided by private firms
- Services that are regional, but are operated by public transit providers

For each class the characteristics of that class were identified, based on the data available in the database from the survey.

At this point the interim report, including the data and classification, was presented to the TCRP Project B-37 panel. The panel expressed concerns that many of the services were not truly "intercity" in nature and that use of the Section 5311(f) definition of intercity service as a criteria for inclusion in the study allowed many regional or rural transit services with widely varying characteristics to be included in the database. The database, including classifications, was intended to be the basis for calibrating any kind of model or tool.

With the assistance of one of the TCRP B-37 panel members, a reclassification of all routes in the database followed. Because the revised criteria focused on connectivity to the national intercity bus network as a key element of the definition of intercity service, additional data was needed on many of the services to determine if a passenger could use the service (included in the database) to access the national intercity bus network. Obtaining this data involved checking for service to common or nearby terminals, reviewing schedules, and, in a number of cases, trying to determine if any passengers on a given route actually boarded or alighted at an intercity terminal that happened to be located on a route. In addition, an effort was made to identify and include rural intercity routes that did not receive Section 5311(f) funding. Although several routes were identified, most carriers did not provide data for those routes as they are not required to report ridership to any public entity on such services. The revised classification included 99 routes, all considered "rural intercity" for the purposes of this study.

The study team cannot provide any comparison of unsubsidized rural intercity routes with Section 5311(f) subsidized services that would support conclusions regarding the extent to which the model results may underestimate ridership as a result of being calibrated with data from subsidized routes.

Development of a Sketch-Planning Tool

The process of developing demand estimation tools, even with a fairly large data set, proved to be more problematic than originally thought. Chapter 5 describes the efforts made and many of the issues that developed during this process.

Initially the study team considered all of the desired characteristics of a model or toolkit. This process helped to set the goals for the effort, but also made it apparent how difficult it might be to address all the potential issues that might be faced by a user. This project was intended only to develop a demand estimation tool or process, not to develop a full planning process—yet full use of a tool or technique might well require a great deal of additional background or education for a user to be able to be sure that this technique would be appropriate, to obtain data, and to interpret results.

Two basic development approaches were undertaken. One involved the effort to develop trip rates for the routes and corridors included in the database, potentially including route length as a factor to adjust trip rates. However, when no discernable pattern of trip rates could be developed, two issues were identified. One is the impact of intermediate stops on route-level ridership, and the other is the difficulty in determining the appropriate corridor population to calculate a trip rate when a large metropolitan area is part of the corridor. In such cases a trip rate that includes the large population will be very different from a route with only rural stops. Eventually it was decided to see if trip rates from a separate source could be used to develop a tool that would have predictive value. A special run of the National Household Travel Survey (NHTS) focusing on the long-distance trips made by persons in non-urbanized areas was requested. The resulting data was also classified by income and by region. Information on mode share from several sources was used to develop trip rates—the 1 percent mode share produced ridership estimates most similar to the survey data, and it was chosen for use in the trip rate model or tool.

The alternative development approach taken was an effort to develop a multiple-regression model using the database data. Initial efforts produced models with limited explanatory power. Evaluation of these initial results led to a disaggregation of the population data variable, which was corridor population, into urbanized and non-urbanized components. Finally improved results came from using populations for urbanized areas (over 50,000 persons), urban clusters (2,500 to 50,000 persons), and Census-designated places (under 2,500 persons). These groupings provide populations that are not necessarily limited to municipal boundaries.

Analysis of residuals led to continued work with the regression model, this time reducing the cases to eliminate routes that were outliers. A separate variable for the number of stops was also included in the data set. With the elimination of outliers, the data set was reduced to 58 usable cases, and the distinction between standard intercity bus service and regional rural intercity bus service classes was made into a categorical variable.

Continued work with stepwise regression eventually resulted in the best fitting model:

$$\text{Ridership} = -2803.536 + 0.194\,(\text{average origin population}) + 314.734\,(\text{the number of stops on the route}) + 4971.668\,(\text{airport service or connection}) + 5783.653\,(\text{service provided by intercity provider})$$

$R^2 = 0.712$, Adjusted $R^2 = 0.690$[a]

[a]In a regression equation, the term "R^2" refers to the fraction of the sample variance of the dependent variable that is explained by the regressors. "Adjusted R^2" is a modified version of R^2 that does not necessarily increase when a new regressor is added to that regression. In general, a higher value of R^2 means that the model has more explanatory power. See pp. 193–195 in *Introduction to Econometrics,* James H. Stock and Mark W. Watson, 3rd Edition, Pearson Education, Boston.

Where:

Ridership = annual one-way passenger boardings
Average origin population = sum of the populations of origin points (all points on the route except that with the largest population)
Number of stops = count of points listed in public timetables as stops
Airport service or connection = route serves an airport with commercial service either directly or with one transfer at a common location
Intercity provider = service operated by a carrier meeting the definition of an intercity bus carrier (see Definition of Intercity Bus Service in Chapter 6)

A subsequent effort used the residuals[b] from the regression model to adjust the trip rate model results, improving the results slightly over the pure trip rate model as shown in Table S-1.

Both of these techniques are more accurate for current rural intercity bus services than demand models developed for NCHRP in 1980. They represent a pragmatic approach that makes use of available data to produce initial estimates of potential ridership for new rural services. The regression model has the correct signs (e.g., ridership increases with a higher population base, etc.) and is plausible given general knowledge about travel behavior. It reflects higher ridership for intermodal connectivity to airports and for interlining. It utilizes population data as a key variable, but the impact of population is moderated by using the number of stops to calculate an average population per stop. This scenario is plausible in that the study team expects ridership to be lower if the bus stops a lot to serve that population, which seems to reflect market preference for fewer stops.

The use of the NHTS trip rate data also involves making maximum use of the available data. It provides ridership estimates based entirely on population served, but it is calibrated in a sense through the selection of the mode choice factor to provide ridership estimates that most closely match the usage found in the data set. Regional variation is introduced through the use of regional trip rates. Finally, the 58-route data set was used to develop an adjustment factor that can be applied to the trip rate model results to further improve its results. The result is that the trip rate model and the regression model have comparable accuracy in terms of the percentage of time they will predict a ridership figure that is within a given percentage of the actual. However, they may not give the same answer.

Both the difficulties experienced and the results suggest that, over the past 30 years, rural intercity bus service has become much more specialized, with the remaining routes or services much more likely to be provided in areas with fairly unique demand characteristics. Neither model takes account of the overhead traffic (ridership originating in or destined to places beyond the endpoints of the particular route in question) that might result in ridership variance or other variables, such as the presence of a large university or military base, that might affect demand.

Table S-1. Accuracy of trip rate and regression models.

	1% Trip Rate Prediction	Adj. 1% Trip Rate Prediction	Regression Predictions
Within 50% of actual ridership	45.60%	54.40%	59.60%
Within 10% of actual ridership	14.00%	15.80%	17.50%
Within 5% of actual ridership	8.80%	5.30%	5.30%

[b] *Introduction to Econometrics,* James H. Stock and Mark W. Watson, 3rd Edition, Pearson Education, Boston, pp. 190–191.

The Toolkit

The major product of this project was intended to be an easy-to-use toolkit to assist planners in estimating ridership on rural intercity routes. It was decided that the tools would best be provided on a CD with the models and their calculations embedded so that users would not have to deal with formulas or look up tables—but would merely need to input data for a proposed route to get the model estimates. Users desiring more information about the models and the data can read this technical report. Given the degree to which both models depend on population data, the decision was made to include all this data on the same CD as the models, so that the user could designate the stops on a potential route and at the same time obtain the populations and apply them in the models. With the data and the models on the CD, it seemed logical to include the instructions, qualifications, adjustments, examples, and peer data all on the same disk, and set it up so that it would provide links to this additional information at the appropriate places. The toolkit is thus a disk, and the only written directions on the disk involve the type of software needed and how to open the software (this information is also available in Appendix E). Once the toolkit is opened, it provides the user with a discussion of its applicability, an overview of the elements included, a step-by-step process for estimating ridership (which includes preliminary aspects that would precede use of the models and the information that will be needed from the user), possible manual adjustments to improve accuracy, a detailed example of its application to a case, and a lookup database that provides ridership on comparable routes and a link to more descriptive data about the comparable routes.

Conclusions

Finally, the conclusions about the process and the model include an assessment of the reasons for the difficulty in coming up with a predictive model, the limitations of the two approaches used, and identification of future research needs. The two models developed in this process are limited in that they are not sensitive to changes in fares or frequency and they do not account for ridership that might arise from a population not directly served by the route—for example, through passengers who use the service because it bridges two other routes or riders coming from other modes or going to places with no population (parks, for example). The trip rate model relies on data from the previous NHTS, and the population data is from the 2000 Census, so an update may be needed within a year or two.

Future research on intercity bus demand could include additional effort to obtain data on more routes, particularly as the Section 5311(f) program expands. Models to predict demand at a stop would also be useful, as would tools that could allow planners to gauge the impacts of higher frequencies or lower fares. The impact of the availability of long-term parking at stops or terminals is another factor that could be considered in future research. Finally, a major step in developing a tool for estimating intercity bus demand generally would be a network model that would allow for the inclusion of overhead ridership, facilitating the estimation of demand for service to fill network gaps as well as serve populations on a route.

CHAPTER 1

Introduction

The purpose of this final report is to summarize the work performed on the project and to lay out considerations that were addressed in the project. The major question was whether there was sufficient ridership data available on rural intercity bus services to allow for the development of models or tools to be used by planners and bus operators in the development of rural intercity services. As will be seen, the data collection effort identified 133 rural intercity services. The survey effort collected or developed basic service characteristics for these services, to allow for the use of fare levels, frequency, and route length in developing models or tools. In addition, the stops are known, which allowed the study team to develop population figures for each of the routes. It is likely that most of the Section 5311(f) of Title 49 United State Code–funded rural intercity operating projects for which ridership data is available (not including those that are so recently started that there is no data yet available, and not including those that were discontinued long enough ago that the data is missing) were identified and included. This set of cases allowed for continuation of the project, and the potential use of statistical techniques on either the entire data set or major subsets of the data.

The service data allowed the study team to initiate efforts to complete a data matrix that included not only the basic ridership data (the dependent variable) but also the service characteristics, a classification of the service type, the presence or absence of key potential traffic generators on a route (such as colleges, military bases, etc.), the population served, the length of the route, etc.

The services were initially classified into three major groupings in this report, based on the commonality of the service characteristics and the providers. One type is initially defined "standard" intercity bus service (n = 56), provided by the private carriers that are members of the National Bus Traffic Association (NBTA), with interline tickets and common information sources. Another type was initially defined as "regional private" rural intercity services, which are provided by smaller regional private carriers that are not interlined with the national intercity network (n = 16). Finally, the third group in the initial classification consisted of the rural intercity services operated by rural (and a few urban) public transit operators. These services have a high degree of variance in terms of their service characteristics and fares (n = 63).

As will be seen, the degree to which the routes providing "standard" intercity bus service share common characteristics made it more likely that a statistically valid model could be calibrated to predict ridership for this type of service. This was more of a problem for the "regional private" and "rural public" classes, because the service parameters varied a great deal. Following the interim report, the TCRP B-37 panel recommended a reclassification of the overall data set into two groups—one essentially the same as the intercity bus classification initially developed, and the other consisting of the routes from the other two categories that could be defined as primarily intercity in nature.

The model development efforts began with the completion of the ridership data collection on the remaining known routes and services and the completion of the development of the other variables for all services. While this was being undertaken, the basic relationships were identified by developing basic trip rates (trips per population) for all services and for each of the classifications. Scattergrams and correlation analysis allowed for the development of basic relationships between the variables, and the development of models or techniques proceeded from that point. The goal remained to elicit as much useful information as possible from the data that was collected and to present that data in such a way that a potential user could have some basis for projecting the ridership on a proposed rural intercity service.

Background

The national intercity bus network has been contracting in coverage for many years, but a substantial shift away from services in rural areas began with the passage of the Bus

Regulatory Reform Act in 1982. The loss of rural services has resulted not only from the abandonment of entire routes but also from the restructuring of routes into non-stop services connecting only larger urbanized areas.

Following the loss of substantial amounts of rural intercity bus service subsequent to regulatory reform, there was a number of proposals and policy studies addressing rural intercity bus service, and a number of states began their own state-funded intercity bus programs. During these years there were several efforts to develop models or tools that could assist states, transit operators, and bus firms in the estimation of intercity bus demand.

Subsequently the Intermodal Surface Transportation Efficiency Act of 1991, Pub. L. 102-240 Stat. 1914 (also known as ISTEA), created the Section 18(i) (of the Federal Transit Act) program assistance for rural intercity services, offering operating, capital, and administrative funding to the states for use in maintaining or developing rural intercity services. This program was subsequently codified as Section 5311(f) of Title 49. The availability of this funding and the state-funded programs in several states led to several additional efforts to develop tools of analysis that could be used to determine the potential ridership and revenue of proposed rural intercity services.

However, in 2007, there were several significant factors that called for an effort to develop a new understanding of rural intercity travel demand and to develop planning tools that can be used to assess proposals for such service. One factor is that the most recent reauthorization of the Section 5311(f) program in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, Pub. L. 109-59, 119 Stat. 1144 (2005) (also known as SAFETEA-LU) requires that states intending to certify that there are no unmet intercity needs (which allows the funding to revert to the overall Section 5311 program) must conduct a consultation process with the intercity bus providers and examine needs in a more formal way prior to any determination of unmet need.

A second factor calling for a new look at planning tools was the increase in authorized Section 5311(f) funding over the period covered by SAFETEA-LU, which will combine with the consultation requirement to cause many state departments of transportation to examine rural intercity services more completely.

A third significant factor was the restructuring of intercity bus services by Greyhound Lines. Greyhound is the only remaining nationwide provider of intercity bus service and during 2004–2006 it substantially restructured its network. This restructuring resulted in a further shift of intercity bus services away from rural routes to services that primarily link major cities and urbanized areas. Greyhound, and other private intercity carriers, are looking for more rural intercity service to be provided by rural transit operators.

Finally, a more recent development that may make provision of rural intercity service more feasible and attractive to rural operators is the Federal Transit Administration (FTA) approval of a proposal to use the value of capital employed in providing unsubsidized trunk-line service as a match for Section 5311(f) operating funds that are used to provide feeder services to that trunk line. This change means that rural operators are not faced with the burden of finding the 50 percent of the net operating deficit previously required as local match and has greatly increased the interest in using Section 5311(f) funds for operations. Initially implemented as a "Pilot Project" in FY 2007 and FY 2008 [Formula Grants and Other than Urbanized Programs, 72 Fed. Reg. 9062, 9072 (February 28, 2007)], it was extended through FY 2010 [75 Fed. Reg. 7047, 7059 (February 16, 2010)].

As a consequence of these factors, rural operators and the state transportation departments that provide funding will be very interested in knowing which potential rural intercity feeder markets make sense, based on the projected ridership and revenue. However, almost all the tools available to estimate rural intercity bus demand were developed to predict the ridership on Greyhound-type traditional intercity bus service and were calibrated with data from the intercity bus companies—so there is a need to examine the ridership on the rural intercity feeders operated by rural transit providers. Currently there is no demand model, rule of thumb, or similar tool that is based on recent experiences to assist in determining the likely intercity-related ridership and the impact of different arrangements on the potential demand. Most basically, a way to estimate intercity trip demand from rural areas to larger cities is needed to help in the design of projects that will link rural areas with major urban areas and the national intercity network. The level of demand obviously varies with population, and probably with frequency and service design, and is a major consideration in service design issues.

Objectives of the Research Project

The objective of this research project was to develop a sketch-planning guide and supporting tools that could be used by state transportation department program managers and both rural public and private intercity bus service providers to forecast demand for rural intercity bus services. The research approach accomplished this by:

- **Conducting stakeholder interviews** of federal and state officials, industry and professional associations, key intercity carriers, consultants, and others to determine the current state of demand forecasting and to identify examples of existing rural intercity services that were contacted to obtain service descriptions and ridership data.
- **Conducting surveys of rural intercity projects** to get details on the nature of the projects, including service characteristics, service area, ticketing and information, ridership

(including trends), and forecasting methods used to plan the services.
- **Identifying and evaluating existing rural intercity bus forecasting methods** from information supplied by stakeholders, providers, and the literature. These methods were compared to the types of methods used to provide rural intercity bus service to determine their applicability and the characteristics needed for new planning guidance.
- **Developing a sketch-planning guide and supporting tools, data, and methodologies** to enable users to forecast rural intercity bus ridership. Initially provided as a conceptual framework, these products were revised and refined following input from the TCRP Project B-37 panel to result in a user-friendly final product.
- **Providing a final report and Microsoft PowerPoint presentation** to document the research process and the forecasting tools and to provide a presentation that was used by TCRP, the research team, and panel members to describe the research and tools.

The potential audience for this research includes state agency program officials and staff, planners, local officials, and existing and potential public and private operators and sponsors of rural intercity bus service.

CHAPTER 2

Review of Rural Intercity Demand Methods and Rural Intercity Services

The study team initiated telephone interviews with industry association staff to identify existing information about demand and/or information about rural intercity providers that were included in the subsequent survey efforts. The American Bus Association provided data on the state program contacts and the general status of rural intercity bus programs, which were used as a resource for contacting state program staff to obtain lists of Section 5311(f) operators that were contacted in subsequent tasks. Greyhound Lines suggested several particular rural intercity projects that should be contacted for data. However, there has not been the discovery of any particular model or technique for rural intercity routes that is not described in the literature review. All of the rural intercity services described in the interviews have been included in the data collection effort, and the operators have been contacted for data on ridership and service characteristics.

Literature Review: Approaches to Estimating Rural Intercity Bus Demand

As indicated previously, there has been a number of efforts over the past 30 years to develop demand models for rural and intercity services. However, in reality there are few existing planning tools that are reliable. In part this has been because of the reluctance of carriers to furnish data on actual ridership or revenue to researchers to allow the calibration of models. It is also because the types of services have changed (away from rural routes operated by intercity bus companies toward services provided by rural transit operators with varying degrees of connectivity to remaining intercity bus services) and because some of the models or techniques were calibrated long ago when the overall rate of intercity bus ridership was higher.

There are many different questions that a bus company, a state department of transportation, or a rural transit provider would like to be able to answer, including questions about the potential financial impact of new services, and the advisability of reducing services or shifting them to a public provider. Different questions require different tools, and so there are several possible tools, all of which need development. All of the concepts suggested here would require revenue or ridership data (which would have to be provided by the operators of the service) to calibrate, and all address the issue of demand, which translates into ridership and revenue. Separate cost models would be needed to determine overall feasibility of service to a point or on a route or network. Discussed in the following sections are approaches that have been used in the past, along with some discussion of their potential utility.

Per Capita Intercity Trip Generation Rate

This approach uses available data to estimate the average number of intercity trips per year per capita for a given town, or an average based on regional, statewide, or national data. The per capita rate is then multiplied by the population of the place potentially being served to provide an annual estimated ridership. For a route, this technique can be applied to all the places on the potential route, and the results summed. This approach has been used in intercity bus studies in Nebraska, Iowa, and Minnesota, among other places.

One significant difficulty is determining the appropriate rate. One can use national data to estimate a national intercity bus trip rate (total regular-route ridership divided by total U.S. population), but there is even a problem in developing that figure because of the limited data on national intercity bus ridership on scheduled services. Also, use a of national rate includes all city sizes, and it masks any regional or demographic differences. In some cases regional or statewide data has been obtained or developed; this data would provide a better trip rate factor. Again, use of this approach is insensitive to demographic differences, travel patterns, frequency, or price—it implies that the characteristics of the potential service are comparable to those of the existing intercity bus service in the locations where the trip rate data was obtained. In the cases

where this approach has been applied, the rates are believed to have been developed based on ridership on conventional, privately provided scheduled intercity service—which implies a relatively low frequency (in rural areas) and a particular fare level (around $0.10 per passenger-mile).

Depending on the available data, one could imagine developing trip rates for a wide variety of service types, including feeder services provided by rural public transit systems, at different frequencies (three days a week, daily, twice a day, etc.), to connecting services with different frequencies, and at different fare levels or arrangements (high fares typical of airport ground transportation providers, medium fares typical of intercity providers, low fares more typical of public providers; separate fares versus interline fares, cash vs. Internet payment, etc.). Developing such trip rates would require a large number of cases to draw out patterns or create a model, and it would require a fair amount of data about each example.

Use of Comparable Services

Another approach that is often used to estimate demand, or validate estimates, for urban fixed-route service is to identify a route or service comparable to that under study in as many ways as possible, determine the usage of the existing route, and then apply that to the proposed service. Again, there is a need to be sure that the relevant parameters are included in the analysis, which means collecting a fair amount of data about the existing services. If one could collect data on a significant number of existing services, i.e., document the significant characteristics (route length, frequency, fare, ticketing arrangements, information availability, demographics, characteristics of the connecting services, etc.), one could provide a classification scheme that would allow the planner of a new service to identify comparable services and then project ridership based on the existing service. The study team did not identify any examples of this approach, except the use of ridership data from the Sage Stage in Modoc County, California, to validate ridership estimates developed for proposed service from Gunnison, Colorado, to Denver. The Sage Stage operates from Alturas, California, to Reno, Nevada, and the populations served, route length, density, and frequency are similar to the proposed service in Colorado. This validation was done as part of a study for the Colorado Department of Transportation.

Use of Historical Data

A related approach involves efforts to use ridership data from previous services, particularly in cases where an intercity bus company has abandoned a route or service and efforts are underway to utilize Section 5311(f) to provide for replacement services. However, there are several significant issues. One is that in the past intercity bus companies did not typically collect ridership data by stop, but rather by revenue. Converting revenue to ridership requires assumptions about average fares per boarding that may or may not be applicable in a given region. Second, if an intercity bus company abandoned the service, it may well have destroyed existing ridership and revenue records, or the firm itself may no longer be in existence. A third issue is that if one is trying to estimate the demand for a replacement service, it may well differ if the type of service is different—a public operator with different schedules, a required transfer at the connecting service point, lower fares, lack of interline fares, lack of information in the intercity bus information system, etc. Finally, it is likely that a replacement operator would attempt to schedule services that would serve multiple markets—for example, providing a full day at the destination city to allow for medical appointments or shopping—potentially expanding the market on the rural feeder service, but reducing the demand from persons making intercity trips who would face long waits for intercity connections (if the local service was not scheduled to facilitate connections). This approach would clearly work best where the new service was very similar to the previous service.

Examples known to the study team include the ridership estimates developed by KFH Group for replacement bus services in rural Indiana to serve Warsaw and other rural points. Data was available for the ridership experienced by the previous operator before exiting the route, and this was combined with the use of modeling techniques to develop new estimates for ridership and revenue on Section 5311(f) replacement services. Similarly, data on the previous ridership on a route in Colorado between Grand Junction and Pueblo [serviced by Texas, New Mexico, & Oklahoma Coach, Inc. (a Greyhound subsidiary at that time)] was obtained and used as a basis for ridership estimates for several proposed service options on this corridor. Difficulties in using historic data include the possible unavailability of intercity bus company data on a stop-by-stop basis unless a particular study was done and the likelihood that previous ridership was a function of the fare and frequency levels of that service and so cannot be assumed for different types of service. Also, intercity bus company data often includes overhead (ridership originating from and destined to places beyond the endpoints of the route in question) or connecting ridership that might not be available to a replacement service. Finally, it is not clear that previous ridership will return once a service has been discontinued for some time.

Demand Model for Boardings or Revenue at a Stop

This model approach would utilize U.S. Census demographic and service (frequency, perhaps fare) data to estimate the total annual revenue and the number of persons boarding at a particular stop. Models of this type have been calibrated for

Macon–Brunswick service using Georgia data (*1*) and for the Bay Transit service area in Virginia (*2*) using Greyhound District 2 sales data for points under 20,000 in population. As a general tool, it was calibrated for use in rural areas (under 50,000), because these are areas that are potentially eligible for federal funding under Section 5311(f). The Georgia and Virginia efforts are a good initial step, but additional work with the function form of the regression is needed to get a better model—one with a reasonable positive intercept and a higher R-square. Calibrations for cities with higher populations would be needed if this model is intended to be the trip generation component of a generalized network demand model.

Data needed to calibrate the model to predict intercity bus carrier sales can be obtained from Greyhound's agency sales data, from the Census, and from intercity bus schedules. Because the Greyhound computerized revenue accounting system (TRIPS) did not collect numbers of tickets from small population stops, in the past surveys would have been required to calibrate the model if it were used to predict boardings. However, Greyhound is now making another system available for rural stops, and it may be able to collect data on both revenue and boardings by stop—if that data can be made available to future study teams, it could assist in the development of this type of model. It may be necessary to develop separate calibrations for places on routes that are served by rural transit programs.

Route-Level Demand Models

If there are several points that might generate sufficient ridership, a route proposal might be developed for further analysis. Edward J. Kannel of Iowa State University developed a corridor model based on data from 11 rural corridors. (*3*) This model was used in planning by the Iowa Department of Transportation—a particular feature was its sensitivity to frequency of service. At about the same time, a series of rural route models were developed in the 1980s by Ecosometrics, Inc., (*4*) as part of an NCHRP project to develop a methodology for state planning of intercity bus service. That model is still used, though it has not been recalibrated, and there are now geographic information system (GIS) mapping tools that could aggregate data on population and its characteristics in units other than municipalities—for example, the 10-mile service areas around a stop. The ridership data used to calibrate the route models dates from before regulatory reform and so is likely to be higher than one might find now.

Calibrating a route-level model requires carrier data on total ridership for a route, or route segments. Some care could be required in identifying the ridership on the route. Service data in terms of average fares and frequencies on the routes would also be needed, along with Census demographic data. The basic approach of the earlier models could be used again. It would still have the flaw that a single route model offers no way to address the potential revenue of overhead traffic.

Such a model would be useful for predicting the ridership and revenue on potential new routes, allowing consideration of particular corridors or regions. State agencies would find it useful to identify potential new service corridors or estimate funding requirements, and Greyhound (or other carriers) would find it useful in deciding whether to submit service proposals and in pricing potential services. Another type of service that could be addressed is the rural connector service, in which the demand for local rural transit service that feeds intercity service would be estimated.

City-Pair Demand Model

This model, or series of models, would allow the analyst to project the demand (number of tickets or revenue) for a particular city-pair. This is the model type developed by the Texas Transportation Institute (TTI) as part of a recent study performed under contract to Greyhound and the Texas Department of Transportation. (*5*) This study developed two regression models, one for large destination cities, and one for small destination cities. The small destination city model could be used to estimate the number of tickets sold between the two cities based on the travel time between the cities, the destination population, the origin population, the mileage distance between the cities, and the origin median age. The TTI study was calibrated using data only from places with a population greater than 15,000, so its use for more rural locations may be inappropriate—use of this type of model for smaller cities would require calibrating new models of this type with data from manual ticket counts (or waiting until the MAX system is implemented in rural agencies).

Because this model is much more data intensive (to examine 10 city-pairs from a given origin requires getting Census and service data on 10 locations plus the origin city, rather than just the origin city), its best use would be in cases where the point model suggested that there was sufficient overall demand; then the city-pair model could be applied to determine which connections would offer the highest demand, and the routes could be designed to accommodate the high-demand city-pairs. In addition, the analyst would have to assemble estimates of city-pair demand on a particular route or service to estimate its ridership.

Network Models

A model of this type would follow the basic urban transportation modeling approach used over the past 50 years, but apply it to the intercity bus network. Several states have included intercity bus as a mode in their statewide multi-

modal travel demand models, but the focus is generally on city-to-city travel rather than rural-to-urban travel. A single-mode bus model would include the typical steps of trip generation and trip distribution to a network but would not include mode split because it is one mode.

With full development, such a model could be used by bus companies and state departments of transportation to evaluate the network impacts of adding links to the network, or bypassing congested stops. The conceptual approach was presented in 1993 by William Black of the University of Indiana at the Annual Meeting of the Transportation Research Board. (*6*) His presentation described a network demand model of Indiana. It included major destinations outside the state as nodes, to reflect network demand for trips crossing the state, or from the state to these other points. It used a basic gravity model formulation to assign the trips, following the gravity model theory that larger population destinations attract more trips. The weakness of the Black model was that there was no good method for estimating the overall number of trips generated in a particular city; efforts were made to use a trip rate factor, but the trip rate chosen included charter and tour trips, which resulted in apparent high levels of demand for intercity bus service all over Indiana. Black did not have access to any actual ridership data, so his model could not be calibrated against actual experience.

The lesson of this approach is that if actual ridership (revenue) and boardings by stop were to be made available, it is possible to develop a national intercity bus network model that could be useful for examining the impact of strategies to reroute service, add new links, or eliminate routes or links. The advantage of a national model is that larger changes in strategy could be tested, as well as incremental changes. Potentially, it could eventually be integrated with information on station capacity to allow modeling of strategies to manage station demand, or garage demand.

The proposed point demand model described previously would be required as the initial step to allow the estimation of the number of intercity bus trips generated at each stop. Then the network modeling would describe the initial network in terms of the routes, frequencies, and travel times between stops. Trip distribution would then place the trips generated onto the links, resulting in overall ridership on each link. Additional research would be needed to sub-allocate link ridership to particular schedules, but that would be an ultimate goal, as it would allow the analyst to test express scheduling, etc. Typically such models applied to urban regions and states (usually for highway modeling) are calibrated to actual traffic counts, and Greyhound's new management information processes would facilitate calibrating the network, something not possible for Black. A number of engineering firms specialize in this kind of modeling, and it is possible that existing software used for sketch planning could be used to develop the model. The feasibility of this approach could be tested on a statewide or regional network model initially.

While this discussion provided an overview of possible approaches to rural intercity bus demand estimation, the focus of this study was on the development of models or tools to help determine the ridership on proposed feeder routes, rather than a network model. At this point in time, federal policy suggests that the private sector, with minimal regulation and no subsidy (other than gas tax reductions), is responsible for providing the overall trunk intercity network, with operating subsidies limited to the Section 5311(f) program for rural intercity bus services—i.e., services linking places with a population under 50,000 with that trunk network. Consequently, there is a very limited need by states or local transit operators for a network model that would provide estimates of demand on links between urbanized areas. The projects evaluated by the model or tools developed in this project are routes linking several rural points to a connection with the trunk network. A number of studies of this type have been conducted and the following section presents some of the issues encountered in these previous efforts.

Recent Examples of Efforts to Estimate Ridership on Rural Intercity Services

Trip Rate Model for Washington State

As part of its work for the Washington Department of Transportation (WSDOT), KFH Group sought to develop a tool for estimating potential rural intercity ridership from places that currently do not have intercity service connections. These places were all identified as having higher potential needs based on a statewide ranking using Census demographic data regarding typical needs characteristics for transit dependency. In most cases the likely level of rural intercity bus service would have been limited to a single round trip per day, and the general approach involved using a trip rate to estimate the potential intercity ridership for each service point on the rural route for which population data was available and summing the estimated ridership. No estimate was made for additional demand at connection points that have existing additional intercity bus ridership.

The development of the trip rate was limited by available data. In the past one approach has been to apply a global national intercity trip rate, developed by taking an estimate of the total national regular-route ridership and dividing by the national population. At this point in time, the national regular-route ridership is not very well defined, because the only official data source, the Federal Motor Carrier Safety Administration, obtains statistics from only a partial set of the Class I (the largest) intercity passenger carriers, and the

most recent data is from 2002. A decade ago KFH Group developed a rate of 0.125 intercity trips per capita per year in the absence of any other data, based on the general assumption that Greyhound's ridership was half of the total U.S. intercity ridership. However more recently KFH Group was able to use Greyhound data to develop an estimate of 0.147 trips per capita for the population within a 10-mile radius of an intercity stop, using data for stops in the Pacific Northwest. This slightly higher per capita trip rate may or may not be accurate for small towns in Washington and Oregon, because it was developed from data collected at the larger points in which Greyhound had its TRIPS ticketing system, but it seemed logical to use data that was regional for analysis in that region, and to use a trip rate that was from more recent data than the early 1990s.

Table 2-1 demonstrates how one can use trip rate data and populations estimated by GIS to develop rural route ridership by developing the ridership at each point served and then summing the results. The table also reflects the need for other variables for a more accurate estimate, as the actual ridership for four existing rural routes is included in the sixth column.

For the Prosser–Yakima route, the estimated daily ridership was 97, and, based on reports to WSDOT, the actual ridership was 106. In this case, it should be noted that (1) the existing service has no connectivity with intercity bus service except that it drives past the Greyhound station and (2) it has no fare. The lack of a fare would lead to higher ridership than might be expected at typical intercity bus fares of $0.10-12 per mile.

Table 2-1. Washington state trip rate model.

Place	Population	Population within 10-mile Radius	Estimated Annual Demand	Daily Demand	Actual Ridership (Existing Routes Only)
Points on Proposed Route:					
Colville	4,599	8,543	1,256	3.44	
Connell	1,615	3,540	520	1.42	
Deer Park	1,185	16,347	2,403	6.58	
Goldendale	1,863	5,501	809	2.22	
Kettle Falls	1,578	4,309	633	1.73	
Newport	671	4,135	608	1.67	
Oroville	1,753	3,021	444	1.22	
		Kettle Falls Route:	4,292	11.76	n/a
Points on Existing Routes:					
Prosser	609	14,410	2,118	6	
Grandview	8,089	35,781	5,260	14	
Sunnyside	15,282	106,629	15,674	43	
Granger	1,112	20,594	3,027	8	
Toppenish	9,545	28,989	4,261	12	
Wapato	6,492	34,464	5,066	14	
			35,407	97	27,020* (106 daily)
Omak-Wenatchee-Ellensburg Route					
Omak	2,589	11,942	1,755	5	
Brewster	1,493	5,251	772	2	
			2,527	7	6,192**
Walla Walla-Pasco Route					
Walla Walla	35,882	45,484	6,686	18	2,096***
Port Angeles-Seattle-SeaTac Route					
Port Angeles	18,919	27,958	4,110	11	
Sequim	4,169	21,550	3,168	9	
Port Townsend	6,178	21,193	3,115	9	
	29,266	**70,701**	**10,393**	**28**	
					7,182

*Four times quarterly data, zero fare.

**Four times quarterly data.

***Four times initial 3 months of data.

The second route, Omak–Wenatchee–Ellensburg, is operated by an intercity bus operator, with interline tickets and intercity bus fare levels, so one would expect the point estimates to be more accurate. However, in this case the estimated ridership of 2,527 is less than the 6,000 or so actual riders. In part this discrepancy could be a result of the service also stopping at a number of points that are smaller than the listed towns and that do not have a Census 10-mile population figure, so the actual population served is higher.

The estimated ridership for the Walla Walla–Pasco route is under 6,700, and the actual (estimated from three months of data) was about 2,100 for the initial service provider on this route. In this case the service was newly initiated and there were marketing and service issues, and so one might expect the assessment of actual versus estimated to be premature. More recent service on this route, now known as the Grape Line, is estimated to have annual ridership of 5,000 for the first year. The final route, Port Angeles–Seattle–SeaTac Airport, has an estimated ridership of about 10,400, and an actual reported ridership of a little under 7,200. Again, fares may play a role, in that the fare levels on this service are about twice the typical intercity fare level, because this service goes to the airport.

So, as can be seen, the most simple tool, a trip rate, can be used to develop point estimates and route-level estimates, but its explanatory power is very limited because it does not include any adjustment for fare levels, frequency, service area anomalies, connectivity, etc. Its advantage is the ease of use. Once a rate is developed, the only data needed is population data. Therefore, it may be that carrier and survey data (from rural operators providing intercity service) could be used to develop a basic rate, and then adjustment factors could be developed to improve the basic rate's accuracy—perhaps adjusting the results up or down depending on frequency, fare level, etc. With enough data, the rates could even be developed on a regional basis.

Revenue and Ridership Estimates Based on a Statistical Model of Point Demand

A more complicated type of modeling effort involves the development of a regression model to take account of more variables than just the population of service points. As part of an effort to assess the feasibility of developing replacement service in a rural region of eastern Virginia, the KFH Group developed a statistical model to estimate the revenue at a given rural service point. Greyhound provided data showing passenger revenue for all Greyhound stops in eastern North Carolina, Virginia, and Maryland, allowing the development of a linear regression model that would directly estimate revenue as a function of attributes of the location.

To increase the chances of having a model that would be useful in predicting the revenue for the small towns in this area, only towns with a population of less than 20,000 were selected. A total of 41 stops were chosen using this method. For each of the 41 locations, information thought to affect intercity bus ridership was collected, including the following:

- The population within the town's boundaries
- The 10-mile population around the stop
- The percentage of the population with income below the poverty level
- The percentage of households that are rented
- The percentage of the population over 60 years of age
- The percentage of the population between 18 and 24 years of age
- The frequency of bus service, measured in departures per week
- The presence of a four-year residential college (dummy variable)
- The presence of a major medical facility (more than 150 beds)
- The presence of a military installation
- The presence of a state- or federal-level correctional institution
- The presence of a locally operated transit system

The data collected was presented in a table in the report. A number of linear regression models were tested, and the final model included the population within a 10-mile radius, frequency of service, percentage of population below the poverty level, and presence of a medical facility as significant in determining bus revenue at a rural service point. All of these appear to be plausible explanatory variables. (This is not always the case—an early demand modeling effort in Iowa found the best fitting model explained the variation in ridership based on retail sales and the number of dentists and physicians.) The town population, percentage of youth, and the presence of local transit increased the model's standard error and decreased the adjusted R-squared value, so they were omitted from the model—probably because of correlations between the variables. The statistics of the models were presented in an appendix to the project's final report. The regression presented the following model:

$$\text{Annual revenue} = -105{,}171 + 447{,}664\,(\%\ \text{bel pov}) + 1428\,(\text{freq}) + 517\,(\text{med}) + 1.48\,(\text{10-mile pop})$$

Where:

% bel pov = Percentage of population below poverty level
freq = Weekly bus frequency, counted by departures
med = Presence of a major medical facility (> 150 beds)
10-mile pop = Total population within 10 miles of an existing bus stop

The model was run for each point to be served on the potential routes previously developed, and then the point estimates were summed to provide a route estimate. This was done for three proposed routes. The results that the model produced for all three alternatives, with varying frequencies, are presented in Table 2-2. The variables included make sense as factors likely to affect intercity demand, and the results are as expected in that it appears that increased service means increased revenue.

Such a model could be used to estimate the total revenue that might be expected if service were initiated at a new small town location. It could assist in determining if the potential sales would support a commission agent, and could be used to help attract an agent. The model could be applied at several points along a proposed new route to estimate total revenue—again, if the revenue appears to be above a particular threshold, it could be analyzed in greater detail, or used as a basis for determining feasibility once operating and capital costs are developed.

In the Virginia study, one concern was that there were two potential operators—Greyhound or a rural transit operator. All the data used in the model was from a national intercity bus company—it was unclear whether the rural operator would have the same demand (it could be higher because of local recognition and the ability to serve regional trips on the same buses, or lower because residents would not perceive it as offering a valid connection to the national network). However, this model would need further development to deal with issues such as the negative intercept and to improve its statistics. Also, as calibrated it is really based on data from a particular region—more data might allow for additional regional calibrations or a national model. Finally, this approach could be used on two data pools—one from a national intercity bus company (if it will provide the data) and the other collected from rural transit operators providing rural intercity service—to allow estimates for either type of service.

Other Issues Considered in Developing a Model

One potential issue that was considered was the need for data to calibrate a model or tool. The review of previous modeling efforts noted that several of the efforts were severely limited by the lack of data from the intercity bus companies and others for whom the available data is confidential for business purposes (revenue per location, rather than ridership, for example). In this effort the study team worked with the industry to obtain some company data to develop the Toolkit, but the proprietary nature of ridership and revenue data at privately owned businesses limited this source of data. In addition, industry data on ridership or revenue from rural stops (serving populations under 50,000) or routes primarily serving such rural places was limited because the industry has shifted so much of its service to serve places that have greater populations.

Because there is a need to develop a model or tool for rural services to be operated by intercity bus companies, there was a need to have data on those types of services so that the model or tool could be calibrated. At the same time, in this effort much of the key data was provided by rural transit providers that are operating services they characterize as rural intercity bus service, and one focus of the project was on understanding the characteristics of the service involved in terms of frequency, connectivity, ticketing, fare levels, etc. to determine the appropriate classification of these services.

A second key issue that the study team attempted to address in this effort was the need to develop tools that are sensitive to the potential combination of markets that may be served by a rural intercity service. While it is expected that a significant proportion of the potential ridership may be making "intercity" trips—either to the destination of the rural feeder or to other intercity services for travel beyond that point—it is not clear to what degree the transit provider should

Table 2-2. Demand estimates using the regression model developed for Virginia using Greyhound District Two data.

	Daily Round-Trips	District Two Regression Model Estimated Revenue	Estimated Boardings
Intercity Service-Northern Route	1	$95,661	2,126
Intercity Service-Northern Route	2	$115,653	2,570
Intercity Service-Route 17 only	1	$62,662	1,392
Intercity Service-Route 17 only	2	$82,654	1,837
Bay Transit-Two Routes	1	$95,661	2,126
Bay Transit-Two Routes	2	$115,653	2,570
Bay Transit-Three Routes	1	$128,162	2,848
Bay Transit-Three Routes	2	$148,152	3,292

develop services to also serve other markets. Such other markets could include medical trips, connections to other intercity modes, regional shopping, or even work trips. Some of the more successful rural intercity feeders combine these markets by making multiple stops in the destination city—for example, the Olympic Bus Lines service in Washington State, which serves the major hospitals, other downtown destinations, the Amtrak station, and the airport as well as the Greyhound station. Some rural operators have argued that they should not be required to provide schedule connectivity with intercity bus carriers because so few of the rural intercity passengers are making that connection. Rather, they would develop services that meet the regional needs (perhaps a morning inbound and a late afternoon return) of the majority of the riders, with the intercity passengers left to wait for hours. This issue was considered in this study, in terms of the data classification effort, which then affected the tools developed. In the end, usable models could be developed only by focusing on services that are primarily intercity in nature. Services serving multiple markets had too much variance to retain in the models.

The survey of agencies did not identify additional methods or studies. However, the study team performed a search of the TRIS database, which resulted in the identification of 17 additional references regarding intercity bus demand.

The most directly relevant reference was an article by D. L. Dean, from 1982 (*7*), which directly addressed the main issues of this project. That reference called for a new approach to modeling rural intercity bus demand, finding that city-pair models (as developed primarily for estimating intercity air and rail passenger demand) have excluded small urban places and rural stops from consideration and so are not very useful for intercity bus generally, much less rural intercity routes. It also found that rural transit demand models have not been very useful for this purpose either, as they focused on a local area without reference to the larger regional, statewide, or national networks or connections that are potentially part of rural intercity demand. Dean did call for the inclusion of level of service factors in the development of rural demand models, as well as populations and demographic factors. Much of the background discussion in this article reflects the pre-deregulation era when there was substantial rural and small town intercity service provided by private for-profit firms, when the carriers provided many extra sections to respond to demand peaks on particular schedules, and when regulatory agents collected substantial amounts of data on bus ridership. The points made regarding the limitations of city-pair, rural transit, and trip rate models continue to be valid, but this reference did not provide a recommended approach or model.

Many of the other references address a bus as a mode in statewide multimodal travel demand models or national intercity multimodal demand or market share models or are complex statistical models of intercity bus market shares in particular corridors. In general, these tools did not address the points that would be served by rural routes and are very complex. Consequently, they were not easily used to test alternative routes or service levels on rural routes.

CHAPTER 3

Inventory of Existing Rural Intercity Routes and Ridership

This task formed a major part of the work activity of the study team. It was decided to perform the inventory of rural intercity services first, in order to have data to serve as a basis for developing the typology. Preliminary thoughts on the typology were developed at this point, though the study team found some differences as the inventory was completed. The inventory involved four major elements: developing a survey form and methodology; identifying rural intercity operating projects; surveying the operators; and compiling the data (including both the data from the operators regarding service characteristics and ridership, and demographic data on the places served).

Data Requirements

Based on the information obtained from the literature review and the team's industry experience, several factors were identified. The literature review also assisted in validating the relevance of these factors. These factors, aside from the contact information, were determined as the best potential variables that contributed to an estimation of demand model for rural intercity services:

- Contact information—operator
- Type of operator—public for-profit, private non-profit, regional carrier, etc.
- Service characteristics:
  - Vehicle type
  - Fixed route/fixed schedule
  - Demand-response feeder
  - Reservation requirements
  - Route type—dead-end, bridge, parallel to Interstate
  - Frequency of service
  - Seasonal variations
- Points served
- Ticketing arrangements—interlining, mechanisms (Internet, cash to driver, etc.)
- Fares—flat, zone, per mile
- Information (schedule, how is it made available to the public?)
- Connectivity:
  - With other intercity bus services
  - With other intercity modes (rail passenger, air)
  - With local transit—urban and rural
- Characteristics of stops: (Is there one of the following at a stop?)
  - Military base
  - College or university
  - Job corps center
  - Regional medical facility
  - Tourism destination
  - Commercial airport
- Ridership
  - By route (fiscal year, calendar year, monthly)
  - By stop (on-off) if available
- Projections made prior to start of service
- How long service has been in operation
- How long to achieve ridership levels

These factors were used in the survey effort and were also used in developing the database. The study team determined that responses about these factors would provide the best data from the operator to allow for the development of a demand model, assuming, of course, that the study team would receive responses to all questions asked.

Development of a Survey Tool

The initial activity in this task was the development of a survey tool that (1) could be used for consistent data collection of the elements to permit the development of a typology and (2) would likely provide the data needed for various modeling approaches.

Based on the factors in the project proposal, a questionnaire was developed to collect data from rural intercity operators

on the characteristics of the service they provide, the service area, and the ridership. This initial data collection tool is presented in Appendix A.

When a survey was completed, the survey form and its data were archived. The responses were then coded onto the summary table for each participating state. The summary table allowed for a quick review of route information and allowed for descriptive text to accompany some of the responses. This descriptive text is especially needed when addressing frequency, fare, vehicle types, or schedule information.

Based on feedback during preliminary survey efforts, in which several operators expressed concerns that the survey form was rather long, the study team decided to make minor adjustments to the survey form. The number of questions was reduced to address the basic route characteristics: schedule, stops, vehicle type, ridership, route length, fares, connectivity, and trip generators along the route. This new set of questions was then incorporated into the text of the introductory email submitted to operators, as shown in Appendix B. As a result, there seemed to be less apprehension on the part of service providers and a relatively high participation rate was achieved.

Identification of Potential Survey Respondents

The second step was addressed in part by identifying providers from industry association contacts, but in general provider lists were already known to the study team or were provided by the Section 5311(f) program manager in each state department of transportation. Because the study team was chosen to perform NCHRP Project 20-65(20), "Analysis of Rural Intercity Bus Strategy," it held back awaiting Notice to Proceed on that project so that it could combine efforts, which allowed it to contact every state (which was more than contemplated for TCRP B-37).

Also, in order to focus the efforts on the states known to have operating programs, the FTA listing of Section 5311(f) program expenditures by category (the latest available list was FY 2006) was used to identify those states with significant operating assistance programs for rural intercity services. Preliminary rural National Transit Database (NTD) data for the rural intercity question for FY 2006 and FY 2007 was obtained. The rural NTD asks the states for the name of the provider, the ridership, and the annual bus miles. The NTD data did not provide separate data on intercity services operated by rural public transit operators, who apparently reported such ridership as part of their overall rural ridership. By using these sources, all the Section 5311(f) rural operating programs were identified. The study team contacted the state programs in states with these services and asked for the names and addresses of carrier contacts and whether the state had collected any data as part of its monitoring or reporting efforts. Table 3-1 presents a list of the contacts for the state programs.

Several of the other operators did not have data by route, or could not provide it. The study team had several discussions with New York State Department of Transportation about its substantial intercity bus program and how to approach it. New York funds nine carriers with a mixture of Section 5311(f) and a substantial amount of state funding, combined in a Statewide Operating Assistance Program that funds rural intercity services in upstate New York. The funding is provided on a set amount per bus-mile and per passenger rate, so it is not tied to the net deficit on a route. The study team worked with New York to obtain data from the carrier reporting, but it was not possible to obtain data on a route/schedule level for this substantial program. Iowa also funds rural intercity services with a per-mile subsidy for all rural intercity routes. Both of these "network" support programs pose issues in obtaining rural intercity ridership for specific routes or schedules

In addition, Jefferson Lines provided stop-by-stop and route-level ridership data for all of its rural routes, including the Section 5311(f) projects it operates in Minnesota, North and South Dakota, Missouri, Arkansas, and Iowa. Stop-by-stop data could be used to develop point demand models, if combined with service attributes at those points and basic fare levels.

Survey

The study team contacted operators and agencies and populated the survey with as much information as was made available. The study team did not wish to set an arbitrary number of interview/case study sites to meet this budget cap, because the model or method needed as many responses as possible to provide an adequate level of robustness. At the outset, as contacts were established, an email message was submitted to them containing a brief project description, a request to schedule an appointment, and the survey form as an attachment.

The actual survey was administered over the telephone with most operators and state program administrators providing most of the information in the initial call. In some cases, follow-up phone calls were required, but, generally, most information was obtained within the first telephone conversation. Most of the information provided during the phone call was route characteristic information with an occasional follow-up call to obtain ridership/funding information.

As a result of the survey effort, several items were revealed that were not necessarily anticipated at the outset:

- Ridership data—The availability of data varied greatly between states and operators. In some cases data was readily

Table 3-1. State DOT contacts for Section 5311(f) management.

State	Name	Title	Unit	Email	Phone	Address
AK	**Alaska Department of Transportation and Public Facilities - Alaska Community Transit Program, Division of Program Development**					
	Debbi Howard	State Transit Coordinator	State Transit Section	debbi.howard@alaska.gov	907.465.2883	3132 Channel Drive, PO Box 112500, Juneau, AK 99811-2500
AL	**Alabama Department of Transportation - Bureau of Multimodal Transportation**					
	Joecephys Nix	Manager	Transit Section	nixj@dot.state.al.us	334-353-6421	1100 John Overton Drive, Montgomery, AL 36110
AR	**Arkansas State Highway and Transportation Department - Planning & Research Division**					
	Steven Alexander	Administrative Officer III	Public Transportation	Steven.Alexander@arkansashighways.com	501.569.2561	P.O. Box 2261, Little Rock, AR 72203
	Patricia Slater	Transportation Specialist	Public Transportation	patricia.slater@arkansashighways.com	501.569.2472	
AZ	**Arizona Department of Transportation - Multimodal Planning Division**					
	Sam Chavez	Program Manager	Public Transportation	schavez@azdot.gov	602.712.7465	206 South 17th Avenue, MD 310 B, Phoenix, AZ 85007
CA	**California Department of Transportation (CalTrans) - Division of Mass Transportation**					
	Fred Lenhart	Associate Transportation Planner	Rural Transit & Procurement	fred_lenhart@dot.ca.gov	916.654.7601	MS #39, P.O. Box 942874 Sacramento, CA 94274-0001
CO	**Colorado Department of Transportation - Division of Transportation Development**					
	John Valerio	Transit Planner	Transit Unit	John.Valerio@dot.state.co.us	303.757.9769	4201 E. Arkansas Ave., Shumate Building, Denver, CO 80222
CT	**Connecticut Department of Transportation - Bureau of Public Transportation**					
	Joanna Juskowiak	Transportation Planner		Joanna.Juskowiak@po.state.ct.us	860.594.2835	P.O. Box 317456, Newington, CT 06131-7546
DE	**Delaware Department of Transportation - Delaware Transit Corporation**					
	Lisa J. Collins			lisa.collins@state.de.us	302.576.6067	119 Lower Beach St, Ste 100, Wilmington, DE 19805
FL	**Florida Department of Transportation - Public Transportation and Modal Administration**					
	Elizabeth “Liz” Stutts	Grants Program Administrator	Public Transit Office	elizabeth.stutts@dot.state.fl.us	850.414.4530	605 Suwannee Street (MS 26), Tallahassee, Florida 32399-0450
GA	**Georgia Department of Transportation - Division of Intermodal Programs**					
	Steve Kish	Transit Program Manager	Transit Section	skish@dot.ga.gov	404.631.1237	276 Memorial Drive SW, Atlanta, GA 30303-3743
HI	**Hawaii Department of Transportation - Statewide Transportation Planning Office**					
	Ryan Fujii	Programming Section Manager		ryan.fujii@hawaii.gov	808.587.2028	869 Punchbowl Street, Room 404, Honolulu, HI 96813
ID	**Transportation Department - Public Transportation Division**					
	Randy Kyrias	Administrator, Div. of Public Transportation		Randy.Kyrias@itd.idaho.gov	208-334-8281	3311 W. State Street · P.O. Box 7129, Boise, ID 83707-1129
IL	**Illinois Department of Transportation - Division of Public and Intermodal Transportation**					
	David Spacek	Bureau Chief	Downstate Area Programs	david.spacek@illinois.gov	312.793.2154	2300 S. Dirksen Parkway, Springfield, IL 62764
	Gary DeLeo	Chief	Non-Metro Program Section	gary.deleo@illinois.gov	312.793.6043	
IN	**Indiana Department of Transportation - Office of Transit**					
	James English	Program Manager		jenglish@indot.in.gov	317.232.1483	100 North Senate Avenue, Suite N901, Indianapolis, IN 46204-2228
IA	**Department of Transportation - Office of Public Transit**					
	Michelle McEnany	Director		michelle.mcenany@dot.iowa.gov	515.239.1659	800 Lincoln Way, Ames, IA 50010
	Gary Houston	Grants Management/Intercity Bus/DBE/Interim D&A		gary.houston@dot.iowa.gov	515.239.1806	
KS	**Department of Transportation - Bureau of Transportation Planning**					
	Lisa Koch	Public Transportation Manager		lisak@ksdot.org	785.296.4907	Dwight D. Eisenhower State Office Building, 700 SW Harrison Street, Topeka, KS 66603-3754
KY	**Kentucky Transportation Cabinet - Office of Transportation Delivery**					
	Vickie Bourne	Executive Director		vickie.bourne@ky.gov	502.564.7433	200 Mero St., 3rd Floor, Frankfort, KY 40622
	Eric Perez	Executive Staff Advisor		eric.perez@ky.gov	502.564.7433	

State	Name	Title	Unit	Email	Phone	Address
LA	**Louisiana Department of Transportation and Development - Public Transportation Section**					
	Donna Lavigne	Public Transportation Administrator		DonnaLavigne@dotd.la.gov	225.274.4302	8900 Jimmy Wedell, Baton Rouge, LA 70807
	Michelle Horne	Program Manager - Urban & Transit Planner		MichelleHorne@dotd.la.gov	225.274.4309	
MA	**Massachussets Department of Transportation - Executive Office of Transportation**					
	Joanne Champa	Program Coordinator		joanne.champa@state.ma.us	617.973.7062	10 Park Plaza, Boston, MA 02116
MD	**Maryland Transit Administration - Office of Statewide Planning**					
	Lenny Howard	Manager of Statewide Planning		lhoward1@mtamaryland.com	410.767.0029	6 St. Paul St., Baltimore, MD 21202-1614
ME	**Maine Department of Transportation - Office of Passenger Transportation**					
	Barbara Donovan	Manager		barbara.donovan@maine.gov	207.624.3245	16 State House Station, Augusta, ME 04333-0016
	Cindy Farrin	Non-Urbanized Program Administrator		cindy.farrin@maine.gov	207.624.3241	
MI	**Michigan Department of Transportation - Bureau of Passenger Transportation**					
	Rob Pearson	Project Manager/Department Analyst		pearsonr1@michigan.gov	517.335.2572	State Transportation Building, 425 W. Ottawa St., P.O. Box 30050, Lansing, MI 48909
MN	**Minnesotta Department of Transportation - Office of Transit**					
	Tom Gottfried	Section Director		tom.gottfried@dot.state.mn.us	651.366.4171	395 John Ireland Blvd, Mail Stop 430, Saint Paul, MN 55155
	Gery Weiss	5311(f) Project Manager		gerald.weiss@dot.state.mn.us	651.296.1612	
MS	**Mississippi Department of Transportation - Office of Intermodal Planning**					
	Charles Carr	Public Transit AdministratorPublic Transit Division		ccarr@mdot.state.ms.us	601.359.7800	401 N. West Street, 9th Floor, P.O. Box 1830, Jackson, MS 39215-1850
MO	**Missouri Department of Transportation - Transit Section**					
	Shirley Tarwater	Program Administrator	State Operating Assistance - Rural	shirley.tarwater@modot.mo.gov	573.751.7481	P.O. Box 270, Jefferson City, MO 65102
MT	**Montana Department of Transportation - Rail, Transit, and Planning Division**					
	Tom Stuber	Regional / Transit Planner		tstuber@mt.gov	406.444.9216	2701 Prospect Avenue, PO Box 201001, Helena, MT 59620-1001
NE	**Nebraska Department of Transportation - Public Transportation Section**					
	Jerry Wray	Manager		jerry.wray@nebraska.gov	402.479.4694	1500 Nebraska Highway 2, P.O. Box 94759, Lincoln, NE 68509
NV	**Nevada Department of Transportation - Multimodal Systems**					
	Michelle Gardner-Lilley	Manager		mgardner-lilley@dot.state.nv.us	775.888.7312	1263 South Stewart Street, Carson City, NV 89712
NH	**New Hampshire Department of Transportation - Bureau of Rail and Transit**					
	Shelley Winters	Public Transportation Administrator		Swinters@dot.state.nh.us	603.271.3497	John O. Morton Building, Room G25, 7 Hazen Drive, Concord, NH 03302
NJ	**New Jersey Department of Transportation**					
	Robert “Bob” Koska	Director, Local Program		rkoska@njtransit.com	973.491.7376	1 Penn Plaza East, Newark, NJ 07105
NM	**New Mexico Department of Transportation - Transit and Rail Division**					
	David Harris	Transit Manager		DavidC.Harris@state.nm.us	505.827.5420	604 West San Mateo Road, Santa Fe, NM 87505
NY	**New York Department of Transportation - Policy and Planning Division**					
	Bill Telovsky	RTAP, Intercity Bus & Drug/Alcohol Program Manager		wtelovsky@dot.state.ny.us	518.457.6279	POD 54, 50 Wolf Road, Albany, NY 12232
NC	**North Carolina Department of Transportation - Public Transportation Division**					
	Miriam Perry	Director		mperry@dot.state.nc.us	919.733.4713 x243	1 S. Wilmington St., Raleigh, NC 27601
ND	**North Dakota Department of Transportation - Local Government Division**					
	Annette Tait			atait@nd.gov	701.328.2194	608 East Boulevard Avenue . Bismarck, ND 58505-0700
OH	**Ohio Department of Transportation - Office of Transit**					
	Brett Harris	Rural Transit Program Coordinator		brett.harris@dot.state.oh.us	614.466.7440	1980 West Broad Street, 2nd Floor, Columbus, OH 43223

(continued on next page)

Table 3-1. (Continued).

State	Name	Title	Unit	Email	Phone	Address
OK	**Oklahoma Department of Transportation - Transit Programs Division**					
	Ken LaRue	Manager		klarue@odot.org	405.521.2584	200 N.E. 21st Street, Oklahoma City, OK 73105
OR	**Oregon Department of Transportation - Public Transit Division**					
	Matthew Barnes	Transit Network/Intercity Program Manager		matthew.m.barnes@odot.state.or.us	503.986.4051	555 13th St. NE, Ste. 3, Salem, OR 97301-4179
PA	**Pennsylvania Department of Transportation - Bureau of Public Transp. Services and Programs**					
	Tina Chubb	Project Coordinator		vchubb@state.pa.us	717.705.1492	400 North Street, Harrisburgh, PA 17120
RI	**Rhode Island Public Transit Authority**					
	Harriet Holbrook			hholbrook@ripta.com	401.784.9500 x222	265 Melrose Street, Providence, RI 02907
SC	**South Carolina Department of Transportation - Division of Mass Transit**					
	Glennith Johnson	Deputy Director		johnsongc@scdot.org	803.737.0831	955 Park Street, P.O. Box 191, Columbia, SC 29202-0191
	Johnny Mmanuike	Assistant Division Director		mmanuike@scdot.org	803.737.0831	
SD	**South Dakota Department of Transportation - Office of Public Transit**					
	Jackie K. Mattheis	Transportation Specialist		jackie.mattheis@state.sd.us	605.773.4169	Becker-Hansen Building, 700 E. Broadway Ave., Pierre, SD 57501
TN	**Tennessee Department of Transportation - Office of Passenger Transportation**					
	Dironna Belton	Transportation Planner		Dironna.Belton@state.tn.us	615.253.1035	Suite 1800, James K. Polk Bldg., Nashville, TN 37243
TX	**Texas Department of Transportation - Public Transportation Division**					
	Garry Williams	Program Manager		GWILLIA@dot.state.tx.us	512.416.2823	125 East 11th Street, Austin, TX 78701-2483
UT	**Utah Department of Transportation - Systems Planning and Programming Group**					
	Leone Gibson	Director		lgibson@utah.gov	801.964.4508	4501 South 2700 West, Mail Stop 141200, Salt Lake City, UT 84114-1200
VT	**Vermont Agency of Transportation - Public Transit Section**					
	Krista Chadwick	Public Transit Coordinator		krista.chadwick@state.vt.us	802.828.5750	One National Life Drive, Montpelier, VT 05633-5001
VA	**Virginia Department of Rail and Public Transportation**					
	Darrel Feasel	Rural Transit Section Manager		Darrel.Feasel@drpt.virginia.gov	804.786.8089	P.O. Box 590, Richmond, VA 23218-0590
WA	**Washington Department of Transportation - Public Transportation Division**					
	Stephen Abernathy	Intercity Planner		abernas@wsdot.wa.gov	360.705.7929	310 Maple Park Avenue SE, Olympia, WA 98504
WV	**West Virgina Department of Transportation - Division of Public Transit**					
	Cindy Fish	Senior Grant Coordinator		cindy.e.fish@wv.gov	304.558.0428	Building 5, Room A-906, 1900 Kanawha Boulevard, East, Charleston, WV 25305-0432
WI	**Wisconsin Department of Transportation - Public Transit Section**					
	Monique Currie	Program Manager		monique.currie@dot.state.wi.us	608.267.7345	Public & Specialized Transit Section , Room 951, P. O. Box 7913, Madison, WI 53707-7913
WY	**Wyoming Department of Transportation - Planning Program (Local Government Coordination)**					
	John Black	Public Transit Coordinator		John.Black@dot.state.wy.us	307.777.4181	LGC - Planning Building, Room 215, 5300 Bishop Boulevard, Cheyenne, WY 82009-3340

available; in other cases states mentioned that locating and obtaining the data would require a significant undertaking. The latter was an obstacle, but not insurmountable; the study team was able to obtain contact information for the operators and obtain data directly from them. Also, the kind of data available varied. In most cases the study team was provided route-level fiscal or calendar year data. However, in some cases the study team received monthly or, if a system operated several routes, system-wide ridership data that is very difficult to analyze on a per-route basis. Stop-by-stop ridership data was made available for only a select number of routes.

- Funding allocations for intercity services—In some cases states used Section 5311(f) funds to support a network of services, rather than a route or service. This arrangement makes it difficult to identify that portion of the route or service that is supported by Section 5311(f) funds and determine the performance, or ridership, based on this arrangement.
- Operating projects in 27 states—The survey effort identified projects in 27 states. Projects had to be in operation during FY 2006 or FY 2007 to have any useful operating data. As mentioned, most routes identified did have fiscal year data available, but not stop-by-stop information. New services that had commenced in the past year (2008) were also identified, but ridership data was not yet available. Also discovered were efforts by several states to execute planning tasks that assess intercity travel needs.

Data Compilation

Mapping/Geographic Information System

The geographic representation of these routes is vital in understanding the breath and coverage of these services. As data tables were populated during the survey efforts, bus stop information was made available for mapping purposes. The routes were mapped in ArcView GIS. Once a route was mapped, it was then easy to incorporate other important indicators and develop a geographic representation.

The following geographic characteristics were used in this study:

- **Stops along the route**—to show proximity and access points to the service.
- **Buffers (10 and 25 mile)**—to show potential market areas and the relative distance of other major points of interest near the route.
- **Population data**—using Census 2000 population statistics for municipalities allowed representation of the coverage area of service in relation to population characteristics that are associated with transit-dependent people (low income, disabled, carless).
- **Route length**—once mapped, the route length was easily calculated.

For each participating state with rural intercity operations (Figure 3-1), a statewide map was produced for the route information received. These maps are included as Appendix C. Generally, the country has a fairly sparse coverage, with states along the East and West Coast exhibiting higher participation rates, and a few Midwestern states showing participation.

Development of Database

The archiving effort consisted of two main components. One component is the summary table for each state populated with data from the survey form. The summary table is in Microsoft® Word and allowed space for descriptive text that elaborated on the type of facilities, frequency, and vehicles used in the operation of the intercity service. The summary table was developed for each state and is included as Appendix D.

The second component is the demand model database table developed in Microsoft® Excel. The model is a reduction of the table summary into its most basic attributes. For example, instead of identifying specific trip generators, such as a regional medical center, the study team simply notes that the route stops at a medical facility by placing an "x" in the appropriate column. This entry can later be translated into a binary value, an "x" would denote a "1," and could be used in statistical analyses. The variables in the demand model include the following:

- Route identification
- Classification of operator
- Interlining (yes/no)
- Competition on route, between endpoints (yes/no)
- Connection with local transit (yes/no)
- Route type—dead end (yes/no)
- Annual route ridership (boardings)
- Route length (one-way miles)
- Frequency (trips per week)
- Fare (type)
- Fare per mile
- Corridor population
- Destination population (if major metropolitan area)
- Presence/absence of key generators (college/university, major medical, airport, etc.)

These variables are the basis of the demand model. Some variables require more discussion, as they represent service characteristics that address particular local needs.

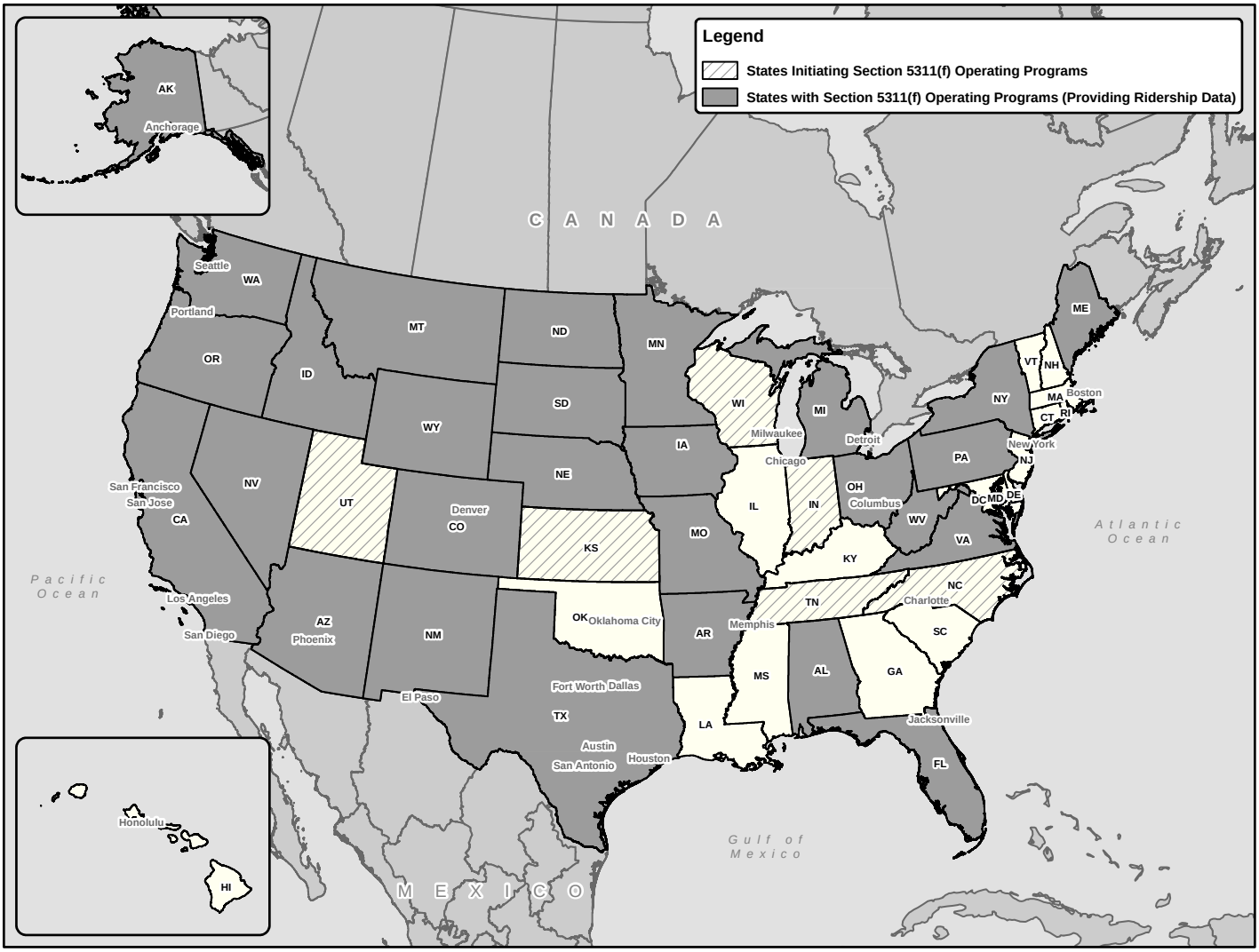


Figure 3-1. States with Section 5311(f) operating programs.

CHAPTER 4

Rural Intercity Bus Classification Scheme

In reviewing the routes identified and collected, an initial classification involved the division of the population of routes into three categories:

- Services that can be thought of as traditional intercity bus service
- Services that are regional in character, provided by private firms
- Services operated by rural public transit providers

Table 4-1 presents a summary list of the rural intercity services identified along with the classification assigned to each service. Each of these categories has general characteristics, but within each class or group there are particular services that may differ to some degree. The routes and services can be fit into this framework based on service characteristics, but at this point the classification cannot be related directly to impacts on ridership.

This classification was important to the development of demand prediction tools as it permitted the testing of the ridership to determine if ridership response differs among the three classes, and if so, to design tools that would allow the user of the "model" to choose the most appropriate technique. It also allowed the development of better fitting tools if the underlying travel market characteristics differ—if all the routes are combined into one data pool, these differences may not be evident, but the model or technique will be less accurate.

Traditional (Rural) Intercity Bus Service

These services may be funded with Section 5311(f) funding, but in other aspects to the user they would appear to be intercity bus service as known and used for decades. Characteristics of this type of service include the following:

- **Operator:** Private for-profit firm, member or sponsored member of the NBTA.
- **Service type:** Fixed route, fixed schedule.
- **Vehicles:** Usually the standard over-the-road bus (OTRB), 40 to 45 feet in length, passenger deck above underfloor baggage bins.
- **Ticketing:** Interline ticketing available through NBTA, carrier interline agreements. Tickets sold by intercity bus terminal personnel, bus commission agents (at stations and offline), and often online over the internet.
- **Fares:** Standard industry intercity bus fare levels, varying with distance, now also with advance payment discounts, etc. These fares tend to average $0.11 to $0.15 per mile, with an initial minimum of several dollars, and a taper (the rate per mile declines with the distance). Passengers often purchase tickets for travel beyond the rural intercity route, so the rural carrier is receiving their pro-rated portion of a ticket for a longer trip.
- **Information:** Routes and schedules available through standard intercity bus industry sources, including *Russell's Guide,* Greyhound's online timetables, Greyhound's internet ticketing (for Greyhound interline partners), carrier-provided timetables, carrier websites.
- **Frequency:** Services are generally provided daily, 365 days per year, but on rural routes generally only once or twice per day.
- **Schedule connectivity:** Schedules are designed to provide connectivity to unsubsidized trunk line intercity schedules at connecting points in urbanized areas, allowing passengers from the rural leg to catch mainline buses traveling to points out of the region, and passengers from the mainline buses to catch the rural intercity buses back to the rural stops.
- **Accessibility:** Follows federal requirements for private operators of OTRBs—accessible buses provided to users with 48-hour advance reservation.
- **Stations:** Rural stops are usually at bus commission agencies, where the primary business activity is not bus related (e.g., diner, gas station, hotel), and the business sells tickets for a commission. In many rural stops, the location is

Table 4-1. Summary of rural intercity ridership by operator and type of service.

State	Route (ID)	Route Description	Carrier	Ridership Annual [a]	Classification: Standard Intercity Bus	Classification: Private Regional Carrier	Classification: Rural Public Transit Operator
AL	Selma-Mont	Selma-Montgomery	West Alabama Public Transportation	6,677			X
AR	OC-PB	Oklahoma City-Fort Smith-Little Rock-Pine Bluff	Jefferson Lines	50,933	X		
AZ	Rte 660	Route 660: Vickenburg Connector	Valley Metro contracts service to Total Transit	2,454			X
AZ	Rte 685 GB-Phnx	Route 685 (Portion): Gila Bend Regional Connector (Gila Bend to Phoenix)	Valley Metro contracts service to Ajo Transpnoitatro	10,809			X
AZ	Rte 685 Ajo-GB	Route 685 (Portion): Gila Bend Regional Connector (Ajo to Gila Bend)	Pima County Rural Transit contracts service to Ajo Transpnoitatro	12,559			X
AZ	Ajo-Tucson	Ajo-Tucson	Pima County Rural Transit contracts service to Ajo Transportation	4,385			X
AZ	Ajo-Why	Ajo-Why	Pima County Rural Transit contracts service to Ajo Transpnoitatro	476			X
AZ	Grn Vlly-Sah	Green Valley & Sahuarita Regional Connector	Pima County Rural Transit contracts service to American Pony Express	3,705			X
AZ	Tuc Est-Irv Rd	Tucson Estates-Irvington Rd	Pima County Rural Transit contracts service to Trax Transportation	15,761			X
AZ	San Xav-Tucson	San Xavier Access Route: San Xavier-Tucson	Pima County Rural Transit contracts service to Trax Transportation	35,581			X
AZ	Nav Rte 1	Route 1: Tuba City-Window Rock	Navajo Transit System	NR			X
AZ	Nav Rte 2	Route 2: Toyei-Window Rock	Navajo Transit System	NR			X
AZ	Nav Rte 3	Route 3: Kayenta-Tsaile-Ft. Defiance	Navajo Transit System	NR			X
AZ	Nav Rte 4	Route 4: Crownpoint-Ft. Defiance	Navajo Transit System	NR			X
AZ	Nav Rte 5	Route 5: Gallup-Ft. Defiance	Navajo Transit System	NR			X
AZ	Nav Rte 7	Route 7: Shiprock-Farmington-Window Rock	Navajo Transit System	NR			X
AZ	Nav Rte 8	Route 8: Chinle-Ganado	Navajo Transit System	NR			X
AR	Jefferson Lines	Pine Bluff-Little Rock-State Line	Jefferson Lines	140,623	X		
AR	SCAT	Malvern-El Dorado	South Central Arkansas Transit (SCAT)	NR			X
AR	Ft Smith-Texarkana	Fort Smith-Texarkana (Shreveport-Houston)	Kerrville Bus Lines	34,700	X		
CA	Smith River-ARcata	Route 20: Smith River-Arcata	Redwood coast Transit Authority	12,847			X
CA	Clearlake-Lakeport	Route 4: Clearlake-Lakeptro	Lake Transit Authority	4,193			X
CA	Lakeport-Ukiah	Route 7: Lakeport-Ukiah	Lake Transit Authority	8,406			X
CA	Pecwan-Willow Creek	Pecwan-Willow Creek	Yurok Tribal Government	NR			X
CA	Helena-Santa Rosa	Route 11: Helena-Santa Rosa	Napa County Transportation & Planning Agency	2,598			X
CA	Salinas-King City	Line 23: Salinas-King City Expsser	Monterey-Salinas Transit	86,635			X
CA	SLO-Santa Maria	Route 10: San Luis Obispo-Santa Maria	SLO Regional Transit Authority	91,478			X
CA	Susanville-Reno	Susanville-Reno	Sage Stage	981			X
CA	Alturas-Redding	Alturas-Redding	Sage Stage	790			X
CA	Alturas-Klamath Falls	Aluras-Klamath Falls	Sage Stage	979			X
CA	San Mateo-Half Moon Bay	San Mateo-Half Moon Bay	Samtrans	4,897			X
CA	East Kern Express	Bakersfield-Lancaster	Kern Regional Transit	84,815			X
CA	Mojave Ridgecrest Express	Mojave-Ridgecrest	Kern Regional Transit	6,093			X
CA	CREST Route	Ridgecrest-Reno	Inyo-Mono Transit	4,364			X
CA	Highway 120 Route	Yosemite-June Lake	Yosemite Area Regional Transportation System	1,954			X
CA	Highway 140 Route	Yosemite-Merced	Yosemite Area Regional Transportation System	59,469			X
CA	Acton/Agua Dulce Route	Acton, Agua Dulce, Santa Clarita	Los Angeles Co. Department of Public Works	1,941			X
CA	Route 386	Route 386: Escondido-Ramona	North County Transit District, San Diego	43,000			X
CA	Escondido to Pala	Pala-Escondido Transit Center	North County Transit District, San Diego	124,564			X
CA	Route 888	Jacumba-El Cajon	Veolia for North County Transit District, San Diego	6,453			X
CA	Route 891/892	Borrego Springs-El Cajon	Veolia for North County Transit District, San Diego	1,939			X
CA	Route 894	El Cajon-Morena Village	Veolia for North County Transit District, San Diego	25,527			X
CO	Sterl-Den	Sterling-Denver (Omaha-Denver)	Black Hills Stage Lines	10,779	X		
CO	Jules-Den	Julesburg-Denver (Chicago-Burlington-Des Moines-Omaha-Denver)	Burlington Trailways	23,960	X		
FL	Miami-Key West	Miami-Miami Intl. Airport-Key Largo-Key West	Greyhound Lines	NR	X		
FL	Tampa-Tallahassee	Tampa-Tallahassee via New Port Richey	Greyhound Lines	NR	X		
FL	Orlando-Ft. Pierce	Orlando-Fort Pierce via Melbourne	Greyhound Lines	NR	X		
IA	**Minn-KC (Schedule 750)**	**Minneapolis-Mason City-Des Moines-Kansas City**	**Jefferson Lines**	**79,914**	**X**		
ID	Moscow-Lewis	Moscow-Lewiston	RPT, Inc. (Valley Transit)	2,773		X	
ID	Moscow-Boise	Moscow-Boise	Boise-Winnemucca Stages and Northwestern Stage Lines	9,877	X		
ID	CdA-Sand	Coeur d'Alene-Sandpoint	North Idaho Community Express (NICE)	5,928			X
ID	Boise-Rex	Salt Lake Express Rexburg: Boise-Rexburg	Rocky Mountain Trails	1,451		X	
ID	Twinfalls ICB	Intercity Fixed Routes between Twin Falls & Kimberly, Jerome, Wendell, Filer, Buhl, & Burley	TRANS IV Buses	8,040		X	
ME	Bangor-Lime	Bangor-Limestone	Cyr Bus Line	15,891	X		
ME	Calais-Bangor	Calais-Bangor	West's Transportation Inc.	3,985		X	
ME	ShuttleBus	ShuttleBus Intercity Service (Tri-Towns - Scarborough-Maine Mall-Portland)	ShuttleBus	NR			X
MI	Hiawatha Route	St. Ignace-Ironwood	Indian Trails	4,884	X		
MI	Superior Route	Calumet-Milwaukee	Indian Trails	8,967	X		
MI	Michigan Straits Route	Lansing-St. Ignace	Indian Trails	20,667	X		
MI	Michigan Huron Route	Bay City-St. Ignace	Indian Trails	10,335	X		
MI	Michigan Sleeping Bear Rte.	Grand Rapids-St. Ignace	Indian Trails	23,665	X		
MN	Duluth-Minn	Duluth-Minneapolis	Jefferson Lines	19,030	X		

State	Route (ID)	Route Description	Carrier	Ridership Annual [a]	Classification: Standard Intercity Bus	Classification: Private Regional Carrier	Classification: Rural Public Transit Operator
MN	**Minn-Bill**	**Minneapolis-Sioux Falls-Rapid City-Billings**	**Jefferson Lines**	**47,026**	**X**		
MN	Fisher-Minn	Fisher-Minneapolis (Winnipeg-Fargo-Minneapolis)	Jefferson Lines	34,342	X		
MO	**KC-Jop-Ft Smith**	**Kansas City-Springfield-Joplin-Fort Smith**	**Jefferson Lines**	**33,931**	**X**		
MO	**KC-Ft Smith**	**Kansas City-Fort Smith**	**Jefferson Lines**	**20,428**	**X**		
MT	NTI Shelby	Northern Transit Interlocal: Shelby-Kalispell (T, W), Shelby-Great Falls (M-Th)	Toole County	2,400			X
MT	Miss-White	Missoula-Whitefish	Rimrock Trailways	58,013	X		
MT	Butte-GF	Butte-Great Falls	Rimrock Trailways	NR	X		
MT	Bill-Miss	Billings-Missoula	Rimrock Trailways	NR	X		
MT	Skyline	Skyline Link Express	Big Sky Transit District	101,922			X
NV	Mesq-Bunk	Mesquite-Bunkerville	Southern Nevada Transit Coalition	72,000			X
NV	Las Vegas Exp	Las Vegas Express	Southern Nevada Transit Coalition	1,872			X
NV	Elko-Winn	Catch the Bus!-Elko-Winnemucca	Northern Nevada Transit Coalition, operated by K-T Contract Services	48,000			X
NV	Elko-Ely	Catch the Bus!-Elko-Ely	Northern Nevada Transit Coalition, operated by K-T Contract Services	192,000			X
NM	Blue Rte	Blue Route: Santa Fe-Los Alamos	NMDOT	65,682			X
NM	Green Rte	Green Route: Espanola-Los Alamos	NMDOT	51,428			X
NM	Red Rte	Red Route: Santa Fe-Espanola	NMDOT	18,656			X
NM	Purple Rte	Purple Route: Albuquerque-Santa Fe-Los Alamos	NMDOT	194,475			X
NM	Orange Rte	Orange Route: Las Vegas-Santa Fe	NMDOT	19,147			X
NM	Silver Rte	Silver Route: New Mexico State University-Las Cruces-White Sands Missile Range	NMDOT	10,827			X
NM	Turquoise Rte	Turquoise Route: Moriarty-Albuquerque	NMDOT	12,473			X
ND	Fargo-Pem	Fargo-Pembina (Kansas City-Omaha-Sioux Falls-Fargo-Winnipeg)	Jefferson Lines	4,544	X		
ND	Minot-Bis	Minot-Bismarck, Grand Forks (separate runs)	Souris Basin Transportation (New Town Bus Lines)	4,560			X
ND	NS Shuttle	North South Shuttle: Bismarck, ND-Pierre, SD	Sitting Bull College, River Cities Public Transit	116			X
ND	**KC-Winn**	**Kansas City-Omaha-Sioux Falls-Fargo-Winnipeg**	**Jefferson Lines**	**46,011**	**X**		
OH	Athens-Cleve	Athens-Cleveland (data for Athens-Columbus segment)	Lakefront Lines	3,582	X		
OR	Port-Bend	Portland-Prineville-Bend	Central Oregon Breeze (a division of CAC Transportation, Inc.)	NR		X	
OR	Coastal Exp	Coastal Express	Curry Public Transit	8,760			X
OR	CC Rider	Columbia County Rider: Westport-Clatskanie-Rainier-Longview/Kelso	Columbia County contracts with private operator	900			X
OR	Diamond Exp	Diamond Express: Oakridge-Eugene	Administered by Lane Transit District, operated by Special Mobility Services, Inc.	9,708			X
OR	Bend-Ont	Amtrak Thruway Bus: Bend-Ontario	Porter Stage Lines	4,788		X	
OR	Port-Astoria	Amtrak Thruway Bus: Portland-Astoria	Oregon Coachways	11,016		X	
OR	Port-Eugene	Amtrak Thruway Bus: Portland-Eugene	Oregon Coachways	41,172		X	
OR	Red-Chemult	Amtrak Thruway Bus: Redmond-Bend-Chemult	Redmond Airport Shuttle	3,408		X	
OR	Port-Medford	Amtrak Thruway Bus: Portland-Medford	*Discontinued after 2002*	3,816		X	
OR	Coos Bay-Bend	Coos Bay-Bend	Porter Stage Lines	NR		X	
OR	KF-Medford	Klamath Falls-Lake of the Woods-White City-Medford	The Shuttle Inc.	4,104		X	
OR	Tilla-Port	Tillamook-Portland	Tillamook County Transportation District	NR			X
OR	VR Newport	Newport-Portland, Newport-Bend	Valley Retriever	6,996		X	
PA	Read-Phil	Reading-Philadelphia	Bieber Tourways	60,000	X		
PA	Leb-Read	Lebanon-Reading	Capitol Bus Company	140,000	X		
PA	Harris-Scran	Harrisburg-Scranton	Capitol Bus Company	21,328	X		
PA	Potts-Phil	Pottsville-Philadelphia	Capitol Bus Company	39,110	X		
PA	State Coll-Harris	State College-Harrisburg	Fullington Bus Company	21,480	X		
PA	Pitts-Brad	Pittsburgh-Bradford	Fullington Bus Company	15,659	X		
PA	State Coll-Bane	State College-Wilkes-Bane	Fullington Bus Company	7,062	X		
PA	State Coll-Pitts	State College-Pittsburgh	Fullington Bus Company	8,417	X		
PA	DuBois-Harris	DuBois-Harrisburg	Fullington Bus Company	18,880	X		
PA	Philadelphia-Scranton	Philadelphia-Scranton	Greyhound Lines	29,130	X		
PA	Pittsburgh-Erie	Pittsburgh-Erie	Greyhound Lines	27,858	X		
PA	Harrisburg-Pittsburgh	Harrisburg-Pittsburgh	Greyhound Lines	42,507	X		
PA	Pitts-Grove	Pittsburgh-Grove City	Myers Coach Lines	30,000		X	
PA	Will-Phil	Williamsport-Philadelphia	Susquehanna Transit Company	33,536	X		
PA	Will-Easton	Williamsport-Easton	Susquehanna Transit Company	37,868	X		
PA	Will-Elmira	Williamsport-Harrisburg-Elmira	Susquehanna Transit Company	13,600	X		
SD	Aber-Summit	Aberdeen Ride Line: Aberdeen-Summit	City of Aberdeen (possible contractor)	1,393			X
TX	Hous-Texar	Houston-Texarkana	Greyhound	12,592	X		
TX	Hous-Ft Worth	Houston-Fort Worth	Greyhound	16,644	X		
TX	El Paso-Lubb	El Paso-Lubbock	Greyhound	16,962	X		
TX	Lubb-Abi	Lubbock-Abilene	Greyhound	4,726	X		
TX	BS-Amar	Big Spring-Amarillo	Greyhound	21,286	X		
TX	Lubb-Odessa	Lubbock-Odessa	Greyhound	2,554	X		

(continued on next page)

Table 4-1. (Continued).

State	Route (ID)	Route Description	Carrier	Ridership Annual [a]	Classification: Standard Intercity Bus	Classification: Private Regional Carrier	Classification: Rural Public Transit Operator
TX	SA-Amar	San Antonio-Amarillo	Kerrville Bus Lines (Greyhound)	9,000	X		
TX	Eagle-Del Rio	Eagle Pass-Del Rio	Kerrville Bus Lines	2,580	X		
TX	Midland-Pres	Midland-Presidio	Greyhound	9,600	X		
VA	The Smart Way Bus	Roanoke-Blacksburg	Valley Metro	52,911			X
WA	Apple Line	Travel Washington Apple Line: Omak-Ellensburg	Northwestern Stage Line, Inc.	5,868	X		
WA	Dungeness Line	Travel Washington Dungeness Line: Port Angeles-Seattle	Olympic Bus Lines	12,972		X	
WA	Grape Line	Travel Washington Grape Line: Walla Walla-Pasco	Airporter Shuttle/Bellair Charters	5,000		X	
WI	**Minn-La Crosse**	**Minneapolis-Rochester-La Crosse**	**Jefferson Lines**	**16,889**	**X**		
WI	Minn-Milwa	Minneapolis-Green Bay-Milwaukee	Jefferson Lines	NR	X		
WV	Grey Line	Grey Line: Clarksburg-Pittsburgh	Mountain Line Transit Authority	6,709			X
				3,024,956	54	16	63

[a] Annual ridership for most recent full year available.

NRNot Reported.

Note: Routes in bold are multistate and funded by more than one state according to Jefferson Lines. Each state funds the miles in the state. The route was included under the specific state because this state contains the most stops for this route.

designated by the operator, but there may not be any way to purchase a ticket at that location.
- **Baggage:** Can be carried in the baggage compartment of the bus, standard intercity bus baggage liability applies, driver (or station personnel) may load or unload bags from baggage compartment. In some cases bags may be checked through to a destination.
- **Bus package express:** The buses also carry package express.

All of these attributes are essentially the same as for unsubsidized, non-Section 5311(f) services on the national intercity bus network. Examples of subsidized services include the following:

- The Jefferson Lines routes subsidized under Section 5311(f) in Minnesota, North and South Dakota, Iowa, Arkansas, and Missouri
- Greyhound routes funded in Florida, Texas, and Pennsylvania
- Black Hills Stage Lines/Arrow Stage Lines services in Colorado, Nebraska, and Wyoming
- Burlington Trailways services in Iowa, Colorado, and Missouri
- Northwestern Trailways services in Washington and Idaho
- Fullington Trailways, Capitol Trailways, and Carl Bieber services in Pennsylvania

There are, of course, some particular cases in this class that differ. For example, many of the Jefferson Lines routes in Minnesota and the Dakotas are not daily, but operate on particular days of the week, or are weekend only (particularly those routes that served major college campuses). Also, the fare per-mile can vary—if the rural route is relatively short, the average fare per mile may be higher than the general intercity standard, because of the taper in the fare level. For example, Greyhound's minimum mileage fare is $11.00, so for trips under 73 miles, the fare per mile would be greater than $0.15. If short-haul fares are much higher per mile, and most passengers on these services have short average trip lengths, their average fare per mile may be higher. Unfortunately, unless this is pointed out by the carriers, or reported to the state, it may be difficult to know if the average fare per mile on a particular route is relatively high or low compared to the overall intercity average, as this data is not often collected for a specific route, schedule, or segment. It is a factor to be considered if an analyst determines that a particular route in this class has ridership that varies considerably from what might be expected.

For these "standard intercity" routes, one might expect that the demand would be the same for Section 5311(f)–funded service as for unsubsidized service, given that the fare levels, frequency, connectivity, and information systems are the same as for unsubsidized rural intercity bus service. For that reason, data on rural intercity bus ridership on conventional intercity bus services to rural points (populations under 50,000) could be included with data from the Section 5311(f)–funded services in the development of a model. However, following the nationwide Greyhound restructuring in 2004–2006, few points on the Greyhound network still fell below the 50,000 population threshold—so any available data on ridership at these points likely predates the restructuring and may be somewhat suspect because the characteristics of the route or of competing modes may have changed in the interim, potentially changing the demand curve.

For the routes in this class, the ridership data is generally quite good. Route-level ridership is generally collected by the carriers for subsidized routes, as most states require this information for reporting. In addition, many (but not all) of the carriers are now using computerized ticketing that provides data to the stop level, by route. This information could be used to calibrate stop-level demand models. Two issues arose with the data for this class of carrier. One is that, in states that utilize their Section 5311(f) and/or state funding (Iowa and New York) to provide assistance to carriers on a formula basis (rather than by route), data on ridership by route/schedule may not be collected (it depends on the funding formula). A second issue is that route-level ridership may only be available by schedule, and that schedule may serve segments that are served by other routes as well. Therefore, not all stops have the same frequency, and a given point may have riders using several different schedules, complicating efforts to link ridership with demographic and service variables.

Other Services: Regional Private and Rural Public

The other Section 5311(f)– or Section 5311–funded services could collectively be thought of as the other class, though there are enough general differences that initially, at least, they will be divided into two groups. In general, the non-traditional intercity bus services may be operated by private for-profit firms or private non-profit agencies/public agencies (or private contractors to such agencies). However, the more significant differences relate to the basic service characteristics, which can vary considerably from the traditional intercity mode on all the basic dimensions. Routes may be shorter, schedules more frequent, days of service fewer (weekday only, or less than weekday), and schedules designed around needs other than connectivity. Fares are different, ticketing is different, vehicles are different, connectivity may be limited or to different modes (airports, train stations), information sources are different, etc.

The major rationale for dividing the services in this class into two subclassifications is the possibility that the type of organization may be highly correlated with the intended

market. The private for-profit carriers in this group are potentially more interested in serving an intercity market that provides linkages to major airports and to other intercity modes—with a focus on service from the rural/small urban area to a larger metropolitan area. Rural public transit operators may well focus more on providing regional services linking the rural area to the nearest regional center offering medical, employment, and social services needed by the majority of local clients—with connections to national intercity networks provided as a secondary focus. Services in this class are almost unique case studies, but perhaps one way to differentiate among them is the degree of connectivity with the national intercity bus network—for example, the route goes to/does not go to an intercity bus station, it is/is not scheduled to connect with intercity bus service. Thus routes operating as feeders to intercity bus services might be characterized as being in one group, while other Section 5311(f) rural routes with limited connectivity to bus services would be in the alternative group—perhaps called rural regional services.

For example, the Grape Line service in Washington operates from Walla Walla to the Greyhound station in Pasco, with three round trips per day scheduled to make intercity bus connections. It also serves the commercial airport, the transit centers (in both Pasco and Walla Walla), and the Amtrak station. The Grape Line service sells Greyhound tickets and interlines with Greyhound. Information on the service is available from the transit systems, Greyhound, and the Grape Line website itself. It is not traditional intercity bus service, but it offers the functionality of that service, while also meeting local needs in the region for service from a small urban/rural area to the regional center. This type of service can be contrasted with something like the Section 5311(f)–funded route from San Mateo to Half Moon Bay operated by Sam Trans (San Mateo County Transit District) in California. This route is 30 miles in length; operates 10 daily weekday trips; and has limited stops, a low flat fare, and no connectivity or interlining with the national intercity network (it does stop across the street from the Caltrain commuter rail station). This is, in effect, a long transit route.

Accordingly the characteristics of each of these groups was defined separately.

Regional Intercity Service Provided by a Private Carrier

In general the common characteristics for regional private carriers include the following:

- **Operator:** Private for-profit firm, likely to not be a member or sponsored member of the NBTA.
- **Service type:** May be fixed route, fixed schedule, but often combined with advance reservation requirements to offer a service more similar to route deviation (e.g., some scheduled stops, but also home pickups or drop-offs within certain origin/destination zones).
- **Vehicles:** May use vans or small buses, or the standard OTRB.
- **Ticketing:** Likely to not be part of the interline ticketing system available through NBTA or to have intercity carrier interline agreements (though it is possible). Tickets are likely to be sold by the driver, in company offices, at airport ground transportation counters, and often online over the Internet.
- **Fares:** Unless interlined with intercity bus carriers (which would have standard industry intercity bus fare levels, varying with distance, etc.), fare levels would be independently set, generally as point-to-point fares (not mileage). Often these fares are much higher than intercity fares on a per-mile basis, comparable to airport shuttle fare levels.
- **Information:** Service availability information is generally provided through listings in Yellow Pages, through travel agencies, on the Internet, and through airport websites and ground transportation offices. Routes and schedules are not generally available through standard intercity bus industry sources.
- **Frequency:** Services are generally provided daily, 365 days per year, but may also be more limited if reservations are required—on demand only, for example, based on the existence of a reservation.
- **Schedule connectivity:** Schedules may be designed to provide connectivity to major airports or to intercity rail passenger schedules, rather than other destinations or the national intercity bus network.
- **Accessibility:** Follows federal requirements for private operators who are primarily engaged in transportation, which set the requirements based on the passenger capacity of the vehicles and/or whether the service is fixed route, fixed schedule (eight passengers or over in fixed-route service must be accessible), or demand responsive (accessible vehicles required in the fleet to a level to offer comparable service). For OTRBs—accessible buses are provided to users with 48-hour advance reservation.
- **Stations:** Rural stops may be other businesses where the primary business activity is not bus related (e.g., travel agency, diner, gas station, hotel); public or private park-and-ride lots; or homes (demand responsive). In many rural stops, the location is designated by the operator, but there may not be any way to purchase a ticket at that location. These carriers may also have designated stops/counters at airports or train stations. They may stop at intercity bus stations or on the street in front of intercity bus stations.
- **Baggage:** Can be carried in the baggage compartment of the vehicle (behind the seats at the back or under the seating deck). Baggage liability is limited, and the driver may load or unload bags from the baggage compartment.

These services look more like a long-distance airport shuttle that is going after a broader market. Major differentiating factors for this type of service are the higher fare levels (higher than both intercity bus and public transit services) and reservation requirements. These factors would tend to attract a market that is higher in income, has access to credit cards for advance payment, and is scheduling the trip in advance. These may differentiate the demand from both standard intercity bus service ridership and rural public transit riders. However, to the extent that they have applied for Section 5311(f) funding, they must meet the transit program requirements. These may include elements that make this type of service more like intercity bus service (if the requirements imposed by the state include connectivity with the national intercity bus network or NBTA interlining).

Examples of Section 5311(f)–funded regional private intercity bus service in our sample include the following:

- Grape Line (operated by Bellair Charters/Airporter Shuttle) between Walla Walla and Pasco, Washington
- Dungeness Line (operated by Olympic Bus Lines) between Port Angeles and Seattle/Sea-Tac International Airport in Seattle
- Central Oregon Breeze between Portland and Bend, Oregon
- Porter Stage Lines/Amtrak Thruway Bus between Bend and Ontario, Oregon
- Porter Stage Lines between Coos Bay and Bend, Oregon
- The Shuttle, Inc. between Klamath Falls and Medford, Oregon
- The Valley Retriever between Newport and Bend, Oregon
- Oregon Coachways/Amtrak Thruway between Portland and Astoria, Oregon
- Oregon Coachways/Amtrak Thruway between Portland and Eugene, Oregon
- West's Transportation between Calais and Bangor, Maine

There are a limited number of these types of services, and they are more variable than the standard intercity bus service, so it is quite likely that if they appear as a group to have different demand characteristics than both intercity and rural public transit–type services a non-statistical methodology or tool will need to be developed that can allow users to identify appropriate analogues to their proposed service and look at the potential ridership from that perspective.

Rural Intercity Service Provided by a Public Transit Operator

The remaining classification of rural intercity services includes all the services provided by rural (and in some cases urban) public transportation operators. These services also vary considerably—from services scheduled around connections with the national intercity bus system, fully interlined—to long rural transit routes with little or no physical or temporal connection to intercity services. In general, the common characteristics include the following:

- **Operator:** Public transportation entity—may be a public agency, government, or private non-profit.
- **Service type:** Usually fixed route, fixed schedule, but may be combined with advance reservation requirements.
- **Vehicles:** May use vans, cutaways, small buses, or larger transit buses.
- **Ticketing:** Likely to not be part of the interline ticketing system available through NBTA or to have intercity carrier interline agreements (though it is possible). Fare collection on-board—may have conventional transit farebox or require driver to collect fare.
- **Fares:** Unless interlined with intercity bus carriers (which would have standard industry intercity bus fare levels, varying with distance, etc.), fare levels would be independently set. Flat fares or zone fares are common, generally fares per-mile are lower than standard intercity fares. Fares are frequently collected on an exact fare basis placed in a farebox, and transfers may be issued for use on connecting transit routes.
- **Information:** Service availability information is generally provided through transit information sources—websites, brochures/timetables, transit telephone information. Routes and schedules are not generally available through standard intercity bus industry sources.
- **Frequency:** Services are generally provided less than daily, in some cases two or three days per week, usually weekdays only.
- **Schedule connectivity:** Schedules may be designed to provide a daytime round trip to a regional activity center or to other local public transit routes, rather than designed around connectivity to airports, intercity bus schedules, or intercity rail passenger schedules. Service design may focus on other requirements (college schedules and locations, tourism markets, etc.) rather than intercity connections.
- **Accessibility:** Follows federal requirements for public transit operators requiring accessible vehicles and trained operators.
- **Stations:** Rural stops may be signs along the route at potential pickup points or destinations, at transit centers, at park-and-ride lots, etc. These carriers may also have designated stops at airports or train stations. They may stop at intercity bus stations but usually stop on the street in front of intercity bus stations, rather than docking with the intercity buses.
- **Baggage:** Can be carried in the baggage compartment of the vehicle (behind the seats at the back, in baggage racks installed in the interior, or under the seating deck). Baggage

liability is limited, and the driver may or may not load or unload bags from the baggage compartment.

These services are quite varied, with some resembling long rural or suburban transit routes and others having characteristics affording more connectivity with the national intercity bus network or with other intercity modes. Examples from the inventory include the following:

- West Alabama Public Transportation system between Selma and Montgomery, Alabama (interlined with Greyhound, schedules coordinated)
- Valley Metro (contracted) service between Gila Bend and Phoenix, to Wickenburg, Arizona
- Pima County Rural Transit service in Arizona between Ajo and Gila Bend, Ajo and Tucson, Ajo and Why, Green Valley and Sahuarita, Tucson Estates and Irvington Road, and San Xavier and Tucson
- Navajo Transit System services on eight routes in Arizona
- South Central Arkansas Transit (SCAT) services (connected with Greyhound) between Malvern and El Dorado, Arkansas
- Sage Stage service between Alturas, California, and Reno, Nevada (connected with Greyhound at Reno)
- CREST service between Ridgecrest, California, and Reno, Nevada
- South East Arkansas (SEAT) services between Pine Bluff, Wilmot, and Eudora, Arkansas
- RPT, Inc. (Valley Transit) service between Moscow and Lewiston, Idaho
- North Idaho Community Express between Coeur D'Alene and Sandpoint, Idaho
- ShuttleBus service between three towns in Maine
- Toole County Transit's Northern Transit Interlocal service between Shelby and Kalispell, Montana
- Big Sky Transit District's Skyline Transit District service in Montana

For purposes of developing a demand forecasting tool, the availability (or its lack) of detailed ridership data posed a problem. Many of the rural public transit operators had difficulty providing route-level annual ridership for these routes, but the study team obtained an annual route-level ridership figure for most of these routes. The issue arose in part because these operators are used to reporting system-level (and within that service-type level, e.g., fixed route, demand responsive, etc.) ridership to their state funding agencies. There is almost no stop-level ridership data for this category, so development of stop-level demand models calibrated on services operated by rural public transit systems was not possible.

While the requirements for the rural National Transit Database (RNTD) reporting would seem to require route-level ridership and miles for all Section 5311(f)–funded services, for FY 2006 and 2007 virtually all of the rural intercity data is from private firms providing service under Section 5311(f). Rural transit operators with services funded under this program have included their ridership data with their overall RNTD reporting. FTA is aware that this issue exists, and changes are being made, but at this point the data collected here on route-level ridership for this category is the best data available.

Adequacy of Survey Data

One significant conclusion is that the study has ridership data on essentially all the rural intercity routes operated under the Section 5311(f) program in recent times (long enough ago that ridership data is available, recent enough that ridership data is still available). The study team found at least 135 identifiable services and obtained ridership data on approximately 120 of those services.

Data for the other variables was provided by the operators or was developed by the study team through Internet research or phone calls. This data included information on the points served, the frequencies, fare levels, information sources, interlining, stations served, etc. and demographic information from the Census. With the ridership available, data on the remaining variables was obtained, or developed, to complete the data matrix.

Reclassification

At the interim TCRP B-37 panel meeting, there was considerable discussion about the criteria used by the study team to identify routes or services for inclusion in the database to be used to develop the demand estimation toolkits. As the primary goal of the project was to develop tools for use by local, regional, and state planners to estimate the potential ridership of rural intercity services, which are funded by the Section 5311(f) program, the initial survey effort had sought to include the universe of projects funded under that program for which ridership data and service characteristics could be identified. Under that definition, the criteria in the Section 5311(f) program definition (long distance, between two or more urban areas, fixed route/fixed schedule, capable of carrying baggage, not commuter service, and making a meaningful connection with the national intercity bus network) were essentially assumed to have been applied by the program administrators in funding projects. In the survey results, it was noted that many projects funded with Section 5311(f) appeared not to meet all of the elements in the program definition, leading to the reaction that many of the routes were essentially regional or local rural transit, or commuter, service—i.e., not intercity service.

A separate TCRP project is addressing the demand for rural transit generally, and there was concern about a potential overlap with that project, though it was noted that it is not developing route-level demand models for rural transit, but rather area-wide models (jurisdictional level, i.e., county or region level). TCRP B-37 panel input suggested eliminating all services in this project's database that are essentially rural transit.

A concern expressed was that this project was not intended to evaluate the state programs on their implementation of the Section 5311(f) program and the degree of their adherence to federal guidance. This concern was acknowledged by the study team and the other TCRP B-37 panel members, and the team was directed to determine a definition for the study that was not tied to the specific program guidance of the Section 5311(f) program, but would focus on services that were clearly intercity. One position was that this definition should include only rural intercity services that are fully interlined with the national intercity network—that is, have interline tickets, coordinated schedules, and information in the main customer information systems that support the national network. However, if strictly applied, this definition might well limit the pool of data to a handful of rural feeder routes and the Section 5311(f)–funded intercity routes that are operated by the carriers in the national network—perhaps too few cases to obtain the desired database for developing tools beyond case studies. A final TCRP B-37 panel response suggested that the team seek to obtain data on rural intercity routes that are not subsidized—both to reflect that the definition is not program based and to fill out the data matrix.

TCRP B-37 panel member Lawrence Hughes volunteered to review the interim report database and provide his assessment of the routes or services as to whether they were intercity. He provided an extensive report, and the study team reviewed each of the suggested classifications, agreeing in most cases. He provided a detailed categorization of services as either intercity or not, but he did not provide a formal definition. In general, the study team, and the other panel members, would probably agree with his classification (intercity or not) on 95% of the services. The definition is needed to address the other 5% and to provide a decision rule to allow inclusion in the study. The definition in this case is strictly intended for the categorization of rural intercity services for use in this study, not as an evaluation of projects as to their qualification for Section 5311(f) funding.

In reviewing the categorization, the decision rule appeared to have had much to do with the potential use of the service to access the national intercity network and make a meaningful connection. However, Hughes did not limit the category of "intercity" to those services that have a formal interline connection, but apparently had a broader operative definition. The study team concurs in this view, primarily because:

1. It is possible that in many cases the creation of a formal interline agreement for a rural intercity service provider is not possible, feasible, or sensible, even though the service is intended to allow access to the intercity service. This may be true if the service provider found that fees imposed by terminal owners, NBTA, or other interline ticketing charges were excessive given the revenue from interline fares. It might also be the case that the potential revenue share of the rural carrier would be too low, or the cost of the staff time for the ticketing, reporting and financial accounting would exceed the potential additional revenue resulting from the ability to obtain revenue from inbound passengers who would not otherwise know about the connection.
2. It would be useful to know if there is a difference in demand between those projects that are interlined and those that provide a meaningful connection but are not fully interlined.

So, the definition used by the study team to classify service as intercity included the following factors:

- Service does connect rural areas (non-urbanized areas with a population under 50,000) with the national intercity bus network (NBTA carriers).
- Vehicles used on the service accommodate both passengers and baggage.
- Service is fixed route, fixed schedule. Demand-response services, marketed as such, were not considered intercity for this study.
- Information about the rural intercity transportation services must be publicly available (if the study team could not determine whether or how the service made an intercity connection, the service was excluded).
- A service was considered as intercity if it makes a connection with the national intercity bus network at a common stop location. Additionally a service was included as intercity if its identified connection location was within one-quarter mile of the stop location for the national network carrier. This allowed for the inclusion of services that stopped across a street or intersection, at an adjacent station, etc.
- A service was considered as intercity if it makes a meaningful connection to the national intercity network in a temporal sense, defined as a scheduled arrival at most two hours prior to the intercity bus departure and departure no later than two hours after the intercity bus arrival.
- Local rural transit routes connecting to other rural intercity routes that do connect to the national intercity network are not considered intercity in themselves, as they do not connect directly to the national intercity bus network. With multiple transfers to reach the national network, it is unlikely that many of the passengers on these connecting local services are making intercity trips, even if such linkages are technically possible.

- Intercity routes that do not serve rural intermediate points, but have a majority of the stops located in the urbanized areas of the origin and destination endpoints, do not necessarily establish rural intercity service because the service is not accessible. They are not included in the definition of rural intercity points.
- Commuter services, defined as peak-hour, peak-direction weekday services, are not considered rural intercity services.

The point of the definition and the categorization was to identify pools of data that are appropriate for developing tools to estimate ridership. In that sense the routes included in the data should be similar to the kinds of routes or services for which the analyst will be attempting to estimate ridership. So the study team was looking for generally comparable services within each category, though it was clear from delving into the service and operational characteristics of each service that many services have unique characteristics.

The study team applied the working definition provided above to the database provided in the interim report and also used it in the effort to identify and collect data on unsubsidized rural routes. Table 4-2 lists the services or routes that the study team considered as rural intercity routes provided in the traditional intercity model, generally with comparable fares, interlining, and information about connections by private carriers with low frequencies. The study team called this category "standard intercity bus."

Table 4-3 presents routes the study team defined as rural intercity services provided by regional carriers. Generally there is more variance within this group with regard to any characteristic or measure—mostly what these services have in common is that they are not "standard intercity bus service," but they are included in the study because they do connect with the national intercity bus network and because it is likely that many users of the toolkit will be focusing on this kind of service.

Routes that the study team identified previously as receiving funding under Section 5311(f) programs were included in the interim report, but they are not included in these tables because they do not meet the definitional criteria developed for this study to be included in the database used to estimate demand for rural intercity services. In some cases they are demand-responsive services; in others they have commuter characteristics; and a number of them do not meet the connectivity requirements for projects to be considered in developing the toolkit.

Unsubsidized Rural Routes

The study team made efforts to collect corridor or ridership data on some services meeting the definitions of rural intercity service that were not subsidized with Section 5311(f) funding. These services are included in the database presented in Tables 4-2 and 4-3. In general, carriers were not quick to provide ridership data for unsubsidized services for which ridership data is not required by any public source. Some of this data came with explicit requirements that the numbers would not be provided in any report but only used in development of the model. In some cases the study team used such data that it had available, that was provided for other more limited purposes, and for that reason will not publish specific data in the report or toolkit. In a few cases data that was offered did not materialize, even after follow-up efforts to obtain the data.

At this point in the project it was decided to move ahead on Task 7, focusing on the sketch-planning guide and supporting tools using the data on hand, and the only additional research on the data was limited to efforts to understand ridership that was significantly at variance with comparable services—for example, looking back at the service points to see if there is a unique traffic generator or considering major changes in a local economy (a military base closing, for example).

Table 4-2. Standard intercity bus routes.

State	Route (ID)	Route Description	Carrier	Standard Intercity Bus	Ridership Annual[a]	Route Length - One-Way Miles	Corridor Population
AR	JL (All routes in AR)	Uncertain how ridership relates to routes	Jefferson Lines	X	140,623[b]		
AR	KBS (813, 816)	Fort Smith-Texarkana (Shreveport-Houston)	Kerrville Bus Lines	X	34,700	181	123,610
AR	JL (Table No. 755)	Oklahoma City, OK to Pine Bluff, AR (Tbl #755, Run Nos: 323, 324)	Jefferson Lines	X	50,933	205	403,129
CO	Sterl-Den	Sterling-Denver (Omaha-Denver)	Black Hills Stage Lines	X	10,779	125	582,147
CO	Jules-Den	Julesburg-Denver (Chicago-Burlington-Des Moines-Omaha-Denver)	Burlington Trailways	X	23,960	182	583,614
FL	Miami-Key West	Miami-Miami Intl. Airport-Key Largo-Key West (3711, 3715)	Greyhound Lines	X	ND	160	479,371
FL	Tampa-Tallahassee	Tampa-Tallahassee via New Port Richey [Multiple alignments]	Greyhound Lines	X	ND	272	667,642
FL	Orlando-Ft. Pierce	Orlando-Fort Pierce via Melbourne	Greyhound Lines	X	ND	121	353,224
IA	Minn-KC	Minneapolis-Kansas City (Mason City-Lamoni segment) [Tbl 750]	Jefferson Lines	X	79,914	450	1,548,338
IA	Chicago-Denver	Des Moines-Davenport segment [Tbl 7096] [Multiple schedules]	Burlington Trailways	X	ND		
ID	Moscow-Boise	Moscow-Boise	Boise-Winnemucca Stages & Northwestern Stage Lines (Northwestern Trailways)	X	9,877	300	247,798
ME	Bangor-Lime	Bangor-Limestone	Cyr Bus Line	X	15,891	200	82,777
MI	Hiawatha Route	St. Ignace-Ironwood	Indian Trails	X	9,578	329	60,412
MI	Superior Route	Calumet-Milwaukee	Indian Trails	X	20,863	435	895,186
MI	Michigan Straits Route	Lansing-St. Ignace	Indian Trails	X	10,294	203	229,798
MI	Michigan Huron Route	Bay City-St. Ignace	Indian Trails	X	9,360	247	71,789
MI	Michigan Sleeping Bear Rte.	Grand Rapids-St. Ignace	Indian Trails	X	24,972	270	266,218
MN	Duluth-Minn	Duluth-Minneapolis	Jefferson Lines	X	19,030	165	898,404
MN	Minn-La Crosse	Minneapolis-Rochester-La Crosse	Jefferson Lines	X	16,889	129	834,462
MN	Minn-Luverne	Minneapolis-Luverne (Minneapolis-Sioux Falls-Rapid City-Billings)	Jefferson Lines	X	27,867	225	804,190
MN	Minn-Billings	Minneapolis-Billings, MT	Jefferson Lines	X	47,026		804,190
MN	Fisher-Minn	Fisher-Minneapolis (Winnipeg-Fargo-Minneapolis)	Jefferson Lines	X	34,342	358	509,247
MT	Miss-White	Missoula-Whitefish	Rimrock Trailways	X	3,809	138	86,890
MT	Butte-Great Falls	Butte-Great Falls	Rimrock Trailways	X	7,659	156	119,781
MT	Bill-Miss	Billings-Missoula	Rimrock Trailways	X	12,177	343	238,437
MO	Des Moi-Kan Cty	Des Moines, IA-Kansas City [Tbl 750, Run Nos: 801, 803, 806, 804]	Jefferson Lines	X	68,446	202	658,729
MO	KC-Fort Smith	Kansas City-Nevada-Fort Smith, AR [Tbl 753, Run Nos: 117, 114]	Jefferson Lines	X	23,176	306	711,606
MO	KC-Fort Smith	KC-Springfield-Fort Smith, AR [Tbl 753, Run Nos: 120, 121]	Jefferson Lines	X	20,426	415	873,934
MO	KC-SF	Sioux Falls, SD-Kansas City, MO [Tbl 751, Run Nos: 501, 502]	Jefferson Lines	X	35,663	200	1,128,781
MO	KC-SF	Sioux Falls, SD-Kansas City, MO [Tbl 751, Run Nos: 706, 705]	Jefferson Lines	X	41,716	218	1,149,203
MO	St. Louis-Brlgtn	St. Louis-Burlington, IA [Tbl 7095]	Burlington Trailways	X	ND	230	475,178
ND	Fargo-Pem	Fargo-Pembina (KC-Omaha-Sioux Falls-Fargo-Winnipeg)	Jefferson Lines	X	4,544	175	140,562
ND	KC-Winn	Kansas City-Omaha-Sioux Falls-Fargo-Winnipeg	Jefferson Lines	X	46,011	981	1,336,833
OH	Athens-Columbus	Athens-Cleveland (data for Athens-Columbus segment)	Lakefront Lines	X	3,582	114	780,081
PA	Read-Phil	Reading-Philadelphia	Bieber Tourways	X	60,000	63	1,793,298
PA	Harris-Read [Follow-up]	Harrisburg-Reading	Capitol Bus Company	X	not avail.	60	187,647
PA	Harris-Scran {Follow-up]	Harrisburg-Scranton	Capitol Bus Company	X	not avail.	142	207,366
PA	Potts-Phil [Follow-up]	Pottsville-Philadelphia	Capitol Bus Company	X	not avail.	110	1,673,025

(continued on next page)

Table 4-2. (Continued).

State	Route (ID)	Route Description	Carrier	Standard Intercity Bus	Ridership Annual[a]	Route Length - One-Way Miles	Corridor Population
PA	State Coll-Harris	State College-Harrisburg	Fullington Bus Company	X	53,880	86	100,125
PA	Pitts-Brad	Pittsburgh-Bradford	Fullington Bus Company	X	15,659	169	417,045
PA	State Coll-Wilkes Barr	State College-Wilkes Barre	Fullington Bus Company	X	7,062	134	123,658
PA	State Coll-Pitts	State College-Pittsburgh	Fullington Bus Company	X	8,417	136	438,673
PA	Du Bois-Harris	DuBois-Harrisburg	Fullington Bus Company	X	18,880	149	117,935
PA	Will-Phil	Williamsport-Philadelphia	Susquehanna Transit Company	X	33,035	220	1,736,158
PA	Will-Easton	Williamsport-Easton (to New York)	Susquehanna Transit Company	X	37,383	134	242,590
PA	Will-Harr	Williamsport-Harrisburg	Susquehanna Transit Company	X	13,772	90	139,048
PA	Harr-Pitt	Harrisburg-State College-Pittsburgh [Tbl 190]	Greyhound Lines	X	42,567	262	
PA	Pitt-Erie	Pittsburgh-New Castle-Erie [Tbl 178]	Greyhound Lines	X	27,558	164	
PA	Scra-Phil	Scranton-Stroudsburg-Philadelphia [Tbl 166]	Greyhound Lines	X	29,358	143	
TX	Hous-Texar	Houston-Texarkana	Greyhound	X	12,592	346	2,285,583
TX	Hous-Ft Worth	Houston-Fort Worth	Greyhound	X	16,644	283	2,683,600
TX	El Paso-Lubb	El Paso-Lubbock	Greyhound	X	16,962	453	855,753
TX	Lubb-Abi	Lubbock-Abilene	Greyhound	X	4,726	123	362,094
TX	BS-Amar	Big Spring-Amarillo	Greyhound	X	21,286	237	435,829
TX	Lubb-Odessa	Lubbock-Odessa	Greyhound	X	2,554	102	305,905
TX	SA-BigSpr	San Antonio-Big Spring	Kerrville Bus Lines (Greyhound)	X	9,000	296	1,692,087
TX	Eagle-Del Rio	Eagle Pass-Del Rio	Kerrville Bus Lines	X	2,580	56	56,280
TX	Midland-Pres	Midland-Presidio	All Aboard America!	X	9,600	270	207,664
WA	Apple Line	Travel Washington Apple Line: Omak-Ellensburg	Northwestern Trailways, Inc.	X	5,868	166	56,186
WI	Minn-La Crosse	Minneapolis-Rochester-La Crosse	Jefferson Lines	X	16,889	173	834,462
WI	Minn-Milwke	Minneapolis-Green Bay-Milwaukee	Jefferson Lines	X	ND	387	1,603,714

ND = Data not available or not provided.

[a] Annual ridership for most recent full year available.

[b] Total statewide ridership for Jefferson Lines as reported to State of Arkansas.

Table 4-3. Regional carriers.

State	Route (ID)	Route Description	Carrier	Standard Intercity Bus	Ridership Annual[a]	Route Length - One-Way Miles	Corridor Population
AL	Selma-Mont	Selma-Montgomery	West Alabama Public Transportation	X	6,677	52	222,080
AR	SCAT	Malvern-El Dorado	South Central Arkansas Transit (SCAT)	X	4,343	124	52,376
CA	Smith River-Arcata	Route 20: Smith River-Arcata	Redwood Coast Transit Authority	X	12,847	94	24,143
CA	Clearlake-Lakeport	Route 4: Clearlake-Lakeport	Lake Transit Authority	X	4,193	24	22,645
CA	Lakeport-Ukiah	Route 7: Lakeport-Ukiah	Lake Transit Authority	X	8,406	45	23,815
CA	SLO-Santa Maria	Route 10: San Luis Obispo-Santa Maria	SLO Regional Transit Authority	X	91,478	35	171,692
CA	Susanville-Reno	Alturas-Susanville-Reno	Sage Stage	X	981	203	194,021
CA	Alturas-Redding	Alturas-Redding	Sage Stage	X	790	145	87,622
CA	Alturas-Klamath Falls	Alturas-Klamath Falls	Sage Stage	X	979	107	23,374
CA	Mojave Ridgecrest Express	Mojave-Ridgecrest	Kern Regional Transit	X	6,093	83	37,148
CA	CREST Route	Ridgecrest-Reno	Inyo-Mono Transit	X	4,364	400	276,586
CA	Highway 140 Route	Yosemite-Merced (Seasonal)	Yosemite Area Regional Transportation System	X	59,469	90	65,631
CA	Route 386	Escondido-Ramona	North County Transit District San Diego	X	43,000	22	149,250
CA	Route 388	Pala-Escondido Transit Center	North County Transit District San Diego	X	124,564	27	140,882
ID	Boise-Rex	Salt Lake Express Rexburg: Boise-Rexburg	Rocky Mountain Trails	X	1,451	335	39,121
ME	Calais-Bangor	Calais-Bangor (West's Coastal Connection)	West's Transportation Inc.	X	3,985	175	53,809
MT	NTI Shelby	Northern Transit Interlocal: Shelby-Kalispell (T, W), Shelby-Great Falls (M-Th)	Toole County	X	2,400	85	81,052
ND	Minot-Bis	Minot-Bismarck; Minot-Grand Forks	Souris Basin Transportation (New Town Bus Lines)	X	4,560	321	160,588
ND	North South Shuttle	Bismarck, ND, to Pierre, SD	Sitting Bull College, River Cities Public Transit	X	116	208	77,677
OR	Port-Bend	Portland-Prineville-Bend	Central Oregon Breeze (a division of CAC Transportation, Inc.)	X	Not Avail.	161	692,270
OR	Brkgs-Smi Riv	Coastal Express [North Bend-Brookings-Smith River, 2 segments]	Curry Public Transit	X	8,760	110	38,870
OR	CC Rider	Columbia County Rider: Westport-Clatskanie-Rainier-Longview/Kelso	Columbia County contracts with private operator	X	900	30	49,770
OR	Bend-Ont	Amtrak Thruway Bus: Bend-Ontario	Porter Stage Lines	X	4,788	259	68,054
OR	Port-Astoria	Amtrak Thruway Bus: Portland-Astoria	Oregon Coachways	X	11,016	106	551,513
OR	Port-Eugene	Amtrak Thruway Bus: Portland-Eugene	Oregon Coachways	X	41,172	112	844,790
OR	Coos Bay-Bend	Coos Bay-Bend	Porter Stage Lines	X	Not Avail.	251	217,896
OR	KF-Medford	Klamath Falls-Lake of the Woods-White City-Medford	The Shuttle Inc.	X	4,104	76	88,802
OR	Tilla-Port	Tillamook-Portland	Tillamook County Transportation District	X	Not Avail.	73	618,551
OR	Newport-Portland	Newport-Portland, Newport-Bend	Valley Retriever Bus Lines	X	6,996	66	1,146,243
PA	Pitts-Grove	Pittsburgh-Grove City	Myers Coach Lines	X	32,212	60	365,573
SD	Aber-Summit	Aberdeen Ride Line: Aberdeen-Summit	City of Aberdeen	X	1,393	75	28,247
VA	The Smartway Bus	Roanoke-Blacksburg	Valley Metro	X	63,894	37	176,178
UT	Rexburg to SLC	Rexburg, ID-Brigham-Ogden-Salt Lake City (dwntn & airport)	Salt Lake Express[a]	X	Available	239	396,638
UT	Logan to SLC	Logan-Brigham-Ogden-Salt Lake City (dwntn & airport)	Salt Lake Express[a]	X	Available	85	241,824
UT	Provo to SLC	Provo-Orem-Sandy-Salt Lake City (airport)	Salt Lake Express[a]	X	Available	60	459,615
WA	Dungeness Line	Travel Washington Dungeness Line: Port Angeles-Seattle	Olympic Bus Lines	X	12,972	123	661,061
WA	Grape Line	Travel Washington Grape Line: Walla Walla-Pasco	Airporter Shuttle/Bellair Charters	X	5,000	50	65,648
WV	Grey Line	Grey Line: Clarksburg-Pittsburgh	Mountain Line Transit Authority	X	6,709	150	405,337

[a] Annual ridership for most recent full year available.

CHAPTER 5

Development of the Sketch-Planning Tool

The objective of this project was the development of sketch-planning tools to allow planners and operators to estimate the potential demand for rural intercity bus service; therefore, the project effort shifted from the collection and analysis of data to this key element. Initial considerations in the development of these sketch-planning tools included the following observations, prior to the actual effort at calibrating models.

Need for Variety of Models/Tools

The difference in the number of cases in each of the classifications and the degree of variance (particularly in the regional private and rural public provider groups) suggested to the study team that the development of different tools or approaches might be required. It is likely that the behavioral response of the traveling public to conventional intercity bus service is more consistent across the country because the product is fairly standardized. In rural areas the frequency is low, the fares are similar across the country, the amenities are the same, and information availability and marketing are similar. Developing a model or trip rates for this one type of service should be easier than for the other two types. For both the regional private and rural public services, the product is much less standardized. Fares vary considerably, frequencies vary greatly, the degree of connectivity (to the national network) varies a great deal, and user information and marketing efforts vary. It is likely that different tools, or a tool that is sensitive to these differences, would be needed for these types of services.

Use of "a Priori" Expectations in Model Building

The type of data collected for each route in the state-level matrices demonstrates the basic approach that was used in developing tools and a workbook, in that the tools and process proceeded from the assumption that rural intercity demand is a function of the following elements:

- Overall population levels of origin points
- Population of the destination city
- Population characteristics
- Length of the route or service
- Basic service characteristics, including the frequency, the fare level, etc.
- Impact of key institutions that are likely to concentrate demand
- Connectivity of the service

These factors were used to build upon the basic "gravity model" used as the basis for transportation demand forecasting—that the demand for travel between two places is proportional to the populations and inversely proportional to the distance between them. In this case the "distance" or friction factor includes the actual distance, the fare level, and the frequency. This approach seems obvious, but it is important to state that these are the expectations regarding travel behavior, so that models or tools can be evaluated in terms of the consistency of the forecasts with these expectations. For example, a tool that forecasts higher ridership for lower frequency services, holding all other factors constant, would be suspect.

Statistical Models or "Formulas" May Be Only One Element

With a total of at least 133 cases, the potential existed for attempting statistical modeling using regression. The study team thought that, if there were problems obtaining a good fit or a satisfactory model for the entire sample, they would likely be because of issues related to the variety of service types. A concern was that if it became necessary or advisable to break the entire sample by classifications, there might not be enough

cases in each subgrouping to allow for statistical modeling for each of them. For that reason alone, the resulting toolkit may well have to include a number of techniques to assist the service planner in estimating potential demand.

Statistical Models Need To Be User Friendly

To the extent that regression or other models were found to be reliable for either route-level or point ridership estimates, the study team thought that such models would need to be designed to utilize only easily available data and would be more of a "black box" downloadable tool that would simply have blank fields in which to enter the appropriate data and then provide the answers. The plan was to embody any needed formulas in the tools, rather than requiring the users to set up their own spreadsheets with formulas, enter the data, make adjustments, etc. Users with more interest in the statistical details of the models would be referred to a separate technical report (this document).

As for the data, the study team thought that a simple source and means of assembling the data would be needed. An example of choosing simpler data over more complicated sources was the change in the data matrix (to be used for calibration) to readily available population data by jurisdiction, rather than the populations for 10-mile or 25-mile ridership sheds. Such areas may be more conceptually satisfactory but require a GIS to estimate the populations in such areas.

Potential Use of Case Studies/Analogies

For the regional private and rural public service classes, the study team expected that the services might need to be further clustered and then conclusions drawn about demand from these groupings, because of the difference in services. For example, one subgroup might be those rural operators that interline with Greyhound or Jefferson. A second might expand that group to include rural intercity services that offer good connections, but not formal interlining. A third might be rural intercity routes that service major airports. Another might be less than daily services. These different and relatively unique subgroups may be too small, with only a few cases (or one), to develop anything statistically valid.

A potential planner could learn something from these cases or subgroups by looking for services in areas that have similar characteristics to the proposed service area and then looking at the ridership response. This process is similar to urban transit route-level demand estimation procedures in which the planner looks for a route or several routes that are very comparable to a proposed service in terms of demographics, route length, fare, and frequency; determines the boardings per mile or service hour of these existing analogous services; and then applies that rate to the proposed service to estimate potential ridership. So the tool would need to provide information to allow the user to identify comparable services and obtain descriptive information about those services.

Need to Include Information to Facilitate Project Design

One other conceptual aspect is that the sketch-planning process will need to include a broader set of questions for the planner or operator to consider in the development of proposed projects, even before considering the ridership per se. The variety of projects that have been included in the survey data suggests that there may be many ways to provide for this type of service and a framework to begin the project design process is needed. Often the first consideration of the need for a rural intercity project will evolve out of the loss (or threatened loss) of existing intercity service or the identification of a need for long-distance trips as part of a local transportation coordination planning effort. From that point the planner needs to begin consideration of such issues as the following:

- Appropriate endpoints of the service
  - A service that has connections at both ends may offer more potential destinations and have higher ridership than a dead-end route
  - A service that makes a national network connection at a hub with many intercity departures will be less constrained in terms of schedule than a route that connects at a small town with only one or two daily departures
  - Increasingly rural passengers seek a way to reach major air hubs where they can obtain lower air fares and more air choices.
  - Existing intercity carriers seek complementary services, not competing services—and so may not support routes that serve the same points they do at similar times.
  - Knowing the key places to stop to maximize ridership is important—colleges, bases, correctional facilities, etc. are critical to route design.
- Schedules
  - Combining markets to include intercity connecting passengers and more regional trips will provide for higher ridership, but schedules to accommodate both and provide for efficient vehicle utilization can be difficult to design.
  - Daily fixed-route, fixed-schedule intercity bus service may be too much service for a given rural population, but if the frequency is to be less, determining which days are best may be an issue. If there is a tourism or a university component, Friday and Sunday may be required. If a human service or medical component is crucial, weekdays are required.

  - A connecting intercity carrier will want to have fixed schedules, not demand-responsive or only on-call services, because schedule information is needed to quote service to an inbound passenger.
  - An intercity carrier providing rural intercity service will likely not be able to deviate to different hospitals in the destination city, wait for passengers, or make multiple stops at transit centers, etc.; therefore, if the primary market has a human service/medical component, local providers may need to be considered.
- Connectivity
  - Connections are best made if they are located in the same place (the same terminal) and within a reasonable time period.
  - Rural intercity service connecting to scheduled unsubsidized intercity bus services needs to arrive in time that passengers can obtain tickets and find their outbound bus and, if the service is connecting with an inbound bus, it may need to be scheduled significantly later to allow for late arrivals. Rural providers are usually not able to guarantee a connection (by waiting until the connecting bus arrives, for example, or sending another bus).
  - Access to an intercity bus terminal can require a bus terminal licensing agreement with the carrier, and that can include liability waivers and insurance requirements for the rural carrier.
  - Full interlining with an intercity carrier may be one way to meet local needs for regional service, while offering the market the ability to connect both inbound and outbound with the national network.
- Institutional Considerations
  - Local rural transit operators will need to find local match support for intercity services and may therefore need to focus more on regional needs in service design.
  - Finding match support from jurisdictions along a route can be difficult, as they may be tempted to become "free-riders," knowing the route will have to cross their boundaries.
  - Use of the FTA Pilot Project method of obtaining match by using the in-kind value of the capital used in unsubsidized service can be one way to satisfy the match requirement.
  - Private intercity carriers may have more ability to provide the local match support from other sources—or through use of the Pilot Project with their other routes—and thus may be more fitting for some intercity projects.

Originally the study team thought that these and other such considerations needed to be included in the sketch-planning tool as a series of steps with questions and answers that would then lead to the appropriate questions regarding potential demand—which might involve different types of models or techniques depending on the service design of the project. However, a full rural intercity bus planning guidebook is beyond the scope of this project, and provision of this information would have to be limited to that needed to provide context for estimating demand:

- Description of the demand estimation steps and their role in the overall planning process
- Attributes that are potentially under the control of the planner (routing, service types, reservations, frequency, fare level, stops at the destination, schedule connectivity, ticketing, information, etc.) and the potential impact
- Demand-forecasting tool or tools included in the guidebook
- Data required, its source, and processing requirements
- Local data requirements (for example, tourism visitation, etc.) and potential sources
- Appropriate way to input service and other variables in the forecasting process
- Default values for use where local data is not available
- Methods for computing the forecasts
- Checks on reasonableness

The study team anticipated that the guide would include a workbook with text, tables, and graphics and that spreadsheets or other software applications would be included; however, in the end all of this information was included on the CD accompanying this report. The plan for the toolkit included the idea of examples that would follow a hypothetical case through the process to results, with examples worked for each type of tool or process included in the overall guide.

The study team still felt the need to provide some guidance at the beginning of the toolkit product regarding the factors that the planner should consider in developing a project. Much of this was presented and discussed in the interim report, and the TCRP B-37 panel is correct in saying that a full intercity planning toolkit is beyond the scope of this project.

Development of Demand Models

At the end of the reclassification of the data we felt that we had a data set that was as complete and well defined as it would be given the need to have a finite schedule and that there are finite resources. Having spent as much effort on the data, we were optimistic about being able to quickly develop a usable tool for estimating rural intercity demand. However, this was unsupported optimism as we began a search for patterns in the data.

Trip Rates: Population Issues

Initially the study team thought that the population served would be the primary explanation of demand and that some

variations in the service characteristics plus the other unobserved variances would account for the rest. The study team began the analysis by calculating basic trip rates for all the services in the database using the corridor populations. It became apparent that there was an immediate problem relating to the populations, one that has been seen elsewhere in the literature. A route that serves a number of points, many of which might be non-urbanized, terminates in a major metropolitan area. The major metropolitan area has a very large population and, if that is included in the corridor population, the calculated trip rates vary enormously. Conceptually this population is also problematic for inclusion in the model because it likely has lots of intercity bus service available.

To investigate this further, the study team took all of the corridor populations and split them into components—urbanized areas and non-urbanized areas. Further work with the data essentially revealed that, for the most part, providing service to otherwise unserved non-urbanized places is important to driving ridership on a rural intercity route, but that the urbanized area with other services is essentially an independent factor. Providing intercity bus service between Wadena, Minnesota, and the Twin Cities results in ridership for Wadena that would not exist otherwise, but new ridership out of the Twin Cities as a result of the Wadena connection is not measurable (beyond the Wadena folks returning home). Trip rates calculated based on the populations of non-urbanized areas alone varied widely.

The demand literature often starts with the basic gravity model, which generally posits that the demand between two cities is a function of their populations and the distance between them. Thomas J. Cook and Judson J. Lawrie utilized this approach to estimate intercity bus route demand as part of their study for the North Carolina Department of Transportation (*8*). Two large urban areas in proximity generate a lot of travel between them. The same populations at a greater distance generate less travel. Generally the formula to represent this phenomenon is the population of one urban area times the population of the second, divided by the distance between them squared. Under this theory, then, an urban area has a gravitational pull that is proportional to its population (mass). So, to follow in the example, there will be more people riding from Wadena, Minnesota, to the Twin Cities than from Wadena to Thief River Falls. So, after the data was separated into urbanized and non-urbanized populations, the study team attempted to develop trip rates for the non-urbanized points and a gravitational "attraction" factor for the urbanized points.

As Cook and Lawrie (*8*) realized, the gravity model approach gets much more complicated once a route has numerous intermediate stops that offer alternative destinations. Travel between an origin, an intermediate point, and a destination is not simply the sum of demand between (1) the origin and the intermediate stop and (2) the origin and the destination. In the study efforts to calculate an attraction factor for the largest population center on a given route did not result in a systematic pattern. At this point the trip rate approach was not yielding a usable basis for a tool.

Alternative Approach: Multiple Regression

Another path the study team followed at the same time was to try to develop a regression model to predict ridership as a function of the populations served and the service characteristics, along the lines of the models originally developed for NCHRP's 1981 effort at an intercity bus service planning handbook. The demand models were published in several places (*4, 9*). Multiple regression is a commonly used tool for estimating the effect of independent variables (in this case population and service characteristics) on a dependent variable (ridership).

The study team initially used the regression functions in Microsoft® Excel, focusing on population—again under the assumption that the population served would explain much of the variance in ridership. At this stage of the process, the population categories used included an urban and non-urban designation as provided by the Census and the service type designation was intercity bus or non-intercity bus as classified in Task 6. The population was used as the independent variable, and ridership as the dependent variable. Based on the category types, several combinations were analyzed. Given the small number of observations, or routes, and the use of only one independent variable in each analysis, emphasis was placed on the R-squared result. Figures 5-1 and 5-2 show the results of two of the analyses.

In Figure 5-1 the data set used was the intercity bus category. The population, the independent variable, of the entire corridor was used—urban and non-urban. Observed annual ridership was used as the dependent variable. The graph shows the predicted ridership values, based on the regression analysis, and the actual values obtained for each observation. In this case the resulting $R^2 = 0.139$. This result means that there is a really weak relationship between the corridor population and the ridership. In this case, approximately 14 percent of the variance in the ridership variable can be explained by the regression equation using the corridor population as the independent variable.

The same approach was tried with the non-intercity bus category of providers, and Figure 5-2 presents the results. Again, the population of the entire corridor was used—urban and non-urban—as the independent variable. The ridership was used as the dependent variable. The graph shows the predicted ridership values, based on the regression analysis, and the actual values obtained for each observation. This time $R^2 = 0.021$. Although slightly higher than for the intercity bus

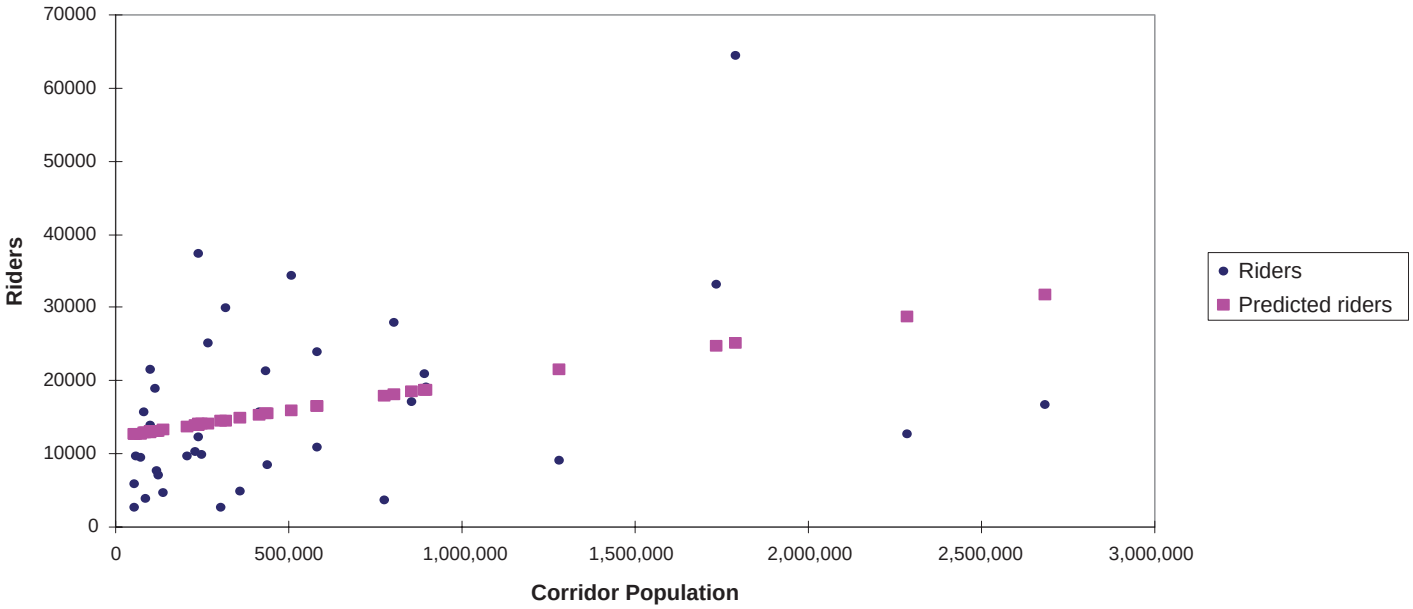


Figure 5-1. Line fit plot for intercity bus corridor population.

category, it still means that there is essentially no relationship between the corridor population and the ridership. In this case approximately 2 percent of the variance in the ridership variable could be explained by the regression equation using the corridor population as the independent variable.

However, as can be seen in both graphs, there is a line when the residuals are plotted, and so the study team did not give up on the regression approach. The data sets were converted to an SPSS format, and efforts were made to develop models that were plausible in terms of the signs of the independent variables (more population should mean more ridership, so it would have a plus sign, higher fares would decrease ridership, so it should have a minus sign). Again the study team tried models for separate data sets for the regional providers and the intercity bus providers and tried pooling the data to see if the larger sample would help. The explanatory power of the resulting models did not improve significantly. Scatter plots were then used to see if there are patterns to the relationship between any of the variables and ridership. The scatter plots helped explain the poor regression results—either there is no discernable pattern or there are patterns reflecting a very limited variation in a particular variable.

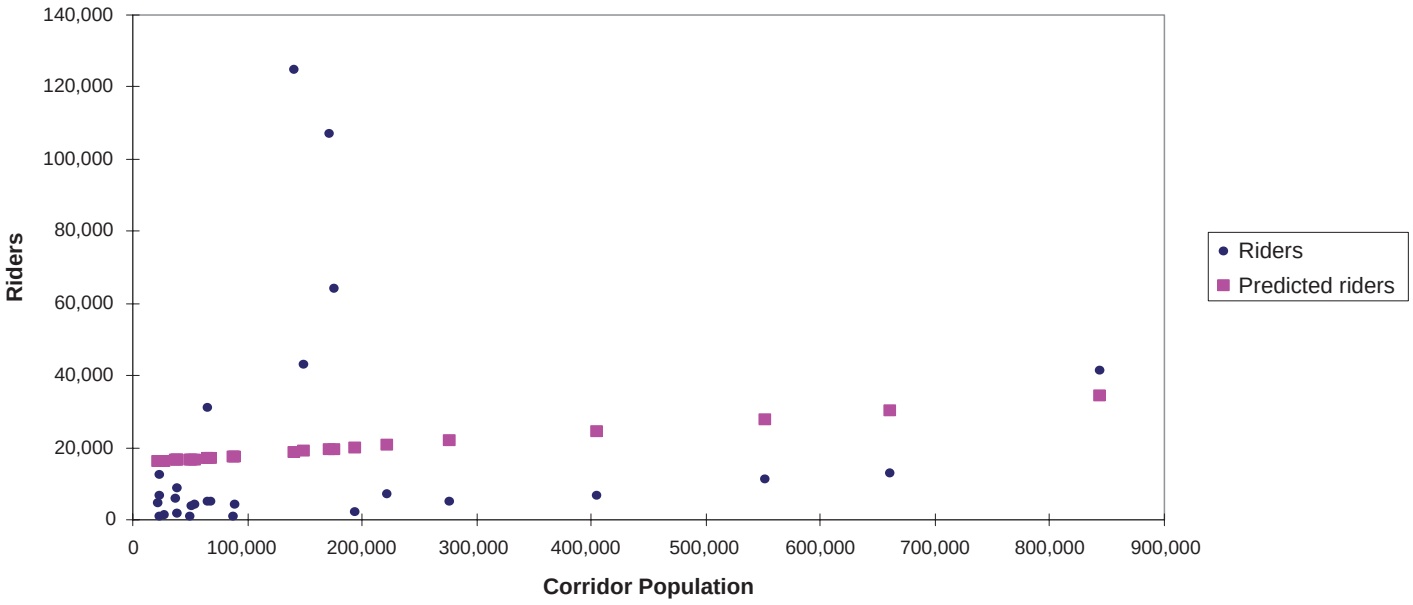


Figure 5-2. Line fit plot for non-intercity bus corridor population.

Trip Rate Approach: Rates from the National Household Travel Survey

Given the issues with the regression efforts, one other approach was tried. The U.S. Department of Transportation periodically conducts a detailed survey of transportation users to identify many different characteristics of travel behavior. A report on the travel survey results regarding long-distance travel (*10*) suggested that although no report on intercity bus usage per se had been published, there might be data from the survey that would at least provide trip rates and mode split. The article also showed regional variations in overall long-distance trip rates, along with differences by income level.

The study team contacted the author of the article and discussed the needs for TCRP Project B-37, and she agreed to do some runs of the survey data including urbanized and non-urbanized trip rates, rates by region, rates by income, and national rates by the same breakdowns. Based on this discussion, a major concern was that there would be too few survey responses for the intercity bus mode in any one cell, if the data was also split by urbanized and non-urbanized, and then by income and region. The study team decided to request overall trip rates, and then apply a mode split factor based on mode splits for the overall survey.

Table 5-1 presents the resulting trip rates. The appropriate mode split is an issue. The 2001 National Household Travel Survey (NHTS) data provided only the overall trip rates, so the mode split rates presented in the table are calculated by KFH Group. The 2001 NHTS overall mode split found a 3 percent mode share for intercity bus and intercity passenger rail combined. However, when the study team applied that mode split and compared the results to its observed ridership, the predicted ridership was too high. The American Travel Survey of 1997 found that overall intercity bus had a 2 percent mode share, but that only 16 percent of that was scheduled buses. However, that study had a different trip length threshold. The 2001 study found an overall bus mode share of 0.09 percent for the long-distance trips over 50 miles. Applying this mode share to the data from the sample set produced more close matches to the actual ridership, and rounding it to 1 percent improved it further. Based on the NHTS data, the study team decided that at least one approach to the toolkit would involve the use of these rates. The remaining issue for the toolkit was how to operationalize this model to make usage easy.

Continued Development of the Regression Model

The study team decided to seek some assistance in the development of the regression model, and an outside consultant, Jason Sartori, was identified to assist in this role. Based on the issues previously identified with including the population of the "destination" (defined as the largest population stop on the route), the study team developed a data set of the route data that had been collected with the populations separated into a variable called "destination population" and one that included the population of the origin locations. Population was also provided in the data set divided into urbanized and non-urbanized.

Also, before trying to estimate a model, the study team looked back at the scatter plots and identified some of the outliers, primarily routes that had been included but that had dramatically different characteristics. The San Luis Obispo Route 10 is one such example. It connects two urban areas and makes stops to allow connectivity to the national intercity bus network, but it has the frequency and span of service characteristic of a local transit route, along with local stops on the way. Its ridership was much higher than any of the other routes. The study team elected to drop it from the analysis.

There were other similar cases. The Yosemite Area Regional Transit (YARTS) route to Yosemite caused the study team to try estimating with and without it. It has very little population served and no destination population but has a relatively high ridership, and so seemed to be an outlier. The study team later found that including it in the data set reduced the overall R^2; therefore, essentially only models based on a data set that did not include the YARTS route have been included.

Stepwise regression was used to generate a model that included the urbanized area population, airport service, provision by an intercity provider, and average origin population—all of which seemed plausible. It had an R^2 of 0.708 (adjusted $R^2 = 0.64$), much better than any previous result. Additional work yielded a model that the study team considered usable:

$$\begin{aligned}\text{Ridership} = &-2803.536 + 0.194\,(\text{average origin population}) \\ &+ 314.734\,(\text{the number of stops on the route}) \\ &+ 4971.668\,(\text{airport service or connection}) \\ &+ 5783.653\,(\text{service provided by intercity provider})\end{aligned}$$

$R^2 = 0.712$, Adjsuted $R^2 = 0.690$[c]

[c]In a regression equation, the term "R^2" refers to the fraction of the sample variance of the dependent variable that is explained by the regressors. "Adjusted R^2" is a modified version of R^2 that does not necessarily increase when a new regressor is added to that regression. In general, a higher value of R^2 means that the model has more explanatory power. See pp. 193–195 in *Introduction to Econometrics,* James H. Stock and Mark W. Watson, 3rd Edition, Pearson Education, Boston.

Table 5-1. Per capita long-distance trips (50 miles or more one way) from the National Household Travel Survey.

Long Distance per Capita Trips by Census Division Trips of 50 miles or more in one-way distance
Per Capita Trips by Urban/Rural Households & Household Family Income*

Urban/Rural Household	HHFAM INC*	Number of People	Long-Distance Trips	LD Trips/Capita	ICB Share=1%	ICB Share=2%	ICB Share=3%
Urban	< 30K	59,348,622.92	327,949,593.66	5.53	0.055	0.111	0.166
Urban	< 75K	88,593,298.79	807,776,271.10	9.12	0.091	0.182	0.274
Urban	75K +	55,637,088.46	663,604,914.52	11.93	0.119	0.239	0.358
Rural	< 30K	18,722,965.77	151,956,962.19	8.12	0.081	0.162	0.244
Rural	< 75K	28,337,614.59	377,763,186.60	13.33	0.133	0.267	0.400
Rural	75K +	10,199,602.81	159,067,326.23	15.6	0.156	0.312	0.468
9	ALL	277,208,169.00	2,604,814,821.20	9.4	0.094	0.188	0.282
				Average:	0.104	0.209	0.313

Long Distance per Capita Trips by Census Division Trips of 50 miles or more in one-way distance
Trips by Census Division & Household Family Income*

Census Division	HHFAM INC*	Number of People	Long-Distance Trips	LD Trips/Capita	ICB Share=1%	ICB Share=2%	ICB Share=3%
NewEngld	< 30K	3,164,287.73	22,695,408.84	7.17	0.072	0.143	0.215
NewEngld	< 75K	6,401,005.62	64,394,625.85	10.06	0.101	0.201	0.302
NewEngld	75K +	4,192,850.13	55,388,951.02	13.21	0.132	0.264	0.396
MidAlntc	< 30K	9,894,519.59	41,919,624.66	4.24	0.042	0.085	0.127
MidAlntc	< 75K	15,324,978.69	137,637,345.44	8.98	0.090	0.180	0.269
MidAlntc	75K +	9,959,485.73	119,025,927.86	11.95	0.120	0.239	0.359
EastNrth Centrl	< 30K	11,138,639.80	69,420,001.97	6.23	0.062	0.125	0.187
EastNrth Centrl	< 75K	20,031,885.86	188,393,709.44	9.4	0.094	0.188	0.282
EastNrth Centrl	75K +	10,298,491.86	133,207,476.73	12.93	0.129	0.259	0.388
WestNrth Centrl	< 30K	5,017,050.58	42,342,757.94	8.44	0.084	0.169	0.253
WestNrth Centrl	< 75K	9,207,670.32	114,177,285.66	12.4	0.124	0.248	0.372
WestNrth Centrl	75K +	3,930,515.27	49,322,058.12	12.55	0.126	0.251	0.377
South Atlntic	< 30K	16,758,745.92	102,591,451.45	6.12	0.061	0.122	0.184
South Atlntic	< 75K	22,163,512.85	215,829,448.14	9.74	0.097	0.195	0.292
South Atlntic	75K +	13,469,831.04	174,907,253.98	12.99	0.130	0.260	0.390
East Sth Centrl	< 30K	5,461,116.94	35,716,211.45	6.54	0.065	0.131	0.196
East Sth Centrl	< 75K	6,500,175.49	82,797,429.04	12.74	0.127	0.255	0.382
East Sth Centrl	75K +	2,482,333.75	34,510,845.13	13.9	0.139	0.278	0.417
West Sth Centrl	< 30K	9,455,112.62	62,117,096.67	6.57	0.066	0.131	0.197
West Sth Centrl	< 75K	11,588,203.34	136,015,598.64	11.74	0.117	0.235	0.352
West Sth Centrl	75K +	5,492,763.94	71,375,972.38	12.99	0.130	0.260	0.390
Mountain	< 30K	4,627,980.70	35,812,442.91	7.74	0.077	0.155	0.232
Mountain	< 75K	8,398,920.27	81,316,645.54	9.68	0.097	0.194	0.290
Mountain	75K +	3,647,887.17	41,251,332.13	11.31	0.113	0.226	0.339
Pacific	< 30K	12,554,134.80	67,291,559.95	5.36	0.054	0.107	0.161
Pacific	< 75K	17,314,560.95	164,977,369.95	9.53	0.095	0.191	0.286
Pacific	75K +	12,362,532.36	143,682,423.41	11.62	0.116	0.232	0.349
ALL	ALL	277,208,169.00	2,604,814,821.20	9.4	0.094	0.188	0.282
				Average:	0.098	0.197	0.295

Where:

Ridership = annual one-way passenger boardings
Average origin population = sum of the populations of origin points (all points on the route except that with the largest population)
Number of stops = count of points listed in public timetables as stops
Airport service or connection = route serves an airport with commercial service either directly or with one transfer at a common location
Intercity provider = service operated by a carrier meeting the definition of an intercity bus carrier (see Definition of Intercity Bus Service in Chapter 6.)

All variables are significant at the 5 percent level or better, and the included variables and their signs are plausible. One would expect that ridership would increase with a greater origin population and with more stops on the route. The positive impact of the airport connection is also plausible, given the changes in commercial airline service over the past few decades (deregulation, increased service, lower fares). Similarly, the model reflects some advantages in ridership terms of having an intercity bus provider, which offers the advantages of interlining. The impact of the intercity bus provider and the airport service both reflect the advantages of connectivity to a broader network.

Some other attempts at improving the model included a version calibrated with the YARTS route, but it did not perform as well. Interaction variables were also tried but were not significant. An effort to include destination population in the model reduced its explanatory power, and it was not significant; nor was a log transformation of destination population. Efforts to include regional dummy variables were complicated by having few cases in some regions, so adjustments in regions were needed. Including the regional variables improved the model slightly, but only in one region did the ridership prediction vary much from a model without the regional adjustment. The study team elected not to include the regional dummy variables, as they would complicate the toolkit.

Prediction and Confidence Intervals

When one uses a regression equation to predict ridership values, one can calculate prediction and confidence intervals around those values, and the study team did this. A confidence interval provides the range within which one can be confident the population mean of the dependent variable falls, for a given set of values for the independent variables. For instance, as seen in Table 5-2, the study team can state that it is 95 percent confident that, among all bus lines that are intercity with an airport and six stops on the line and serve an average origin population of 35,000, the mean annual ridership will fall between 12,233 and 19,667.

In contrast, a prediction interval provides the range within which one is confident that a specific future value will fall. In this case, the study team can be 95 percent confident that a specific future bus line, given these same characteristics (intercity, airport, six stops, and 35,000 average origin population), will have an annual ridership between 1,878 and 30,022. Here, because the ridership for a specific individual future line is being predicted, as opposed to the average of all lines with those same characteristics, the prediction interval is much larger than the confidence interval.

Combined Approaches—Adjustment Factor

Another effort to improve predictive accuracy involved an effort to combine the trip rate model and the regression model.

Table 5-2. Prediction and confidence intervals.

INPUTS		
AvgOriginPop	35,000	Average population of the origins (total origin population/number of origins)
Stops	6	Number of stops along route
Airport	1	Airport on the line (1) or not on the line (0)
Intercity Bus	1	Intercity bus (1) or Non-intercity bus (0)
Interval Level	95%	Prediction and confidence interval level (e.g., 95%)
OUTPUTS		
Point Prediction	15,950	Predicted annual ridership for route with AvgOriginPop = 35000, Stops = 6 Airport = 1, Intercity Bus = 1
PI Upper Limit	30,022	Upper limit of the 95% prediction interval
PI Lower Limit	1,878	Lower limit of the 95% prediction interval
CI Upper Limit	19,667	Upper limit of the 95% confidence interval
CI Lower Limit	12,233	Lower limit of the 95% confidence interval

Table 5-3. Factors influencing accuracy of alternative models.

Factor	RegRate1.0	RegRate0.9	RegRate1.1	NatRate2.0	RegRate2.0	RegRate3.0
Length	X	X	X		X	X
Stops	X	X	X	X	X	X
Jails	X	X	X		X	X
AvgOriginPop	X	X		X	X	X
TOT_POP	X	X		X		
Rail				X		
POP_UA					X	X
POP_UC					X	X

Note: "RegRate" is defined as a model using regional trip rates. "NatRate" is a model using the national trip rate. The numbers refer to the interstate bus mode share, in percentages.
Length = One-way length of route in miles
Stops = Number of scheduled stops on the route
Jails = Route serves a stop with a state or federal correctional facility
AvgOriginPop = Average population of origins (total origin population divided by number of origins)
TOT_POP = Total population of all stops
Rail = Route serves a rail passenger station
POP_UA = Population of urbanized areas on the route
POP_UC = Population of urban clusters on the route

In this case, the regression approach was used to develop an adjustment factor that would then be applied to the estimated demand from the trip rate approach. The idea was that this approach would make maximum use of the available information. Stepwise regressions were run on the error terms for the NHTS-based trip rate predictions, for each assumed mode split. Table 5-3 summarizes the variables found to impact how far off these predictions were from the actual ridership values.

These regressions were used to estimate the inaccuracy (error term) of the NHTS trip rate predictions. This effort was performed to help identify the impact of specific variables on the error term, which could then be used to determine how to adjust the mode share predictions on a case-by-case basis. For example, the coefficients associated with the error model for the NHTS trip rate model using regional trip rates and a 1 percent mode split would be used to estimate a predicted error term. Subtracting the result from the predicted value would give an adjusted prediction. The process is as follows:

1. Stepwise regression identified length, stops, jails, average population of origins, and total population of all stops as significantly impacting the error terms (the distance between the method's predicted values and the actual ridership values).
2. Using this adjustment regression equation, a predicted error term for each observation was calculated.
3. These predicted error terms were then subtracted from the regional 1 percent (RegRate1.0) method's predicted ridership levels to calculate an adjusted ridership prediction for each observation.

This approach did yield some improvement in accuracy, as can be seen in the following section.

Analysis of Accuracy

Again with the help of Jason Sartori, the study team analyzed the accuracy of the trip rate model in comparison to the regression model described previously. Table 5-4 shows how well the various approaches performed compared to actual ridership values. The second column shows the degree to which the 1 percent trip rate model was able to predict the actual ridership. The third column shows the accuracy of the trip rate predictions after they were adjusted using the error term model described previously. The fourth column highlights the accuracy of the regression model predictions, using the

Table 5-4. Accuracy of trip rate and regression models.

	1% Trip Rate Prediction	Adj. 1% Trip Rate Prediction	Regression Predictions
Within 50% of actual ridership	45.60%	54.40%	59.60%
Within 10% of actual ridership	14.00%	15.80%	17.50%
Within 5% of actual ridership	8.80%	5.30%	5.30%

Table 5-5. Accuracy of 1981 Ecosometrics regression demand models.

	Ecosometrics Regression Predictions							
	Routes 20-60 mi		Routes 20-120 mi		Routes 121+ mi		Routes 20+ mi	
Within 50% of actual ridership	2 of 3	66.67%	5 of 15	33.33%	4 of 41	9.76%	6 of 41	14.63%
Within 10% of actual ridership	2 of 3	66.67%	2 of 15	13.33%	1 of 41	2.44%	1 of 41	2.44%
Within 5% of actual ridership	1 of 3	33.33%	1 of 15	6.67%	0 of 41	0.00%	1 of 41	2.44%

regression equation identified previously. While the trip rate prediction provided the largest share of predictions within 5 percent of the actual ridership, the regression equation had the largest share (nearly 60 percent) of predictions within 50 percent of the actual ridership level.

The study team was concerned that this was not sufficiently accurate for a demand estimate, but when the range of ridership estimates produced for major transit investments are compared to actual ridership, an accuracy rate at this level is not unheard of. Another concern was that this model might not be a better tool than the 1981 Ecosometrics regression models (described in the literature survey), so the study team ran those models on the same data and found that its new regression model is more accurate. Table 5-5 presents the accuracy of the Ecosometrics regression demand model predictions. The new methods are more accurate for the ridership being observed on current rural intercity bus routes.

Conclusions

It may be that over the past 30 years rural intercity bus service has become much more specialized. The remaining routes that were used to calibrate the model are either (1) exceptional unsubsidized routes, likely with higher demand (or revenue) than the routes now abandoned, or (2) subsidized routes. The subsidized routes have been through a selection process that may well be related to particular needs or demands that make each unique—for example, a link to a university town. Previously there was more rural intercity bus service (more data), and the demand was likely more generic.

The results of this effort to develop the models led the study team to proceed with the development of a toolkit using the best of the model approaches developed here: the regression model and the adjusted trip rate model. The results of that effort are presented in Chapter 6.

CHAPTER 6

The Toolkit

Using the models described in the previous chapter, a draft toolkit was developed. This chapter will provide a discussion of what has been included and why—the actual toolkit is entirely included on the accompanying CD-ROM that uses Microsoft® Word and Excel files to enable the user to define potential routes, estimate ridership, and make adjustments to those estimates.

Format

Given the desire to make the toolkit easy to use, the study team was faced with two key issues: (1) Both model approaches involve the use of population data, which can be a complication to find and compile, and (2) both involve the need to plug the data into a formula. Initially there were thoughts about providing hypertext links to Census population websites to allow the user to access data, but it was decided to create a computer-based package that would include all the needed population data and would have the models embedded so that the answer would be calculated for the user, based on inputs.

The CD includes the required U.S. Census population data, with populations for all urbanized areas (over 50,000), urban clusters (2,500 to 50,000), and Census-designated places (under 2,500) from the 2000 Census. A user-friendly interface tells the user to make sure that this model is appropriate for their proposed service, provides some background, provides instructions, and then allows the user to select the stops for their proposed route. The user indicates whether the service connects to an airport and whether it is provided by an intercity bus operator. The model selects the appropriate regional rate for the trip rate model, based on the state selected. Once the data is input, an output page presents the predicted ridership based on each technique. This ridership is characterized as an initial estimate of potential demand. Links to text describe possible means of adjusting the result based on the availability of other services or particular adjustments (post-processing techniques). Finally, a box presents basic service characteristics and ridership for the four most similar routes in the database, along with links to more descriptive information for each of these routes (case studies).

All of this—the user interface, the data, all formulas, and the instructional text—is on a single CD. The user sees some instructional text, some entry boxes (set up to allow the user to select place names, rather than type them in), and a number of links to specialized text. The instructional text is presented here in the order in which the user will encounter it on the CD.

Toolkit Development

The development of the toolkit involved the collection of data—type of carrier, fare levels, frequency of service, route length, and stops—on many rural intercity bus routes across the country. This service information was combined with data regarding the populations and types of key destinations served. Many of the routes were identified by contacting state departments of transportation to identify routes that have received funding under the Section 5311(f) program of rural intercity transit assistance; however, unsubsidized routes with rural stops were also included in the database. The database used to calibrate and validate the models included in the toolkit had the following characteristics:

- Route length: 50 to 453 miles
- Frequency (round-trips per week): 1 to 21
- Average corridor population (not including destination city): 1,196 to 275,108
- Annual ridership (boardings): 877 to 64,434
- Number of routes servicing airports: 34 out of 57
- Number of routes operated by intercity bus carriers: 38 out of 57

Not all Section 5311(f)–funded routes were included in the database used to calibrate and test models, as some have characteristics that differ from the intercity definition used to

classify routes, or there were issues with the available data on services or ridership. More information on the database and the development of the toolkit is available in the previous chapters of this report.

The toolkit includes information on alternative methods for estimating ridership:

- Previous or current ridership—use of data from previous or current services on the route.
- Data and models for two alternative methods for developing an initial estimate of ridership
- A discussion of potential adjustments to the initial estimate
- A data set of rural intercity route characteristics and ridership, to facilitate consideration of ridership on services that are analogous to the proposed service

Users should understand that the estimation of demand for any transportation service is one step in an overall planning process, and that demand estimates by their nature have a high level of uncertainty. The actual ridership on any service can be significantly affected by many variables that are not quantified in a model or technique. This is particularly true for intercity services because the actual ridership may be affected by variables such as the continuity of service, the possibility of overhead traffic (riders using the route to travel to and from points beyond the ends of the segment being analyzed), competing services or modes (other parallel intercity routes, intercity rail passenger services, or even airport ground transportation services), the quality of station facilities, or even the particular abilities of the sales staff at agencies on the line.

Toolkit Applicability

The applicability of the toolkit is limited to rural intercity services:

- **Rural routes (or stops on routes)** that provide service to places with populations under 50,000 (though they may also have stops in areas with higher populations, such as urbanized areas over 50,000)
- **Intercity services,** defined as services that
  - Serve two or more urban areas (defined in Section 5311(f) as places over 2,500 persons) not in close proximity
  - Have limited stops
  - Provide capacity for passengers to carry baggage
  - Offer a connection to the national network of intercity bus services

This toolkit is **not appropriate** for:

- **Commuter** bus service, defined as peak-hour, peak-direction, low-frequency service, weekdays, often with commutation tickets providing multiple rides
- **Local or regional transit,** characterized as having many local stops, low per-mile flat or zone fares, multiple frequencies, often weekdays only, and without connectivity to the national intercity bus network
- **Rural public transit** offering area-wide demand-responsive service or rural fixed or route-deviation services that may be low frequency or serve areas with a population under 50,000, but have many local stops and low flat or zone fares and do not offer connections to the national intercity bus network (in terms of serving common stops or having coordinated schedules)

Steps in Applying this Toolkit

Step 1: Define Proposed Route

The initial step requires the user to define the service under consideration. Earlier steps in the planning process should help in defining potential service options. In this initial step, the user should obtain a map and determine stops along the route. For purposes of estimating operating costs or developing schedules, the distance between each stop may be needed, but only the length of the entire proposed route is needed for this toolkit. This length can be easily determined by using an Internet-based mapping site. Also, the user should determine if the proposed operator is an intercity bus company that is a member of the NBTA or a regional provider (public, private non-profit, or for-profit).

A technique or warning has been included regarding routes that link two large population centers. The model application in the toolkit defines the largest population centers. The model application in the toolkit defines the largest population city on the route as the "Destination" and does not include that population in the estimation of demand, as those places typically have a lot of additional intercity bus service. However, if there are two large population centers, the lower population center would still be included, and it could overstate the demand considerably. In those cases, it is recommended that one of the two large population centers be excluded in the selection of locations served while using the tool to estimate intercity demand.

Step 2: Determine if there is Current Service

The potential demand for new service could be affected to a large extent if there is other service linking residents of the areas served by possible stops with intercity services. This other service could involve intercity bus services that are not known to the analyst that directly parallel the proposed service or services that offer alternative routes from an origin to the proposed destination. It could include other types of service that may be alternatives to intercity bus services, such as airport ground transportation providers or intercity rail passenger

services. It could include transit services operated by local or regional public transit agencies.

While the precise impact of such services can be difficult to determine without doing surveys and additional market research, this information is useful in evaluating ridership estimates provided by this toolkit and in making adjustments to those estimates. Also, existing providers may be willing to share data on current ridership or unmet demands for alternative services that can be useful in estimating ridership. For example, a planner may check common sources of information on intercity bus service and determine that a particular corridor has no intercity service. However, additional research may reveal that an airport ground transportation provider serves that corridor and offers connections to an intercity bus station as an alternative destination. If that operator is willing to provide some ridership information, it could be compared to estimates provided by the models calibrated on rural intercity data to see what proportion of the overall estimated market might already be served.

Potential sources of information on existing services include:

- Greyhound schedule and route information (http://www.greyhound.com/revsup/schedules/).
- Trailways schedule and route information (http://www.trailways.com/).
- Amtrak intercity rail passenger service and connecting Amtrak thruway bus services (http://www.AMTRAK.com).
- *Russell's Official National Motor Coach Guide* (http://www.russellsguides.com/mainpage.shtml or 329 10th Avenue, S.E., Cedar Rapids, Iowa 52401) is a monthly publication that provides timetables for many (but not all) scheduled intercity bus routes in the United States and Canada. It is indexed by stop, so a user can determine which timetables involve service to a particular place. This publication has been available since 1927, and earlier issues can provide information about previous routes and schedules.
- American Intercity Bus Rider Association map (http://aibra.org/).
- Airport providers (contact individual airport websites for ground transportation information).

If there are existing operators on the proposed route, contact them to try to obtain existing ridership at points that are currently served. Ask about customer service requests that they may have had regarding service similar to the proposed route or about unmet needs.

Step 3: Determine Historic Ridership, if there has been Intercity Bus Service on the Route in Recent Times

Rural intercity bus service has seen major service abandonments over the past 30 years, and information on ridership for services abandoned long ago will not likely be available or useful. However, the unsubsidized private intercity bus industry has been undergoing route and service restructuring over the past decade, and in many cases the routes or stops proposed for analysis have seen operation within the past decade. In some cases, ridership or revenue per mile data may be available from the previous carrier or its former representatives. Again, this information can be useful in evaluating new ridership estimates, making adjustments, or as a basis for estimating potential demand.

Step 4: Generate Ridership Estimates

Data Entry. The toolkit includes two models that will generate estimates of annual ridership, based on user inputs regarding the characteristics of the proposed service. The information necessary to generate the initial estimate includes the following:

- The name of the state in which the largest portion of the route will be operated
- Whether or not the proposed route will serve one or more airports with commercial air service
- Whether or not the proposed service will be operated by a national or regional bus carrier that is part of the national intercity bus network
- The names of the urbanized area, urban cluster, or Census-designated places that will be designated stops for the proposed service. Note that all these place names and their associated populations are already part of the toolkit, and the user will only need to scroll through and select or enter the place names.

There is also a place to enter population data the user may have for any stop locations for which there is no data provided in the toolkit—for example, places too small to have population counts from the Census.

Note that it is up to the user to enter stop locations that make sense as a potential route—the toolkit will not limit users to stops that are located in any one state or adjoining states, nor will it prevent other entry errors.

Demand Estimates. Once this information is entered, the user can click on the "Output/Results" button, which will advance to a new page of the toolkit showing the results of the demand estimation. On this page the input characteristics selected by the user are presented, along with annual ridership estimates developed by two different models.

Models Used. The regression model is a statistical equation that was estimated using the ridership data and route characteristics of the 57 routes included in the study database. The equation estimates the annual ridership based on the average

population of the stops served by the route (excluding the largest population stop, which is assumed to be the destination), the length of the route, whether the route serves an airport, and whether the route would be operated by a carrier that is part of the national intercity bus network. The output page presents a 95 percent confidence interval (CI) for this estimate, meaning that there is a 95 percent probability that the mean ridership of all routes with these characteristics is within the upper and lower bounds of the CI.

The trip rate model is a different approach using data on the number of long-distance trips (over 50 miles in length) made by rural residents using public transportation modes. This data was collected as part of the National Household Travel Survey. Data on the number of such trips and rural population were used to calculate a long-distance trip rate for each region of the country. In this model the region is selected based on the "state" designation selected by the user. The results are generated based on the population of the points served by the route and the trip rate. An adjustment is made to these results based on the residual error term of a regression model that includes the length of the route, the number of stops, whether the route serves a correctional facility, the average population of the origin stops, and the total population served.

Accuracy of the Estimates. The two models are presented to provide the user with more information about the potential ridership estimates. Table 6-1 presents information about the potential accuracy of the two approaches, which is similar.

Comparable Routes. The output page also provides a table entitled "Comparable Routes." This table presents summary data on ridership and route characteristics for the four routes in the database that are most similar to the proposed route. This allows the user to further evaluate the results of the two demand models by comparing the proposed route to peer services. A link to additional descriptive information is provided for each of the comparable routes, in case additional detail is desired.

Advantages of Each Model. The results of two different models are presented because they are each sensitive to different factors. The regression model will present different results based on the type of carrier and whether service is provided to an airport—factors that cannot be considered in the trip rate model. In addition, as a statistical equation, a Confidence Interval can be calculated and presented to help put bounds on the range of potential ridership estimates.

The trip rate model is driven only by the population of the stops that are served, so there is an estimated demand for each stop. This can be modified, if the user has additional information that could affect the potential demand arising at that location. Perhaps there is a large university in one stop, not reflected in the population count, or a stop may also be served by other intercity bus routes, potentially dividing the market for intercity bus trips from that location. For that reason, the Output page provides for a link to a page allowing for manual adjustments to the trip rate model estimate. Potential adjustment techniques are presented in the next step.

Step 5: Adjustments to the Trip Rate Model

While the user can accept the results of the two models at this point, there are some circumstances in which it may be advisable to take advantage of the flexibility of the trip rate model to incorporate additional information to improve the accuracy of the estimates.

There are two situations in which further adjustment is most advisable: (1) if there are locations on the route (other than the destination city) that have other intercity bus service and (2) if there is competing service on the same route as that proposed. In addition, the analyst may wish to modify the trip rate estimates for a particular stop based on additional information about institutions that could generate intercity bus ridership, such as a university or a military base.

Additional information on possible adjustments can be found by clicking on the "Adjustment Worksheet" button on the Output page.

User Inputs

Locations Served

The user selects the locations that the proposed route will serve from the drop-down list. The user can scroll through the drop-down list to select the city or begin typing the name of the city in the box and it will auto-fill. Some city names appear in more than one state, so the user should make sure that the selected city is in the desired state. For example, there is an Aberdeen in Maryland, Mississippi, South Dakota, and Washington.

Table 6-1. Accuracy of regression and trip rate models.

	Regression Model	Trip Rate Model with Adjustment
Within 50% of actual ridership	59.6%	54.4%
Within 10% of actual ridership	17.5%	15.8%
Within 5% of actual ridership	5.3%	5.3%

The cities listed are those that are recognized by the 2000 Census. If the user does not find a city or town in the drop-down list, it is either:

- Not recognized in the 2000 Census or
- Part of an urban cluster or urbanized area that has a different name.

If the city or town is part of another urban cluster or urbanized area, then select the urban cluster or urbanized area that includes it. In Figure 6-1, Town Z overlaps Urbanized Area A. Therefore, Town Z will not be listed in the drop-down list and Urbanized Area A should be selected as the location.

Population

The population will automatically be generated for each of the places selected in the Locations Served column. The population figures are from the 2000 Census.

Route Length

The route length is the one-way length of the route (in miles). The user will need to calculate this beforehand and enter it into the input sheet.

Definition of Intercity Bus (ICB) Service

For the purposes of this toolkit, intercity bus service is considered to be rural intercity routes provided in the traditional intercity model, generally with low frequencies (one daily round-trip or less), comparable distance-based fares ($0.10 to $0.17 per passenger-mile), interline ticketing (through the National Bus Traffic Association), information about connections through national bus information systems (*Russell's Guide,* Greyhound telephone/on-line information, etc.), and generally operated by private for-profit firms.

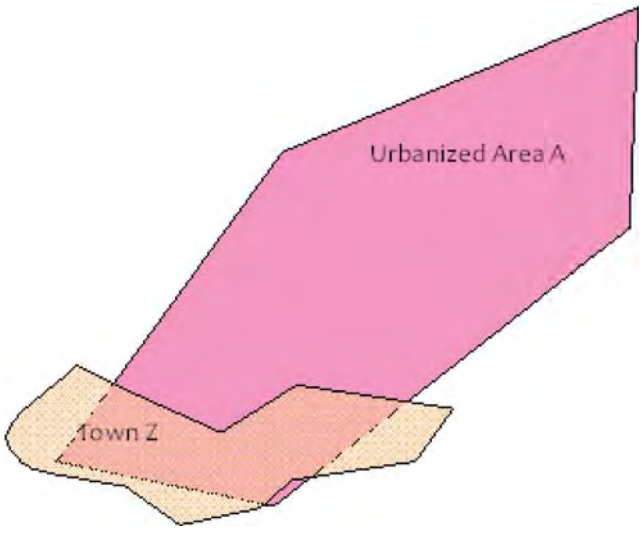


Figure 6-1. Hypothetical example of overlapping Census areas.

Generally, if the toolkit user anticipates that the likely operator could be Greyhound, a member of the Trailways National Bus System, or a regional provider of regular-route intercity bus services such as Indian Trails, Jefferson Lines, Black Hills Stage Lines/Arrow, Southeastern Stages, Coach USA, Coach America, etc. then "ICB" should be checked on the input page of the toolkit.

The ICB designation affects only the results of the "Regression" model. If "ICB" is checked, the predicted ridership will be higher, likely reflecting the impact of the additional connections possible through this network and the information availability for inbound passengers from outside the region.

The following types of service are not considered intercity bus service (in terms of the data used to construct the toolkit):

- Local rural transit routes connecting to other rural intercity routes that do connect to the national intercity network are not considered intercity in themselves as they do not connect directly to the national intercity bus network. With multiple transfers to reach the national network, it is unlikely that many of the passengers on these connecting local services are making intercity trips, even if such linkages are technically possible.
- Intercity routes that do not serve rural intermediate points but have a majority of the stops located in the urbanized areas of the origin and destination endpoints do not necessarily establish rural intercity service because the service is not accessible to residents of the non-urbanized area. They are not included in the definition of rural intercity services.
- Commuter services, defined as peak-hour, peak-direction weekday services, are not considered rural intercity services.

Airport

The user should select the "Airport" box if the proposed service will be serving one or more airports with scheduled commercial air service. The proposed route can offer direct service to the airport terminal or it can offer a rider the opportunity to reach the airport with a single transfer. If the proposed route would serve a terminal that has scheduled service to the airport such that a passenger on the proposed intercity service could reach the airport with a single transfer, the user may select this box even if the proposed intercity bus service does not directly serve the airport.

The user should select "Airport Service" in situations similar to these:

- Proposed Service: City A to F, via B, C, D, and E—The proposed intercity bus service terminates in City F at the intermodal terminal or major transfer point that is the hub of the local transit system. A local transit route originates at the intermodal terminal and terminates at the City F Regional Airport.
- Proposed Service: City W to City Z, via X and Y—The proposed intercity bus service between these points stops at the Greyhound station in City Z and continues on to a final scheduled stop at the City Z International Airport.

The user should not select "Airport Service" if the situation is similar to these:

- Proposed Service: Green Valley to Capital City—Green Valley has no airport, and in Capital City the route would end at the intercity bus station. The station is served by a local bus route, Route A. Route A crosses Route E near downtown, allowing a transfer. Route E services the Capital City Airport. An intercity bus passenger trying to reach the airport would have to transfer twice—once from the intercity bus to Route A and a second time from Route A to Route E.
- Proposed Service: Green Valley to Springfield—Green Valley has no airport, and in Springfield the intercity bus station is not on a fixed-route, fixed-schedule transit route. An intercity bus passenger trying to reach the Springfield International Airport would have to take a taxi from the intercity bus station. There is no transit connection to the airport.
- Proposed Service: Green Valley to Stone Mountain—Green Valley has no airport, and the airport in Stone Mountain does not have commercial air service, but only air taxi, charter, or executive aircraft.

In developing and testing rural intercity bus alternatives, the planner can try running the model with the same inputs selecting "Airport Service" one time, and then not selecting it the next, to get a sense of the potential additional ridership that would result. If the additional ridership is significant, it may warrant designing the service to provide that connection, either on the proposed route or by making sure that a convenient local connection is available.

Correctional Facility

The user should check the "Correctional Facility" box if the proposed route serves a town or city with a state or federal correctional facility. Correctional facilities generate intercity bus demand from relatives of inmates who may take the bus for visitation and from release of inmates. In the case of state or federal facilities, both types of trips may involve intercity travel, as inmate populations are not local. Do not check the box if the route serves only local municipal or county jails, as the resulting travel demand is likely to be local in nature.

Information on federal prison types, populations, and locations is available from the Federal Bureau of Prisons website (www.bop.gov). That website provides information on the characteristics of the different prison types—in general the minimum security institutions known as Federal Correctional Institutions (FCIs) have small populations and would not warrant checking the box to indicate that the proposed route provides service to correctional facilities. State correctional facility location, type, and population data for most states is available from individual state websites.

In planning rural intercity bus routes, the presence of a state or federal correctional facility may warrant a stop in that town or affect the choice of routing to provide service to that location.

Adjustments to the Trip Rate Model

While the user can accept the results of the two models at this point, there are some circumstances in which it may be advisable to take advantage of the flexibility of the trip rate model to incorporate additional information to improve the accuracy of the estimates.

There are two situations in which further adjustment is most advisable: one, if there are locations on the route (other than the destination city) that have other intercity bus service, and two, if there is competing service on the same route as that proposed.

In addition, the analyst may wish to modify the trip rate estimates for a particular stop based on additional information about institutions that could generate intercity bus ridership, such as a university or a military base.

Additional Intercity Bus Service Adjustment

The initial step in the process called for an assessment of existing intercity bus services at the locations to be served on the proposed route. Based on that inventory, the analyst should be aware of locations that have additional intercity bus routes. If a location has additional intercity bus services, the estimated demand for that location should be allocated between the proposed route and the other existing services. If there is no available data on the ridership of the existing routes at that point, an allocation can be made by:

- Determining the number of daily departures on all existing routes from available timetables,
- Adding the number of daily departures on the proposed route to create a total number of daily departures from that location,

- Dividing the number of daily departures on the proposed service by the total to get the percentage of the total intercity bus departures that would be on the proposed service, and then
- Multiplying the trip rate model's predicted ridership for that stop by the percentage of the total departures represented by the proposed service, and inserting that number into the appropriate blank on the "Adjustments" page.

If there is existing service on the proposed route that would directly compete, the best adjustment would be to subtract the ridership on that service from the estimated demand. However, if ridership data for the existing service is not available, the technique presented above can be applied at each of the origin stops to allocate the predicted ridership at that stop between the two services based on the relative frequency.

Adjustments for Additional Generators of Intercity Bus Ridership

If a proposed stop has a potential generator of intercity bus trips such as a college or university, military base, correctional facility, or other population that either is not reflected in the Census population estimates or is likely to have a higher propensity to use the bus (because of lower auto ownership, lower incomes, parking restrictions, higher frequency of trips, etc.), the analyst can use the "Adjustments" page to manually add trips estimated through other means. This process would be part of the overall planning effort for a rural intercity route—the toolkit "Adjustments" page simply provides a place for such additional data to be entered into the overall demand estimates.

Possible ways of developing such ridership adjustments vary with the type of potential ridership generator:

- **University or College:** Data on the overall undergraduate student enrollment can be obtained from the College Board website (collegesearch.collegeboard.com/search/adv_typeofschool.jsp). If possible, determine what percentage of the undergraduate student body lives on campus, as commuters from the immediate vicinity are not likely to need intercity bus service to visit home. Multiply the undergraduate population living on campus times an assumed number of annual long-distance trips (one round-trip for fall break, one round-trip for Thanksgiving, one round-trip for winter break, one round-trip for spring break—assuming that moving in for fall term and moving out at the end of spring will not be by bus). Many students have cars, so not all these trips will be by bus. Unless there are known campus policies that prevent undergraduates living on campus from having personal vehicles, multiply the estimated total trips by a conservative bus mode share of 2 percent to get an estimate of the potential additional ridership at that stop, which can be added to the model estimate and inserted on the "Adjustments" page.
- **Military Base:** The National Park Service provides a map of military bases in the contiguous United States (www.nps.gov/nagpra/documents/basesmilitarymap.htm), which is accompanied by an index. This map can be used to identify military bases in a particular state. Once identified, additional information on the location, and often the number of persons stationed at that location, is generally available from the base's own website. A planner seeking to add military base populations to the demand estimate would likely need to obtain additional information about the particular transportation needs at a base, generally by contacting staff at the base.
- **Correctional Facilities:** Correctional facilities generate intercity bus trips from visitors and from released inmates. In planning rural intercity bus routes, the presence of a state or federal correctional facility may warrant a stop in that town or affect the choice of routing to provide service to that location. Information on federal prison types, populations, and locations is available from the Federal Bureau of Prisons website (www.bop.gov). That website provides information on the characteristics of the different prison types—in general the minimum security institutions known as Federal Correctional Institutions (FCIs) have small populations and would not warrant further efforts to estimate demand. State correctional facility location, type, and population data for most states is available from individual state websites. Again, the planning process may warrant efforts to contact staff at the correctional facility to determine the numbers and timing of inmate releases, and any information that may be available regarding the need for intercity bus services for visitor needs. In some cases correctional facilities operate their own van services for these purposes and may have data that can be used to improve the overall demand estimate.

Example of Model Application with Adjustments—Baltimore, Maryland, to Morgantown, West Virginia

A planner working for the Maryland Transit Administration has performed a statewide assessment of existing intercity bus needs and noted there is no longer any intercity bus service in the state west of Hagerstown, Maryland. For planning purposes an estimate of potential ridership is needed. The planner uses an old Greyhound schedule to identify places that were formerly served and also reviews some demographic data from the statewide assessment to identify a set of potential stops. The planner uses the toolkit to estimate potential ridership:

1. To make sure that this toolkit is appropriate, some potential service parameters are checked:
   - Proposed route length: 210 miles, one-way
   - Proposed daily frequency: one round-trip, 365 days per year
   - Proposed fare level: assume standard NBTA fare levels, approximately $0.13 per mile
   - Proposed operator: an intercity bus carrier member of the NBTA
   - Proposed connectivity with the national intercity bus network: service into the Baltimore Greyhound station, the Frederick MARC/Greyhound station, the Hagerstown Greyhound station, and the Morgantown Mountain Transit transfer point

   All of these elements are comparable to the routes used to develop the toolkit, as indicated by the information on the links shown on the CD.
2. The trip rate and regression models are both utilized. Figure 6-2 presents the data input screen with the selected stops. The planner does not have to look up any data at this point; all of the population data is included on the CD.
3. Figure 6-3 presents the initial output screen with results for the regression model and the trip rate model. Both models use population data, but the regression model is a corridor-level model, and it also reflects the type of provider and whether an airport is served. In this case the planner assumed an intercity bus provider, but no airport connection.
4. Also in Figure 6-3, there is a box that presents ridership for the four routes in the database that are closest to the proposed route in terms of basic characteristics. As can be seen, the two model estimates are comparable.
5. Adjustments:
   a. Other Intercity Bus Service: Some of the stops shown have other intercity bus service, so it is likely that not all of the intercity bus ridership generated at those points will be using just this route. The model processing eliminates the Baltimore population from the calculation. To make additional adjustments to reflect this alternative

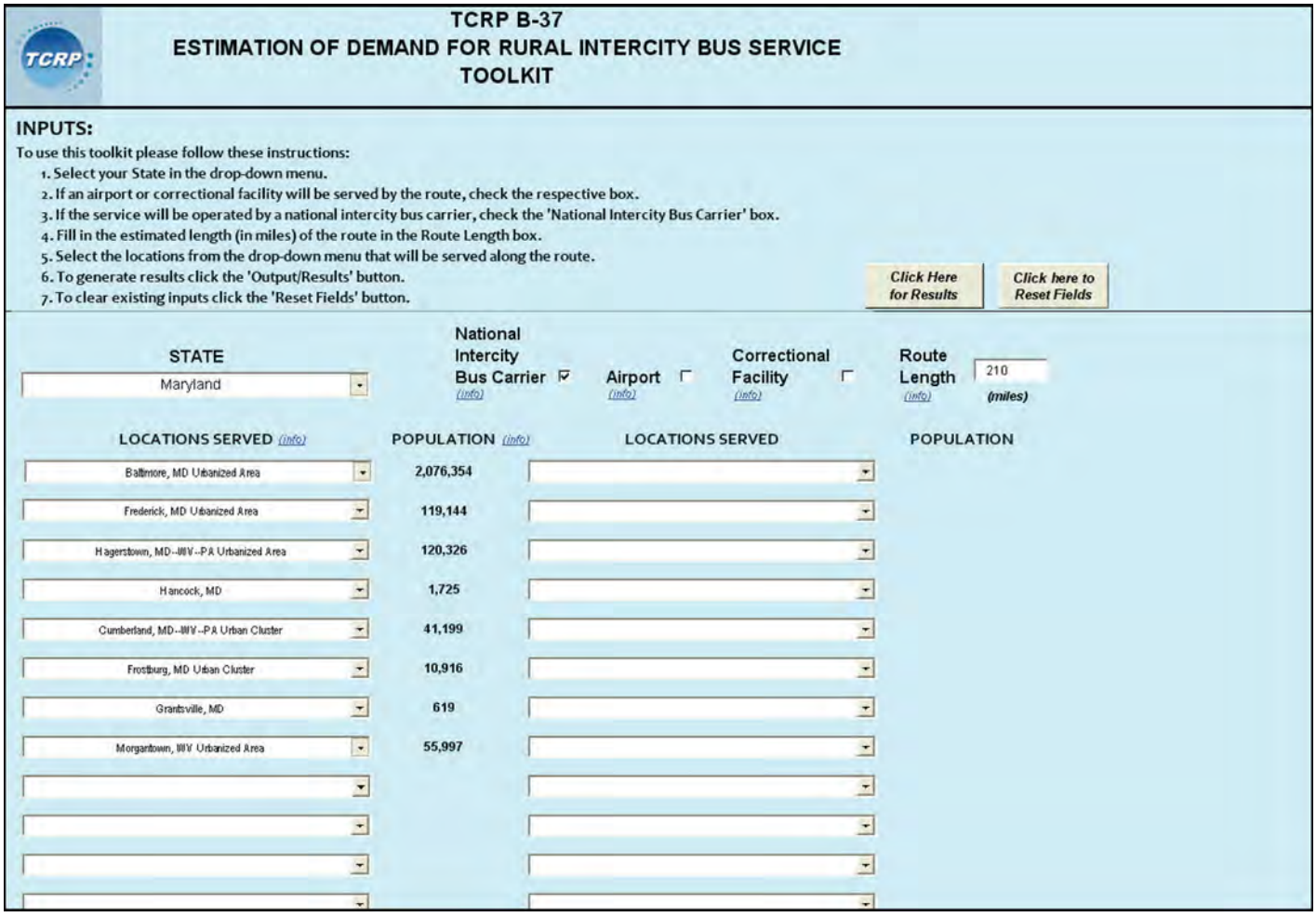


Figure 6-2. Data input screen with selected stops.

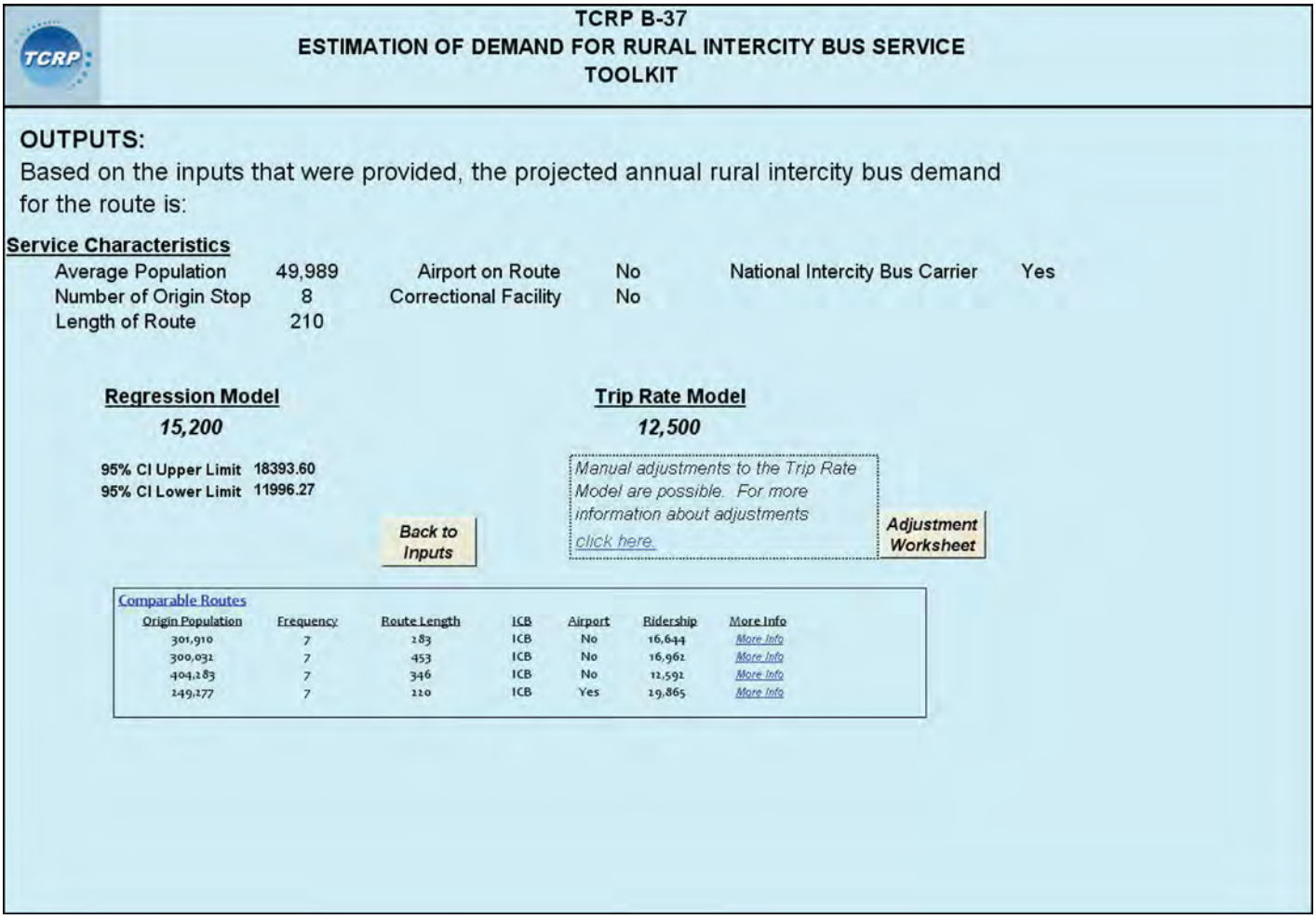


Figure 6-3. Initial output screen with results for the regression model and the trip rate model.

service, the planner goes to the Greyhound link and finds that Hagerstown has three existing intercity bus schedules per day each way, and the proposed route would add a fourth. So the proposed route might capture 25% of the estimated Hagerstown demand. This demand is shown in the Adjustment Worksheet (Figure 6-4), which shows ridership by stop for the trip rate model (the regression model cannot be adjusted in this manner). The same situation is true for Frederick, so a similar adjustment is made to the estimated ridership for that stop. A new sum total estimated ridership is provided in the Adjustment Worksheet table.

b. Destinations: In this case one key destination being served is Frostburg State University in Frostburg. This is one of Maryland's larger public universities, with a significant residential population. According to the College Board website, the student population at Frostburg is 4,755. The Census population of 10,916 should include the student population, but it is likely that the usage would be higher than that of a town of similar population without the university. To adjust upward for the University, one might apply different rates to the student population and the town population. Subtracting the 4,755 students from the overall population leaves 6,161, times the trip rate of .055 equals 339 annual trips. Applying the adjustment factors to the 4,755 students, if 2 percent of each student takes eight intercity bus trips per year (as suggested in the section of the toolkit on Adjustments), this results in an estimate of 761 student bus trips. Added to the 339 town-based trips, the estimated total becomes 1,100, rather than the original 390. This amount is entered in the Adjustment Worksheet as well.

c. Combined Adjustments—Other Service and a Key Destination: Morgantown is the home of West Virginia University with 21,720 students (according to the College Board website), and it also has Section 5311(f) intercity bus service linking it with Clarksburg and Pittsburgh, Pennsylvania. Mountain Line Transit Authority operates

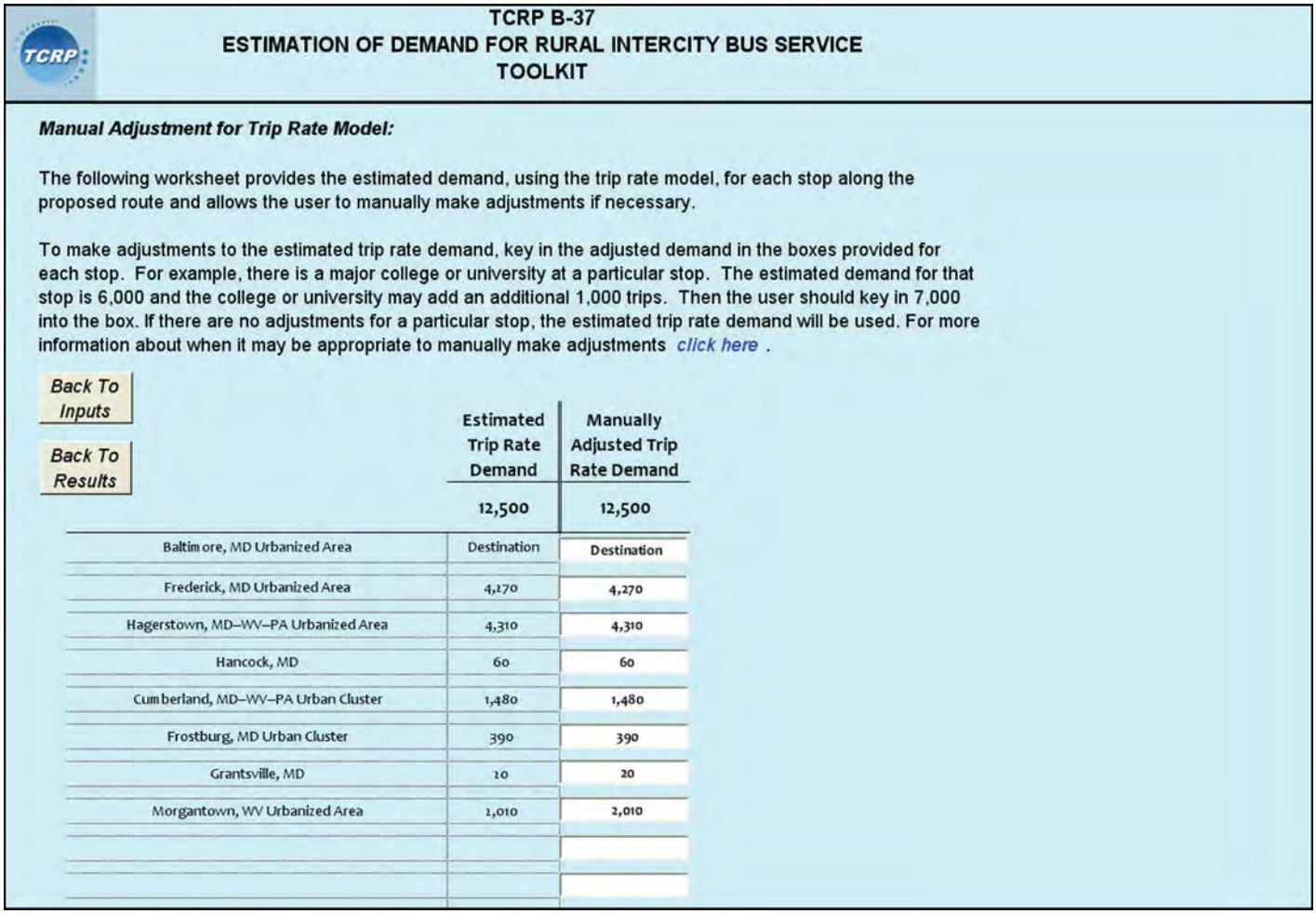


Figure 6-4. Adjustment Worksheet.

two round-trips per day, so a third intercity connection might potentially receive a third of the trips generated by the overall population. Applying the same student body adjustment as for Frostburg State, the estimated West Virginia University ridership would be 3,475 (2 percent times eight trips per year), added to estimated town ridership of 1,885, for a total of 5,360 annual trips instead of the 2,010 estimated on population alone. Then, applying the adjustment for the additional intercity bus service, the proposed route would receive a third of the estimated total trips, or 1,786 trips. This amount is entered manually on the Adjustment Worksheet.

d. Figure 6-5 presents the estimated adjusted ridership for the route, which is 6,600 annual trips.

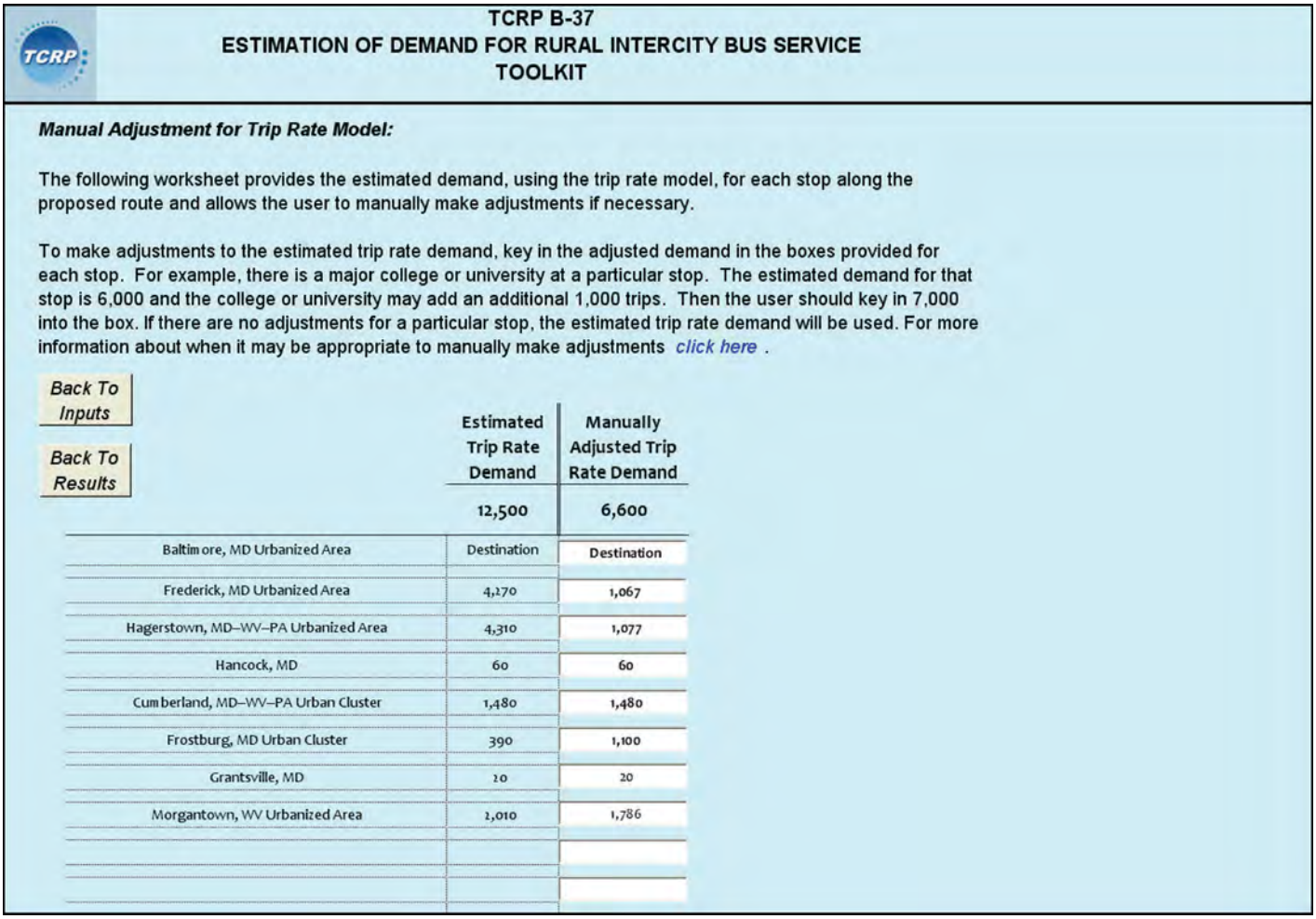
Comparables/Route Descriptions

The data table used for the lookup of comparable routes and the descriptive information for each route are on the CD.

Other Issues That Were Addressed in the Final Version of the Toolkit

The final version of the toolkit included some additional user information identified by the project team:

- It is clearly stated that this set of tools provides an "initial planning estimate" of potential demand and that a full demand analysis requires the adjustment process described in the toolkit and likely some additional expertise or local knowledge on the part of the user.
- A warning states clearly that neither technique includes or addresses ridership that might arise from the location of a route in a broader network. The actual ridership on an intercity bus route includes both the riders generated at the stops served by the route, and the additional riders that are fed onto that route from other locations on the network. If a route connects other routes so as to reduce travel time or make a connection that did not previously exist, it may



TCRP B-37
ESTIMATION OF DEMAND FOR RURAL INTERCITY BUS SERVICE
TOOLKIT

Manual Adjustment for Trip Rate Model:

The following worksheet provides the estimated demand, using the trip rate model, for each stop along the proposed route and allows the user to manually make adjustments if necessary.

To make adjustments to the estimated trip rate demand, key in the adjusted demand in the boxes provided for each stop. For example, there is a major college or university at a particular stop. The estimated demand for that stop is 6,000 and the college or university may add an additional 1,000 trips. Then the user should key in 7,000 into the box. If there are no adjustments for a particular stop, the estimated trip rate demand will be used. For more information about when it may be appropriate to manually make adjustments *click here* .

Back To Inputs

Back To Results

	Estimated Trip Rate Demand	Manually Adjusted Trip Rate Demand
	12,500	6,600
Baltimore, MD Urbanized Area	Destination	Destination
Frederick, MD Urbanized Area	4,270	1,067
Hagerstown, MD–WV–PA Urbanized Area	4,310	1,077
Hancock, MD	60	60
Cumberland, MD–WV–PA Urban Cluster	1,480	1,480
Frostburg, MD Urban Cluster	390	1,100
Grantsville, MD	20	20
Morgantown, WV Urbanized Area	2,010	1,786

Figure 6-5. Estimated adjusted ridership.

generate ridership that has nothing to do with the population along the route. The ridership on these "bridge" routes will be a function of the connections at either end and could only be estimated with a general national intercity bus network model or by obtaining data from the operators at either end regarding the likely feed traffic coming from their connecting services. A route with little or no population will have a very low predicted ridership in the toolkit, but if it plays a particular role in the network it might well have much higher ridership than predicted.

- Some discussion is included regarding the two different models, their differing results, and which factors a user might consider in selecting one over the other. The regression model incorporates population, but also includes the type of carrier and airport connections as factors. The trip rate model is entirely population based and really must be used as the base for making the kinds of adjustments suggested in the toolkit, as these are done on a stop-by-stop basis.
- A technique or warning has been included regarding routes that link two large population centers. The model application in the toolkit defines the largest population city on the route as the "Destination" and does not include that population in the estimation of demand, as those places typically have a lot of additional intercity bus service. However, if there are two large population centers, the lower population center would still be included and the demand could be overstated considerably.

CHAPTER 7

Conclusions

Conclusions

The purpose of the project was to develop a tool or tools to allow planners, operators, and analysts to estimate the potential demand for rural intercity bus services, and that has been accomplished. However, as in all research efforts, there are limitations to the results and potential opportunities for additional research. This chapter presents a discussion of what has been accomplished, its limitations, and directions for further research.

In terms of accomplishments, the initial step in the development of these tools involved a literature review and analysis of previous demand estimation techniques. Additional key steps involved collecting data on the ridership on existing rural intercity bus routes and then classifying (or qualifying) these routes in a way that would assist in the development of the toolkit. Finally, the data was used to develop two main techniques for estimating demand, and these were packaged into a user-friendly CD that includes all needed data, examples, comparable route data, and adjustment techniques.

Accomplishments

The data collection and classification steps consumed a disproportionate amount of the overall project. In the end the study team collected ridership data on essentially all of the Section 5311(f)–funded rural intercity routes that had been operated for a year during a period of the last three fiscal years. This process was fairly arduous, because each of the states had to be contacted to determine if they had provided operating grants, if they had ridership data, or if they would provide contacts for the operators to collect the data. As this period was prior to the full implementation of the rural elements of the NTD, many of the states had only limited ridership information. In addition, for the ridership to be useable to calibrate any type of demand model, the other characteristics of the service needed to be included, such as fare levels, frequencies, route length, connectivity with other modes, etc. Obtaining this information involved Internet research and often contact with the operators. In addition, extensive work was required to determine the populations served by the routes and whether the routes provided access to potential key traffic generators such as universities, correctional facilities, major medical centers, and commercial airports.

The classification effort also proved to be more problematic than originally anticipated. The interim report to the study advisory panel proposed three categories, basically dividing the list of services according to the type of operator (because this involved key differences in service characteristics). Panel comments led to a major review of the services (including collecting additional data) to focus on routes that could more clearly be defined as intercity in nature, rather than services with long routes that were more clearly regional transit service or commuter services. The final classification involved looking at service characteristics and connectivity with the national intercity bus network. This classification step in effect became a qualification step, qualifying a route for inclusion in the calibration data set. In the end, the original data set of 139 routes was reduced to 58 when non-intercity routes were removed—either based on this more restricted definition or removed as an outlier.

Using the revised data set, efforts turned to developing the toolkit. After some difficulties trying to estimate a regression model, the study team succeeded in developing two approaches to estimate demand. One is a regression model, calibrated using the 58-route data set, and the other uses rural intercity long-distance trip rates from the NHTS, which are then adjusted using a factor estimated from the 58-route data set.

Both of these techniques are more accurate for current rural intercity bus services than the demand models estimated for NCHRP in 1980. They represent a pragmatic approach that makes use of available data to produce initial estimates of potential ridership for new rural services. The regression

model has the correct signs (e.g., ridership increases with a higher population base, etc.) and is plausible given general knowledge about travel behavior. It reflects higher ridership for intermodal connectivity to airports and for interlining. It utilizes population data as a key variable, but the impact of population is moderated by using the number of stops to calculate an average population per stop. This is plausible in that ridership is expected to be lower if the bus stops a lot to serve that population, which seems to reflect market preference for fewer stops.

The use of the NHTS trip rate data also involves making maximum use of the available data. It provides ridership estimates based entirely on population served, but it is calibrated in a sense through the selection of the mode choice factor to provide ridership estimates that most closely match the usage found in the data set. Regional variation is introduced through the use of regional trip rates. Finally, the 58-route data set was used to develop an adjustment factor that can be applied to the trip rate model results to further improve its results. The result is that the trip rate model and the regression model have comparable accuracy in terms of the percentage of time they will predict a ridership figure that is within a given percentage of the actual. However, they may not give the same answer.

Finally, one goal of the toolkit was that it be easy to use. Given the degree to which both models depend on population data, it was determined that populations calculated with GIS would require users to have additional software and technical skills that would take the toolkit out of the "easy to use" category. Initially the study team thought that GIS-developed population data for a 10- or 15-mile radius travel shed would improve the accuracy of the modeling effort. The difficulty of creating this data then led the study team to attempt calibration of the models using only municipal population of stops—but this was problematic because many stops serve multiple jurisdictions. Finally improved results came from using populations for urbanized areas (over 50,000 persons), urban clusters (2,500 to 50,000 persons), and Census-designated places (under 2,500 persons). These provide populations that are not necessarily limited to municipal boundaries. However, because providing easy access to the populations in these three categories through hypertext links to Census websites would not be especially easy, the decision was made to include all this data on the same CD as the models. Thus the user could designate the stops on a potential route and at the same time obtain the populations and apply them in the models.

With the data and the models on the CD, it seemed logical to include the instructions, qualifications, adjustments, examples, and peer data all on the same disc and set the toolkit up so that it would provide links to this additional information at the appropriate places.

Limitations

The resulting models and the toolkit have some limitations.

Regression Model

Robustness. One limitation is that the regression model is not as robust as one might like. The adjusted R^2 is 71, and a higher number would be better. The prediction and confidence intervals for a given estimate are fairly wide, implying that a given estimate could be much higher or lower than the estimated figure. Finally, the regression model has a negative intercept, which is more of a theoretical issue than a practical one, as it implies that if a route served no population at all, had no stops, did not interline, and did not serve any airports, the ridership would be negative. In fact it would be zero, and so the toolkit version does not allow a negative ridership.

Adjustments Related to Populations. A second limitation, one that has been addressed to some extent in the toolkit, is the difficulty in making manual adjustments to the model estimates. Many sketch-planning techniques or modeling efforts call for such adjustments—they are sometimes called the "post-processing" step in the modeling process. However, as the example in the toolkit reveals, they require the analyst to do some additional research and computations, and it is not possible to put all the required data or formulas into the basic toolkit.

Typically this post-processing step involves collecting data on the other intercity services at the points on the route and data on the institutional populations of colleges or universities, military bases, etc. The ratio of these populations to potential bus usage may vary significantly, and there is no published intercity bus trip generation rate that would link such specialized populations to trips. The toolkit includes some plausible rules of thumb that could be applied to university populations and some directions about contacting other institutions directly, but fundamentally the adjustments are going to require additional research and artful application of professional judgment.

Judgment Related to Airports. Similarly, professional judgment may be required in deciding whether a proposed route actually serves a commercial airport at a level or in a way that would result in the predicted ridership increase from the regression model. A proposed intercity bus route that serves a multimodal transit center with a taxi stand that allows a trip to the airport does in theory provide connectivity but is not at the same level or cost as an across-the-platform transfer from the intercity bus to a heavy rail line serving the airport.

In addition, the level of service at the airport may make a significant difference. A small city airport with three or four

commuter flights per day is not going to generate the connecting rural intercity ridership that might be generated by serving a major hub airport. Most of the examples in the database that involve airport service are related to a major hub level of service, because there is not much of a market for rural intercity service to airports with limited service.

One useful approach with the toolkit is to run the model with airport service and then without, keeping all other variables the same. The difference between the two runs reflects the incremental ridership of an airport connection. Assuming an average ticket price allows the user to estimate the revenue associated with that ridership. If it is not sufficient to pay the additional costs (bus-hours or access fees) required to operate the airport service, it may affect the chosen service design.

Judgment Related to Type of Carrier. Judgment may also be required in deciding whether a service is to be operated by an intercity bus carrier (ICB in the toolkit). One of the results of the classification exercise is an appreciation for the difficulty in defining "intercity" bus service—we know it when we see it, but setting exact guidance for classification can be difficult. The analyst using the model may decide to define the proposed route so as to provide a meaningful connection to the national intercity bus network in terms of schedule or a common terminal, with commonly available information about the connection.

Whether this connection is sufficient to generate the additional ridership that the model estimates for ICB operators in the absence of a formal interline agreement through the NBTA will require the application of judgment as well. A formal interline agreement between the rural intercity operator and an NBTA member may not make business sense for other reasons, but the rural route might function as a connecting service if these other service parameters (common station, schedule coordination, and information) are met at a high level.

Other Limitations. Finally, the two most significant deficiencies of the model follow:

- It is not sensitive to changes in fares or frequency.
- It does not reflect ridership that might arise from places beyond those served by the route as a result of filling a gap in the network.

The reason that variables for frequency and fare per mile were not significant enough to include in the regression model is likely because there is not a lot of variation in either variable among rural intercity routes. Typical fares are similar for most intercity bus routes, and the typical frequency is one round-trip per day (or less than daily). Routes or services originally in the database with either a low fare per mile (often a long route with a flat fare) or high frequencies generally had high ridership as well; these routes were either eliminated as not being intercity or as outliers in terms of demand.

Because the model is largely driven by population, it may project a very low demand for a route that does not provide service to many persons but provides a key link in the network that would have significant overhead or through traffic. Only a network model of a region or a nation could include this factor. This factor is included as a possible adjustment to the demand estimate, requiring either a call to the connecting carriers to obtain data on how much traffic they might be feeding onto the route or other subjective estimates.

Trip Rate Model

Similarly, the trip rate model has some limitations. Like the regression model, it is driven by population, and so it will not predict ridership that comes from other places on the network. The trip rate model has no sensitivity to trip length, the number of stops, fares, frequency, or time of day. Ridership is strictly a function of population, without any other factors included (except region of the country).

In addition, newer trip rate data may be available within a year or two. The population data used is from the 2000 Census and the NHTS is currently being updated; therefore, the model could probably use a recalibration when the more detailed American Community Survey Census data is available for smaller places and the trip rates from the 2009 NHTS are available. Rural populations tend not to change dramatically, but it is possible that such changes would affect long-distance travel.

Finally, one other limitation is that the mode-split information from the NHTS and previous surveys is not terribly explicit. For example, trips are not specified as being by airport limousine or intercity bus—scheduled or charter. The study team dealt with this issue by calibrating ridership predictions against sample routes, but the technique would be more useful with more explicit mode-of-travel data.

Ideas for Future Research

Additional Data

One general direction for future research that is often put forward is a call for additional data to provide for better models by having more cases. In this case it is possible that in a few years improved ridership data for Section 5311(f) operating projects will be available from the Rural NTD. Even if the data in the NTD is limited to operator and ridership, the existence of the requirement will mean that the states have to collect more information from their subgrantees, which

should result in better quality data. However, for the period of the past several years, this project has probably gathered ridership and service information for routes that have had enough operating time to provide annual data. Additional data on unsubsidized rural routes could likely be obtained, but a review of Greyhound routes (searching for "rural" routes) suggests that many routes with non-urbanized stops either receive Section 5311(f) funding already or serve mostly stops with over 50,000 persons in the urbanized area. Also, many of these routes are alternative schedules between endpoints served by express services, complicating the designation of them as rural. Other carriers operate unsubsidized routes in rural areas, but it is likely that this will decline over time

Stop-Level Models

A type of model that the study team had anticipated being able to include in the toolkit is a stop model—potentially a regression or a set of factors that would enable a prediction of the intercity bus ridership that might be generated in a particular town as a result of its population, demographic characteristics, and the presence of key generators. Resources limited this element. The study team obtained stop-by-stop ridership from the Michigan Department of Transportation for its subsidized routes, and Jefferson Lines provided schedule-by-schedule ridership for each stop. Reassembling the Jefferson Lines data to provide totals for all ridership at a particular stop was time consuming, as the study team learned by developing this information for Minnesota. Even more time consuming is developing the demographic information for each stop, and then including the key potential generators and their characteristics.

Given the existence of ridership data for only two states (without a significant additional investment in obtaining and expanding the data), development of a stop-level model was not pursued in this project, but it could be the basis for further research. Perhaps such an effort could be combined with additional efforts on overall rural public transit demand, which would use much of the same demographic information.

Fare and Frequency Impacts

The rural intercity demand models developed for this effort do not reflect the impacts of differences in fares or frequencies. In this sample of rural routes, there was not a great deal of variance, so further analysis would require working with carriers to identify factors they look at when adding frequency. Is it driven by loadings—does a carrier add a trip when one scheduled trip gets full? Or will frequency drive increased ridership? New entrant carriers seem to start with a low "policy" frequency—one round-trip per day, or one morning and one afternoon/evening schedule. Additional research to address these issues would require ridership data for routes with greater variation in both fares and frequencies—data would be required on ridership in corridors connecting urbanized areas and perhaps on ridership for different carriers who may have different fare levels. These impacts may be more of an issue for the carriers that are trying to remain competitive in the deregulated industry than for public sector planners developing rural feeders, as they are likely to be providing minimal frequencies.

Terminals and Parking

There is some apparent evidence from the acceptance of new "curbside" services that riders do not value bus terminal facilities or may in fact avoid them. These new services also are designed to have pickup locations close to major transit hubs and parking. Additional research on the ridership impacts of proximity to other modes, on presence or absence of terminal facilities, and on parking may be warranted as transit systems decide on intermodal terminal designs, park-and-ride facilities, and access policies. This type of research might well involve rider surveys rather than models of traveler behavior calibrated on ridership statistics.

Intercity Service Planning and Procedures

The effort in this project to provide enough background for an analyst to use the demand toolkit and to describe the use of the results suggests that there is a need for a more comprehensive overview of an intercity planning process. This overview could include needs identification/gap analysis, consultation activities, service design (many factors need to be considered in addition to potential demand—connectivity, airports, road/terrain, hours of service, accessibility, etc.), estimating revenue, and building budgets—not just demand estimation. Section 5311(f) program requirements, policies, and procedures could also usefully be included in such a guide.

National Network Model

Although a network model was beyond the resources or goals of this project, the inability of these route-level model techniques to account for ridership arising from places beyond the route in question (except for the impact of operation by an intercity bus carrier) suggests that there is a need for a network demand model. Such a model would need to be built at least on a regional level but ideally would be a national model and, again, ideally would include intercity passenger rail service and potentially long-distance providers of airport ground transportation. Such a model could be used to develop ridership estimates for particular links, including those serving rural areas.

However its major use would be as a tool for examining policies and investments that are sure to come if current efforts to build high-speed intercity passenger rail are successful. These corridors are likely to be on routes that are currently served by unsubsidized intercity bus carriers, and it is likely that these firms will either have to change their service patterns in some way to complement the rail services or drop the services. In addition, there are many locations that will not support intercity rail service investment, and bus services linking these areas to the rail will need to be developed.

All of these changes should be considered in the development of intercity passenger transportation policy and investment plans, yet there is no tool to consider the network implications for bus or rail. Such a network model would require intercity bus carrier cooperation in providing data to calibrate the model, particularly for trip generation in urbanized areas.

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APPENDIX A

Rural Intercity Provider Survey Form

Sample Interview Request Letter

Dear __:

I am writing to request an appointment by telephone with you or a member of your staff about the Section 5311(f) services operated by the your organization.

The KFH Group is currently conducting Project B-37, Estimation of Demand for Rural Intercity Services, for the Transit Cooperative Research Program (TCRP). The goal of this project is to create a model for estimating demand for rural public transit service that connects with intercity private carriers (such as Greyhound or Amtrak), based on characteristics of the service area, operations, and connectivity with local public transportation. The research for this project includes conducting surveys of rural intercity projects funded under the Section 5311(f) program to get details on the nature of the project, including service characteristics, service area, ticketing and information, ridership (including trends), and forecasting methods used to plan the services. More information is available online at http://www.trb.org/TRBNet/ProjectDisplay.asp?ProjectID=1591.

I understand through the _____ Department of Transportation that the _____service is funded under the Section 5311(f) program, and is the kind of rural intercity route that is the focus of this research. It would be very helpful for our study if we could find out more about this route.

We would like to interview you or the appropriate member of your staff by telephone to gather responses to the attached survey. Could you let me know who to contact to schedule an interview, which will take approximately 30 minutes? I would be happy to call at a time that is convenient for you or the appropriate member of your staff, hopefully within the next couple of weeks.

If you have questions about the survey or would like more information on this study for TCRP, please contact me at (_) ___ or _____@kfhgroup.com. In addition, you are welcome to contact Fred Fravel, Principal Investigator for the project, at 301-951-8660 or ffravel@kfhgroup.com.

Thank you in advance for your assistance. I look forward to hearing from you soon.

Best regards,

Survey Form

Transit Cooperative Research Program (TCRP) Project B-37:
Estimation of Demand for Rural Intercity Services
Provider Survey

Contact information

Organization name: _____

Address: _____

City: _____ State: _____ Zip: _____

Individual's Name: _____

Title: _____

Telephone: _____ Email: _____

---

1. Who operates the S. 5311(f) service?

___ a public transit operator ___ directly operated ___ contracted out
___ a private intercity carrier

If organization other than current interviewee,

Name of operator: _____

Contact information: _____

2. Please provide the following information for each route or service funded under Section 5311(f):

Name of Route	Type of service:			Design of Route or Service			Frequency of Service		
	Fixed-route, fixed-schedule	Demand-responsive	Something in between	Dead-end	connections on both ends		Days of Week	Times of Day	Seasonal variations
					bridge route	parallel route on non-interstate highways			

3. Please indicate the destinations served on each route, as well as any additional comments:

Name of Route	Destinations served (towns if fixed-route; general area if demand-responsive)	Additional Comments

4. Please describe if and how reservations are made:

They are: ___ required
___ available
___ not available

Made by: ___ Internet
___ telephone
___ other (describe:) _____

How far in advance? Earliest: _____
Latest: _____

5. What are the fare levels?

Name of Route	General Public	Seniors (min. age:____)	People with Disabilities	Youth (age range: _____)	Other:	Other:

6. What are the ticketing arrangements?

a. Does the rural intercity service offer interline tickets with intercity carriers?

___ yes, we sell interline tickets connecting to:
Name of carrier: _____
Boarding at this station: _____

___ yes, we accept interline tickets connecting from:
Name of carrier: _____
Boarding at this station: _____

___ no, a separate ticket must be purchased for each carrier

b. How are tickets sold? Please check all that apply

___ over the Internet with credit card
___ by our agency which accepts:
___ cash
___ credit cards
___ other: _____

___ by the driver who accepts:
___ cash
___ credit cards
___ other: _____

c. If your agency sells tickets,

(1.) Where is the ticketing office? _____

(2.) What are the days and hours of ticket sales? _____

7. How is the timetable and other service information made available to the public?

___ local system paper timetables (request copies ___)
___ local provider Web site(s) (URL: _____)
___ local provider telephone (Number: _____)
___ intercity carrier web sites (for interline partners) (URL: _____)
___ telephone information systems (for interline partners) (Number: _____)
___ other transit provider timetables and web sites
(indicate name and/or URL: _____)
___ in Russell's Official National Motorcoach Guide
(indicate route number or other means of finding: _____)
___ on state DOT Web sites (try to get instructions on where to find and bookmark once found)
___ on 511 services
___ through human service agencies
___ through caseworkers
___ trailblazer signs in the community
___ stop location signs
___ other: _____

8. How does your service connect with other intercity modes?

___ schedules are timed to meet intercity routes
___ headed to: _____ (nearest large city)
___ headed from: _____
Does your route/service wait for the arrival of the intercity bus if it is running late? ___ no ___ yes – how long will it wait? _____ minutes

___ our bus stops are in close proximity

Location of intercity bus stop: _____

Location of our drop-off point: _____

Location of our pick-up point if different: _____

How long a walk separates them? _____

Is there a sidewalk? ____ yes ____ no
Is there a shelter? ____ yes ____ no Is there a bench or other seating? ____ yes ____ no
Is the area well lit? ____ yes ____ no Does it feel safe? ____ yes ____ no
What is the surrounding area like? (e.g. industrial, rest stop on a highway, retail, tourist attractions, multimodal transit center, other commercial use)
_____
Is there a restroom available to bus customers? ____ yes ____ no
Is it open at times when passengers might be waiting in between buses? ____ yes ____ no
Is there a place to get a snack or cup of coffee nearby? ____ yes ____ no
Is it open at times when passengers might be waiting in between buses? ____ yes ____ no
Is there parking nearby? ___ no ___ long term/overnight ___ daily ___ short term

9. Does your rural Section 5311(f) service and its connections to your local transit services or the private intercity carrier(s) provide rural connectivity to regional travel destinations?

What is your local transit system service area? Please indicate cities or counties.

_____

_____

_____

What travel destinations are served by your local transit system?

Travel destination	Is there one/are there any within your service area? (Y/N)	If yes,		
		Does your Section 5311(f) service stop near there? (Y/N)	Do any of your other routes or services stop near there? (Y/N)	Does your Section 5311(f) service connect with this other route or service? (Y/N)
Military base				
College/university				
Job corps center				
Regional hospital				
Tourist destination				
Commercial airport				
Passenger rail station				
Major employer				
Major retail				
Other:				
Other:				

What regional travel destinations does your Section 5311(f) provide access to through its connection with the private intercity carrier?

Travel destination	Where is the closet one? (city or town)	Does the intercity bus service that your Section 5311(f) service connects with stop there?	If yes,	
			What time does your Section 5311(f) service connect with the intercity bus service headed toward this city?	What time does your Section 5311(f) service connect with the intercity bus service returning from this city?
Military base				
College/university				
Job corps center				
Regional hospital				
Tourist destination				
Commercial airport				
Passenger rail station				
Major employer				
Major retail				
Other:				
Other:				

Can human service agency clients use your rural Section 5311(f) service to get to and from human service programs?

Does your Section 5311(f) service stop near any human service agencies? (Y/N)

If yes, does it coordinate with human service program times (i.e., can agency customers ride this route to access agency programs)?

_____

Other regional or local connectivity considerations:

_____

_____

_____

10. Please indicate the kinds of vehicles used for the 5311(f) service:

Name of Route	Vehicle Type	Seating capacity	Wheelchair capacity	Type of seating	Baggage storage area (Y/N)	Restrooms (Y/N)	Other amenities

11. Do you collect ridership data on the Section 5311(f) routes/services?

____ yes, actual counts ____ no
____ yes, based on fare revenue/ticket sales

If yes, can you email/fax us data by month or quarter for as many years as available over the life of the project?

If no, can you estimate?

Estimate boardings: _____ per ____ day / ____ week / ____ month

Please indicate any seasonal variations you have observed: _____

When did this route/service begin operating? _____

(if Section 5311(f) funding started later, indicate start date: _____)

How long did it take ridership to grow to current levels? _____

Have there been any significant service changes that happened since this route started up?

____ no
____ yes:

Changes to our local services: _____

Changes to intercity bus carrier services: _____

12. Are you aware of any studies, demand estimates or plans that led to the implementation of the service—in particular demand estimates, their source, model or basis, etc. ?

13. Please indicate how Section 5311(f) funds are used by indicating the amounts spent in each category in FY 2007:

Capital:	
Operating:	
Administration:	
Planning:	
Marketing:	
Other:	
Total FY 2007:	

Additional comments:

Thank you very much for your assistance on this important research project.

Additional information on TCRP Project B-37 is available through the project's Principal Investigator:

Fred Fravel
Vice President
KFH Group, Inc.
4920 Elm St., Suite 350
Bethesda, MD 20814
301-951-8660
ffravel@kfhgroup.com
www.kfhgroup.com

APPENDIX B

Simplified Survey

Hello,

I am writing to request an appointment by telephone with a member of your staff about the Section 5311(f) services operated by Rimrock Trailways.

The KFH Group is currently conducting Project B-37, Estimation of Demand for Rural Intercity Services, for the Transit Cooperative Research Program (TCRP). The goal of this project is to create a model for estimating demand for rural public transit service that connects with intercity private carriers (such as Greyhound or Amtrak), based on characteristics of the service area, operations, and connectivity with local public transportation. The research for this project includes conducting surveys of rural intercity projects funded under the Section 5311(f) program to get details on the nature of the project, including service characteristics, service area, ticketing and information, ridership (including trends), and forecasting methods used to plan the services. More information is available online at http://www.trb.org/TRBNet/ProjectDisplay.asp?ProjectID=1591.

I understand through the Montana Department of Transportation that some of Rimrock Trailways services are funded under the Section 5311(f) program. Routes funded under this program are the focus of this research, and it would be very helpful for our study if we could find out more about this service.

We would like to interview the appropriate member of your staff by telephone to gather responses to the following questions:

1. Where does the 5311(f) route stop (towns and specific stop locations)?
2. Which days of the week does it operate?
3. What is the daily schedule?
4. Are there any seasonal variations?
5. Are advanced reservations required for any of the stops?

6. What are the fare levels?

7. Are fares or schedules interlined with other transportation services (such as Greyhound or a local transit system)?

8. What are the major travel destinations along the route? (Examples include military base, college/university, job corps center, regional hospital, tourist destination, commercial airport, passenger rail station, major employer, major retail)

9. What kinds of vehicles are operated on the route? (Please indicate seating/wheelchair capacity, baggage storage area, bicycle rack, other amenities)

10. Please indicate or estimate ridership data. (for each year funded by 5311(f) if actual counts are available, or estimated boarding by day, week, or month)

11. Have you observed any seasonal variations in ridership?

12. Have there been any significant changes to this route since the 5311(f) funding began?

13. How is the timetable and other service information made available to the public? (website, brochure, advertisements, etc.)

Could you let me know who to contact to schedule an interview, which will take approximately 30 minutes? I would be happy to call at a time that is convenient for your organization.

If you have questions about the interview or would like more information on this study for TCRP, please contact me at (206) 448-6749 or bhamby@kfhgroup.com. In addition, you are welcome to contact Fred Fravel, Principal Investigator for the project, at 301-951-8660 or ffravel@kfhgroup.com.

Thank you in advance for your assistance. I look forward to hearing from you soon.

Best regards,

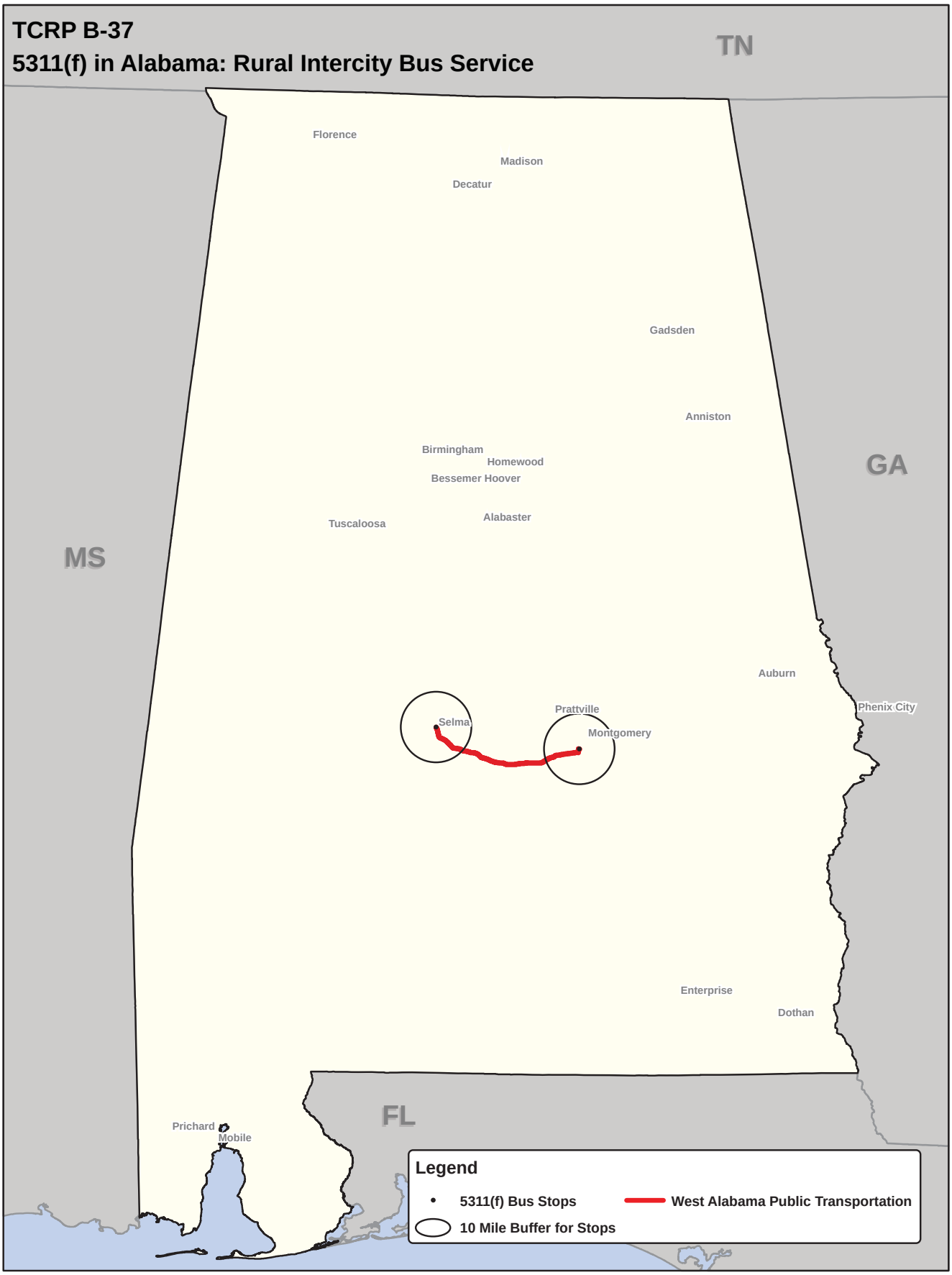
Beth Hamby
Senior Transportation Planner
KFH Group - Seattle office
2019 3rd Ave., Suite 110
Seattle, WA 98121
206-448-6749
www.kfhgroup.com

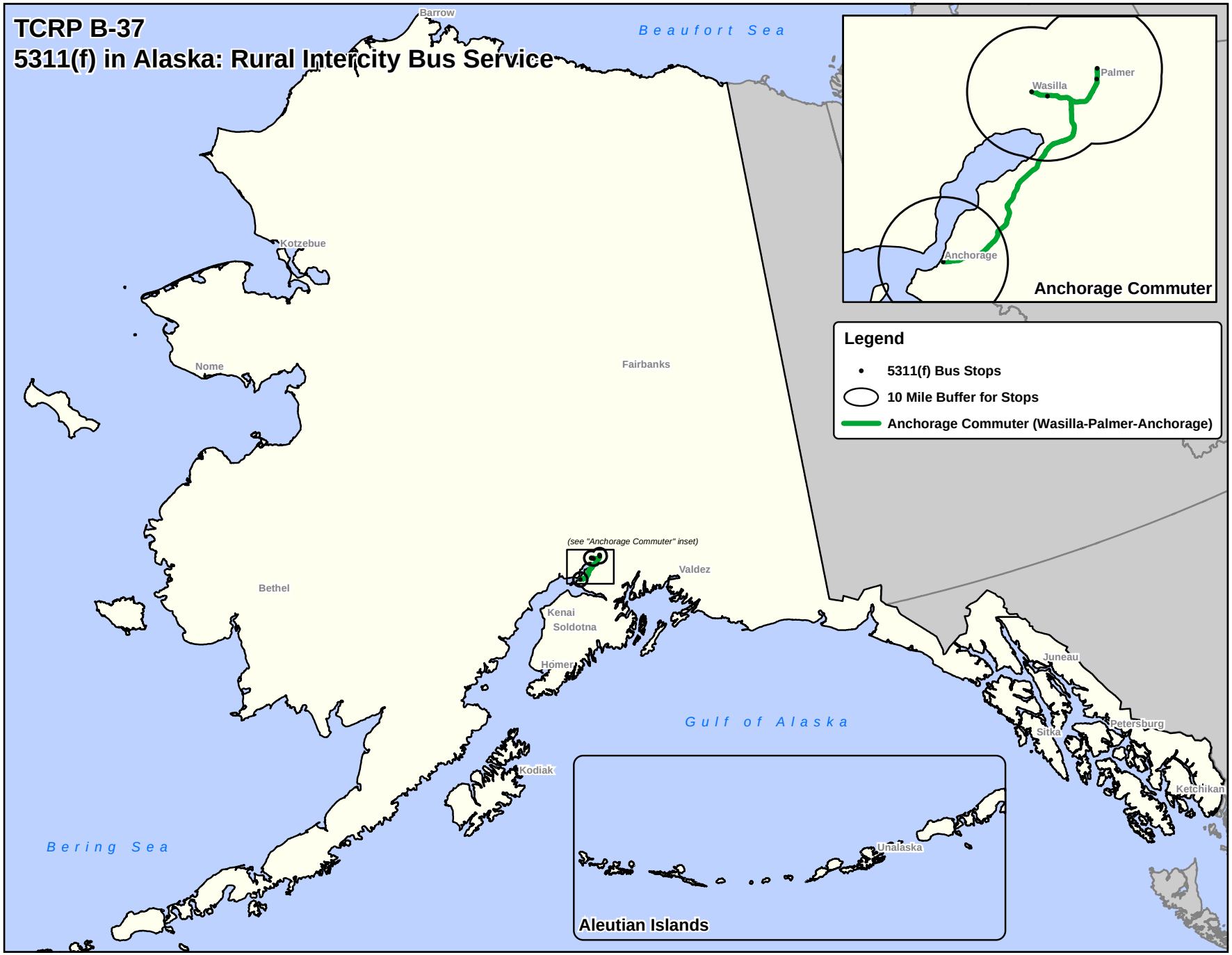
APPENDIX C

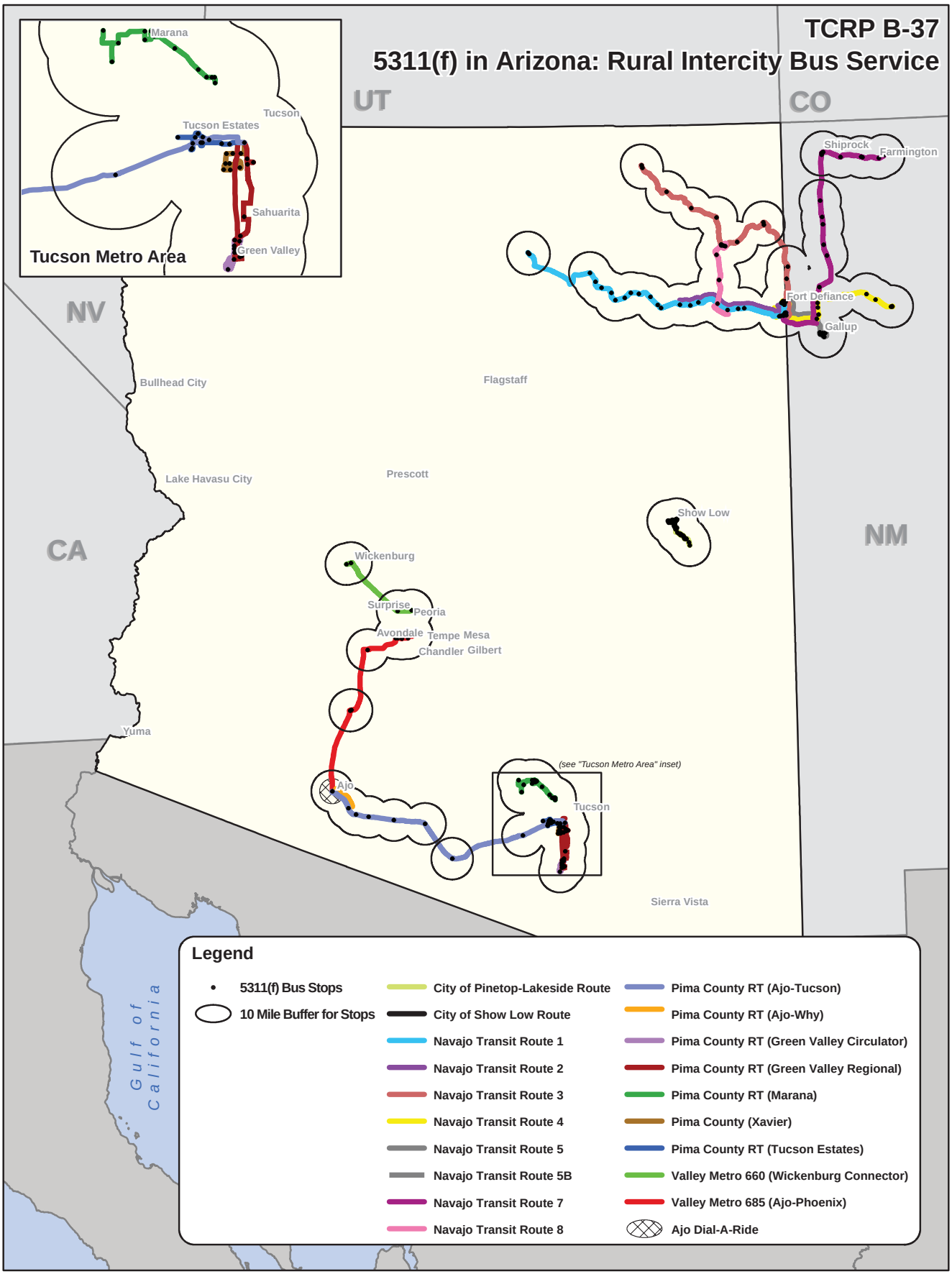
GIS Maps of Rural Intercity Bus Routes

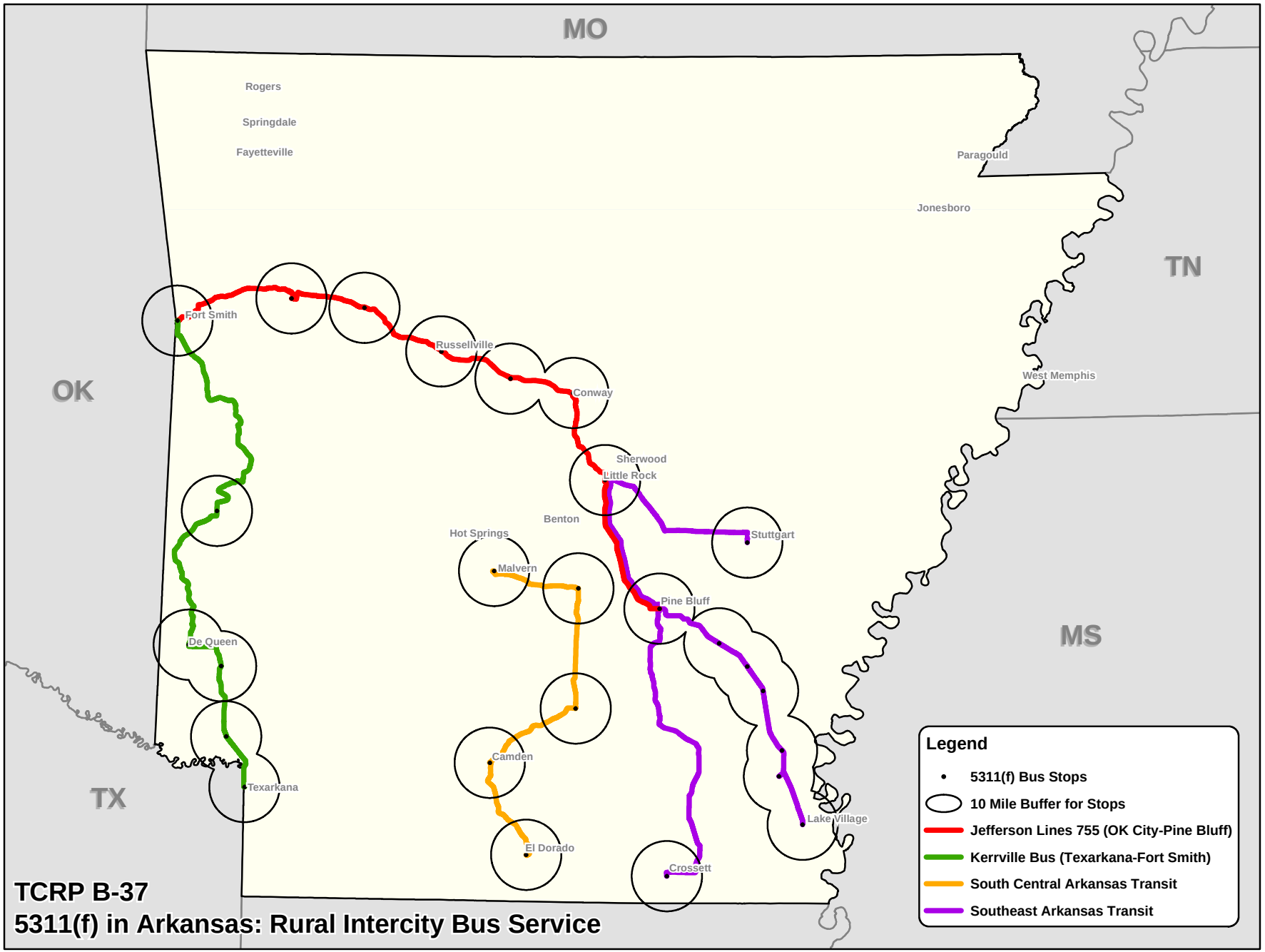
Alabama, C-2
Alaska, C-3
Arizona, C-4
Arkansas, C-5
California, C-6
Colorado, C-7
Florida, C-8
Idaho, C-9
Iowa, C-10
Maine, C-11
Michigan, C-12
Minnesota, C-13
Missouri, C-14
Montana, C-15
Nevada, C-16
New Mexico, C-17
North Dakota, C-18
Ohio, C-19
Oregon, C-20
Pennsylvania, C-21
South Dakota, C-22
Texas, C-23
Utah, C-24
Virginia, C-25
Washington, C-26
West Virginia, C-27
Wisconsin, C-28

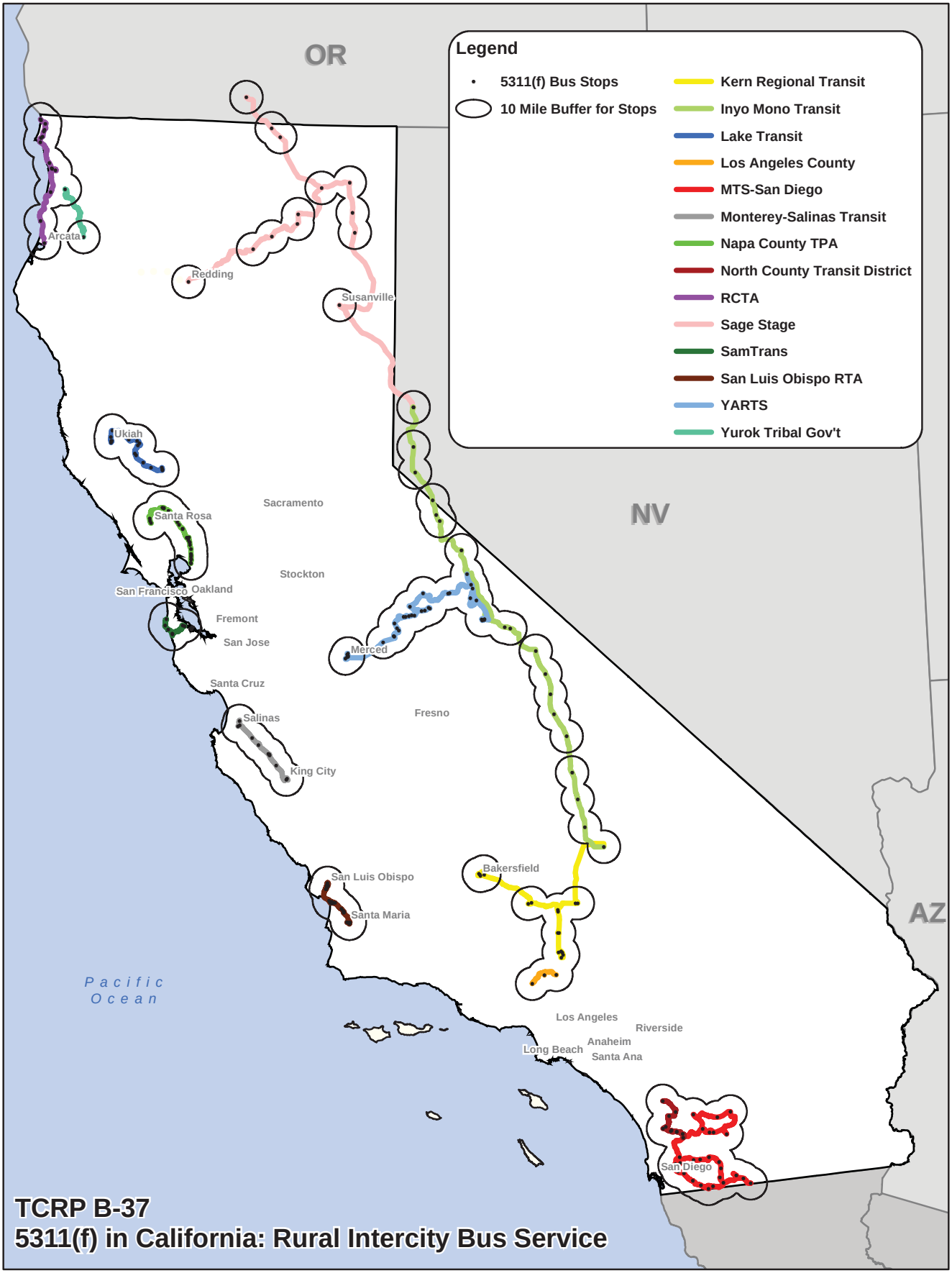
Note: Many of the figures in this report have been converted from color to grayscale for printing. The electronic version of the report (posted on the TRB website at www.trb.org) retains the color versions.

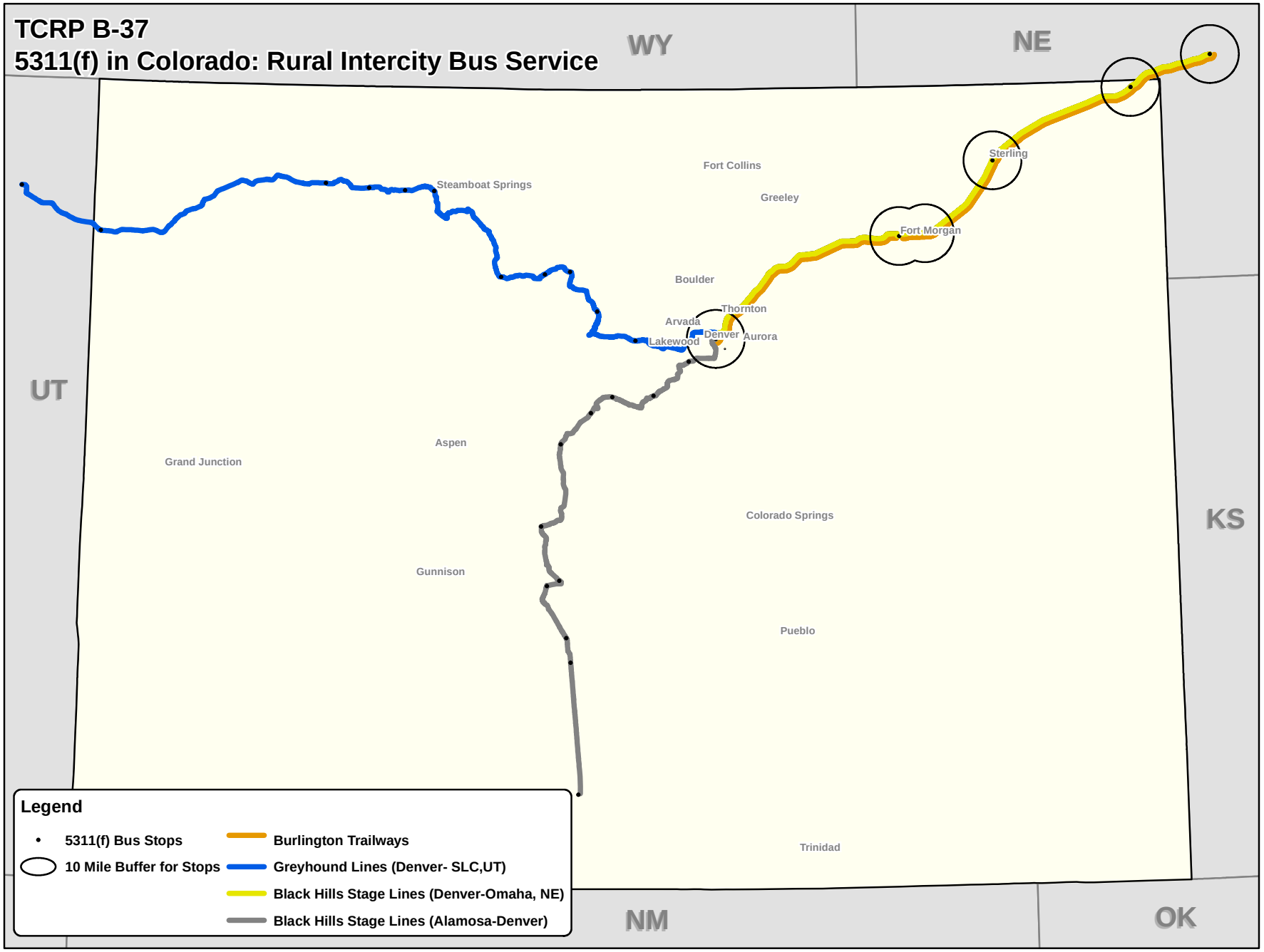


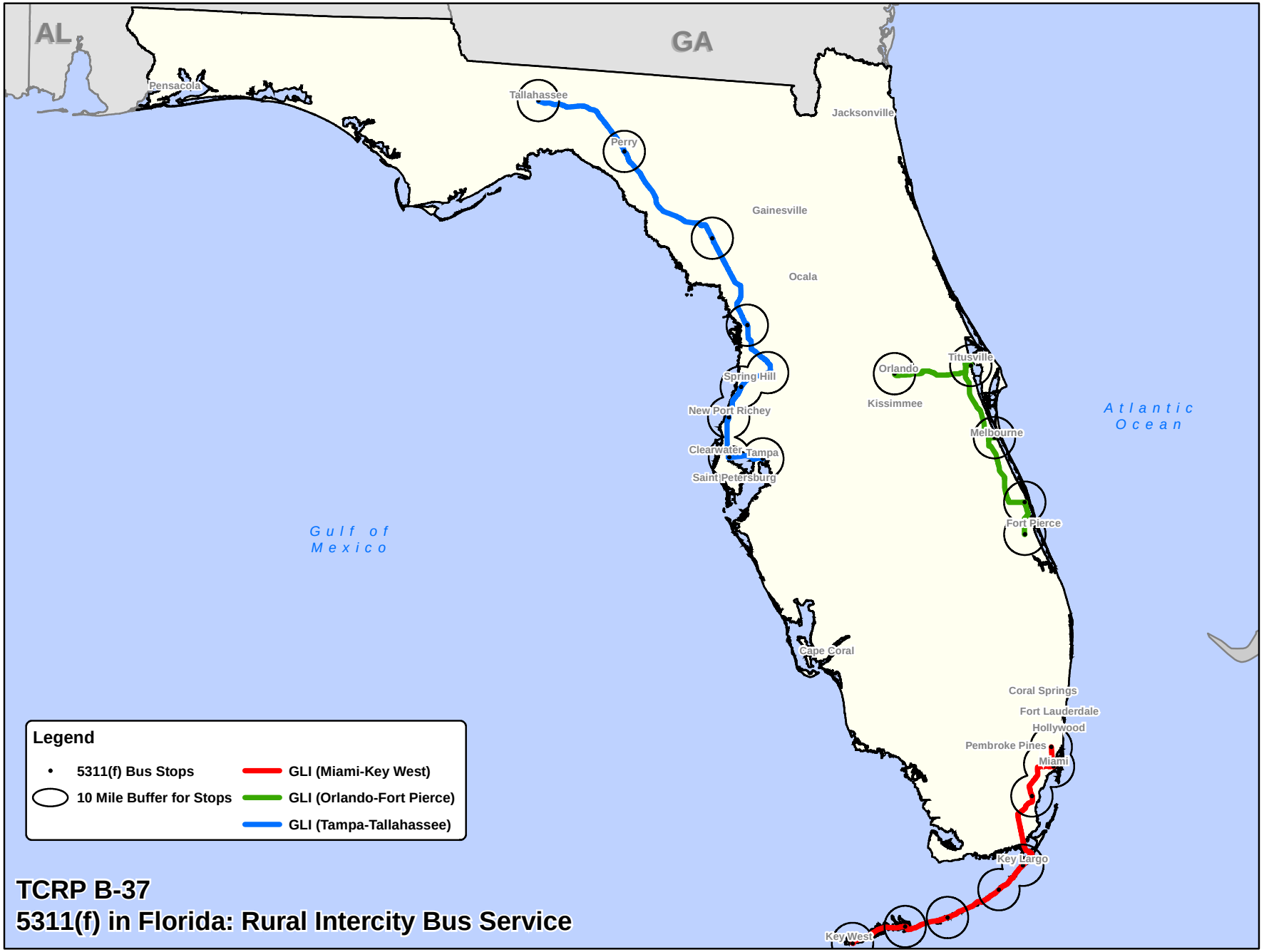


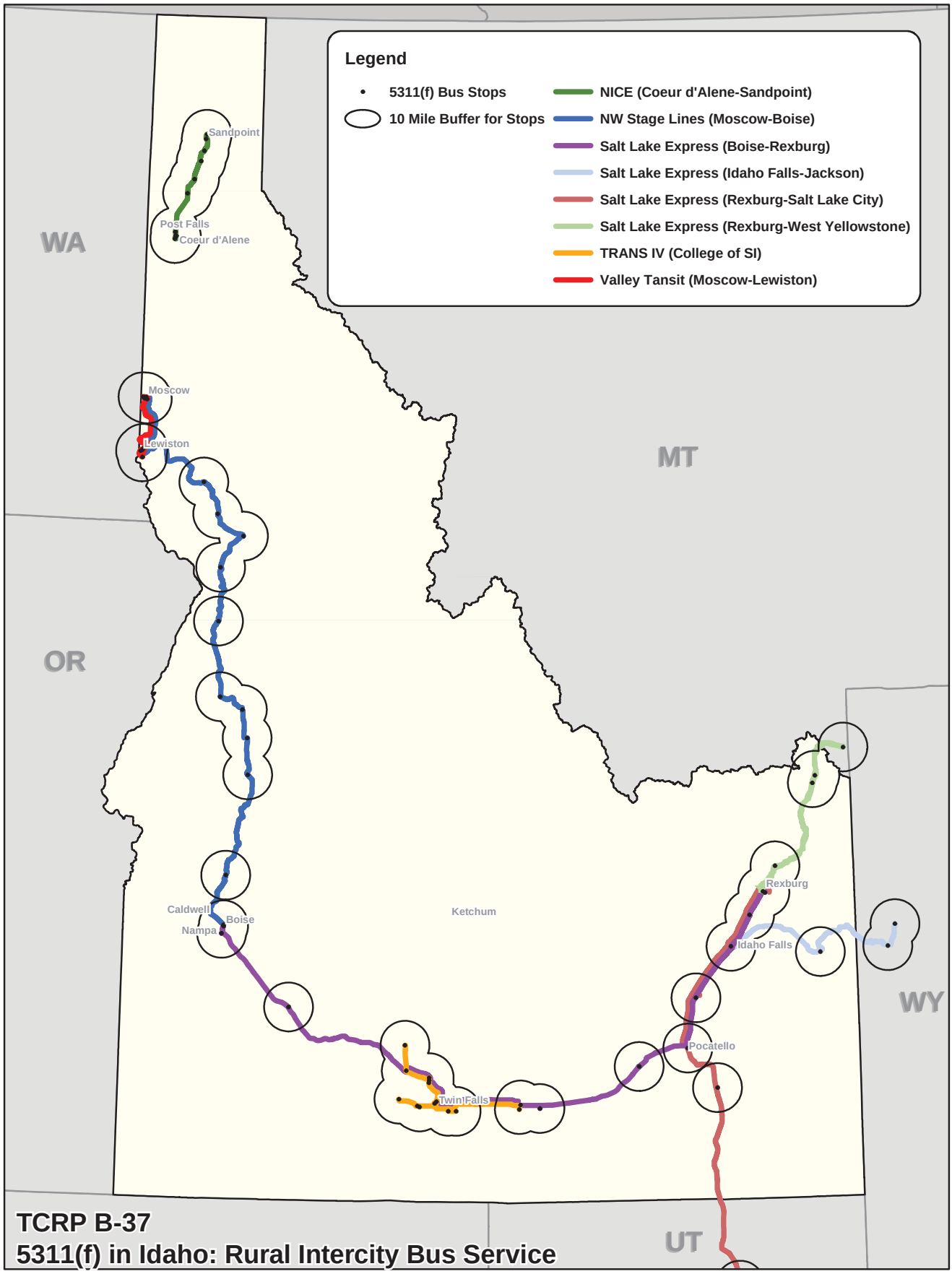


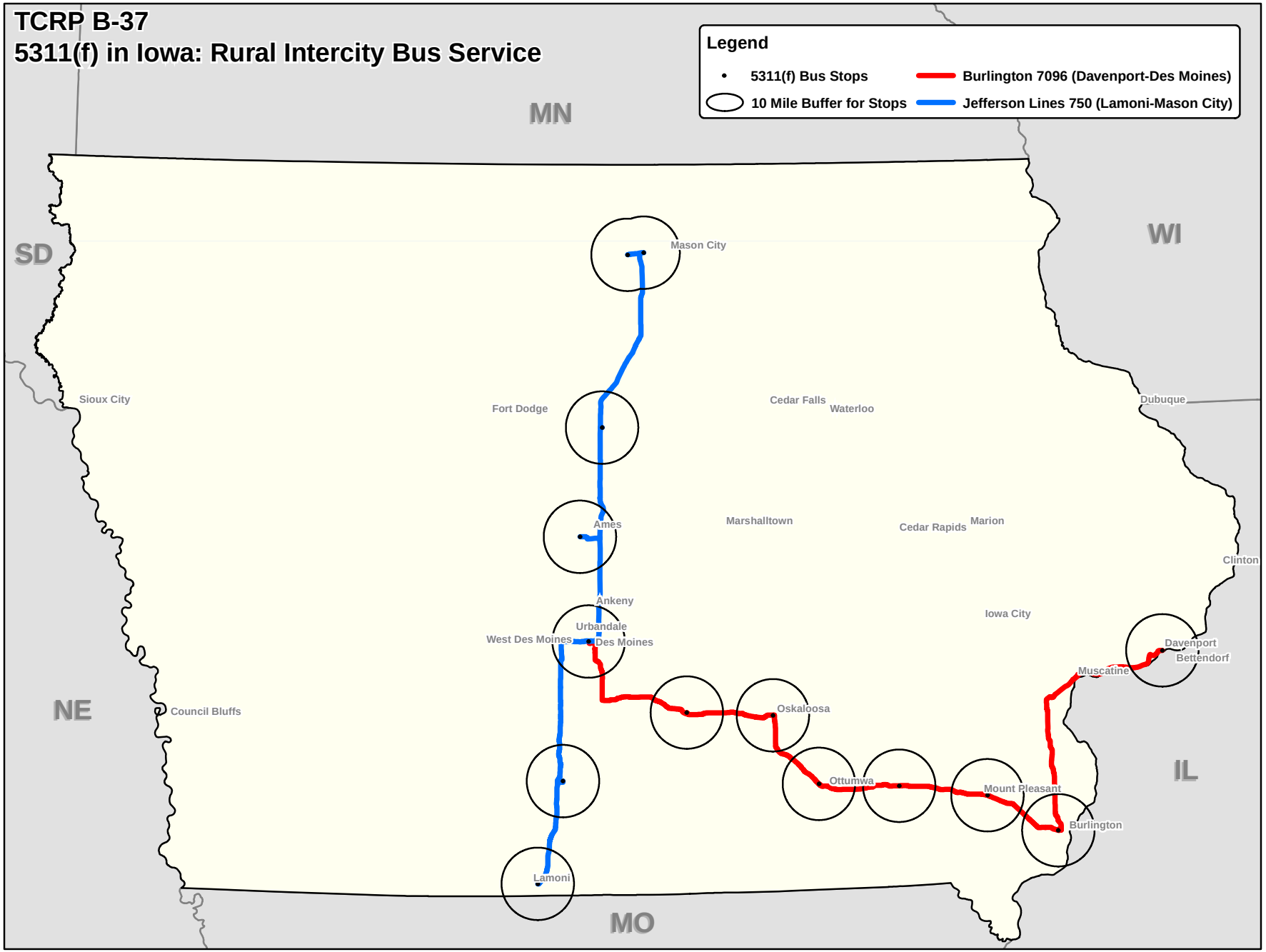


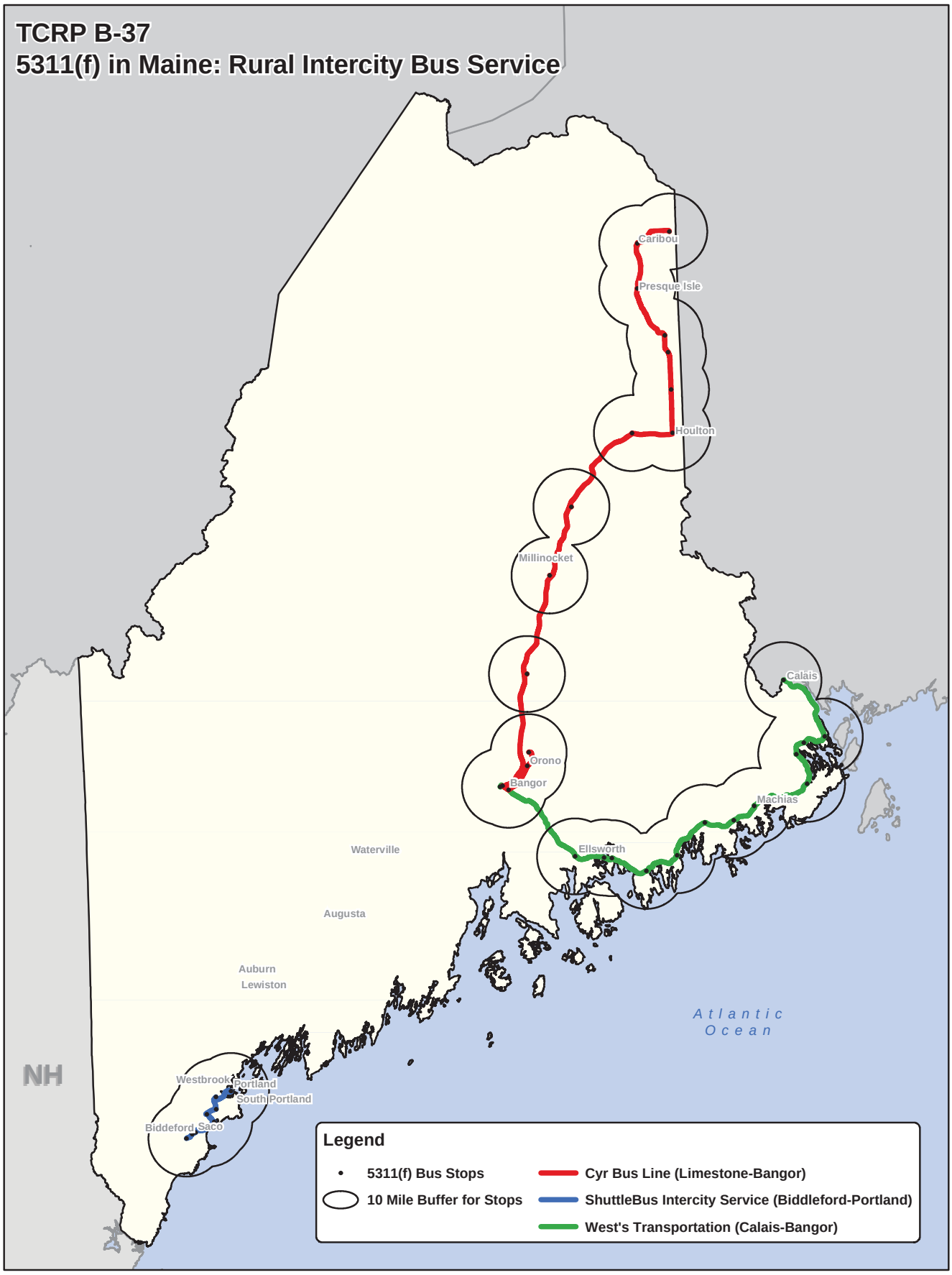


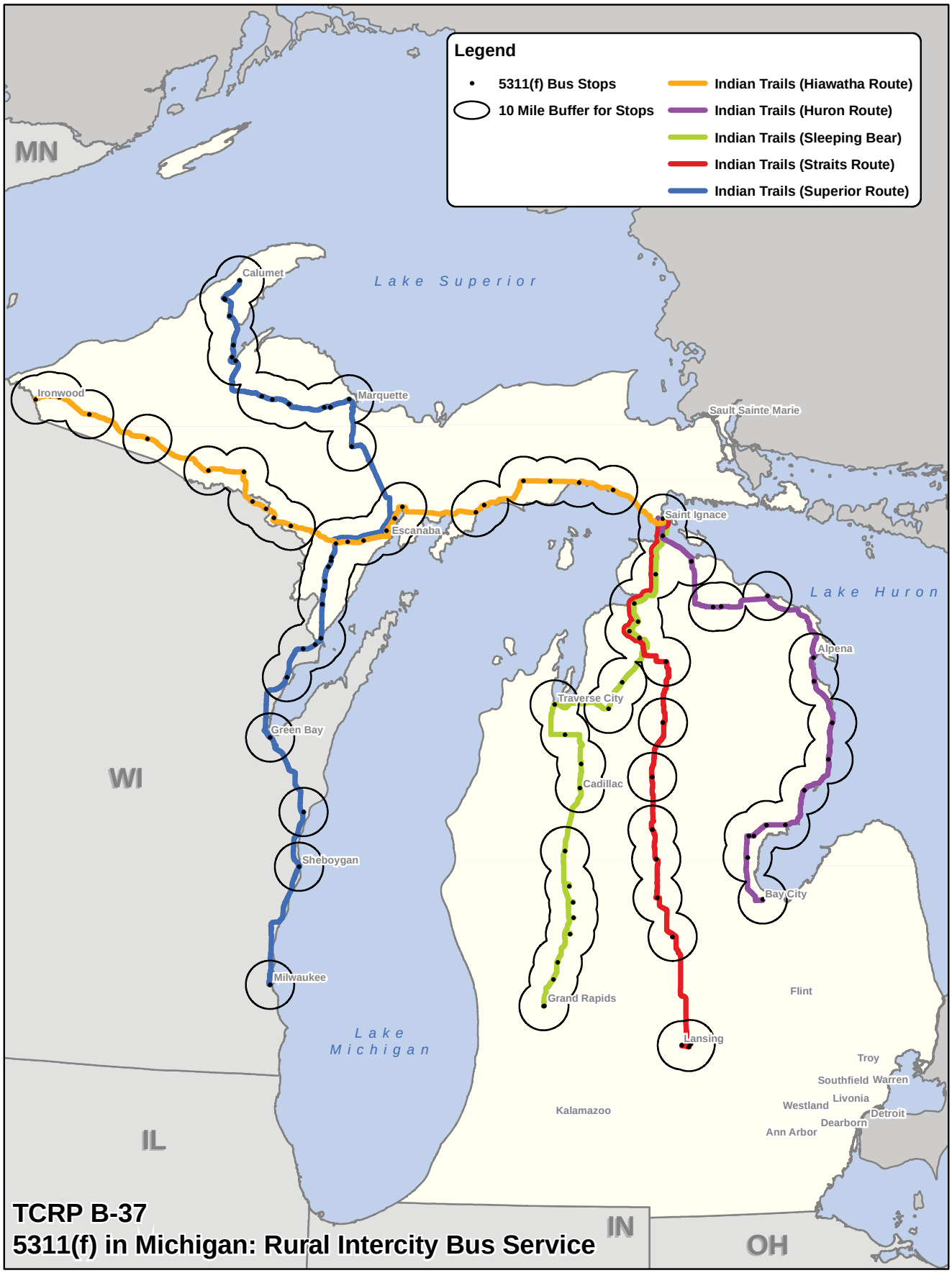


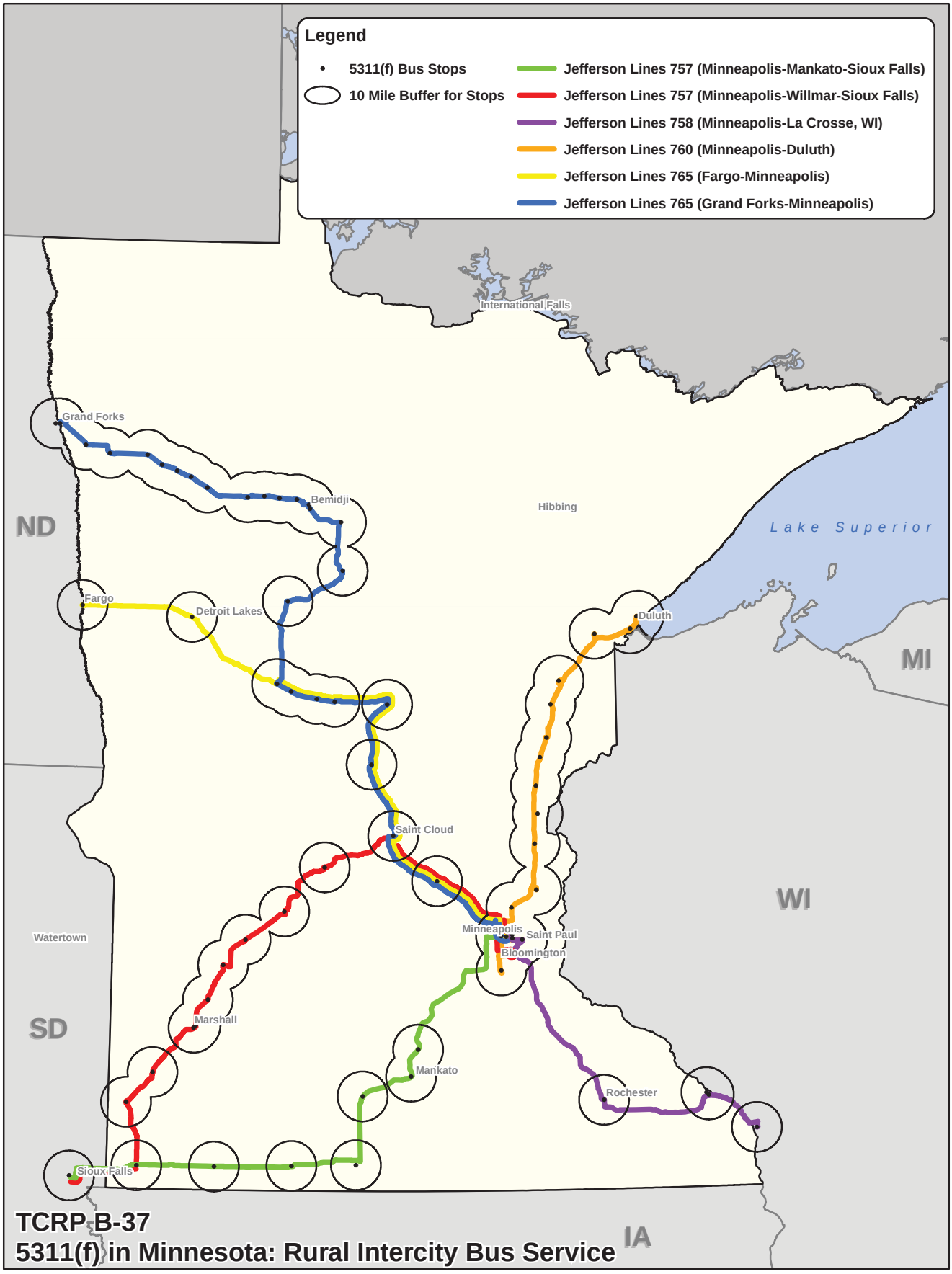


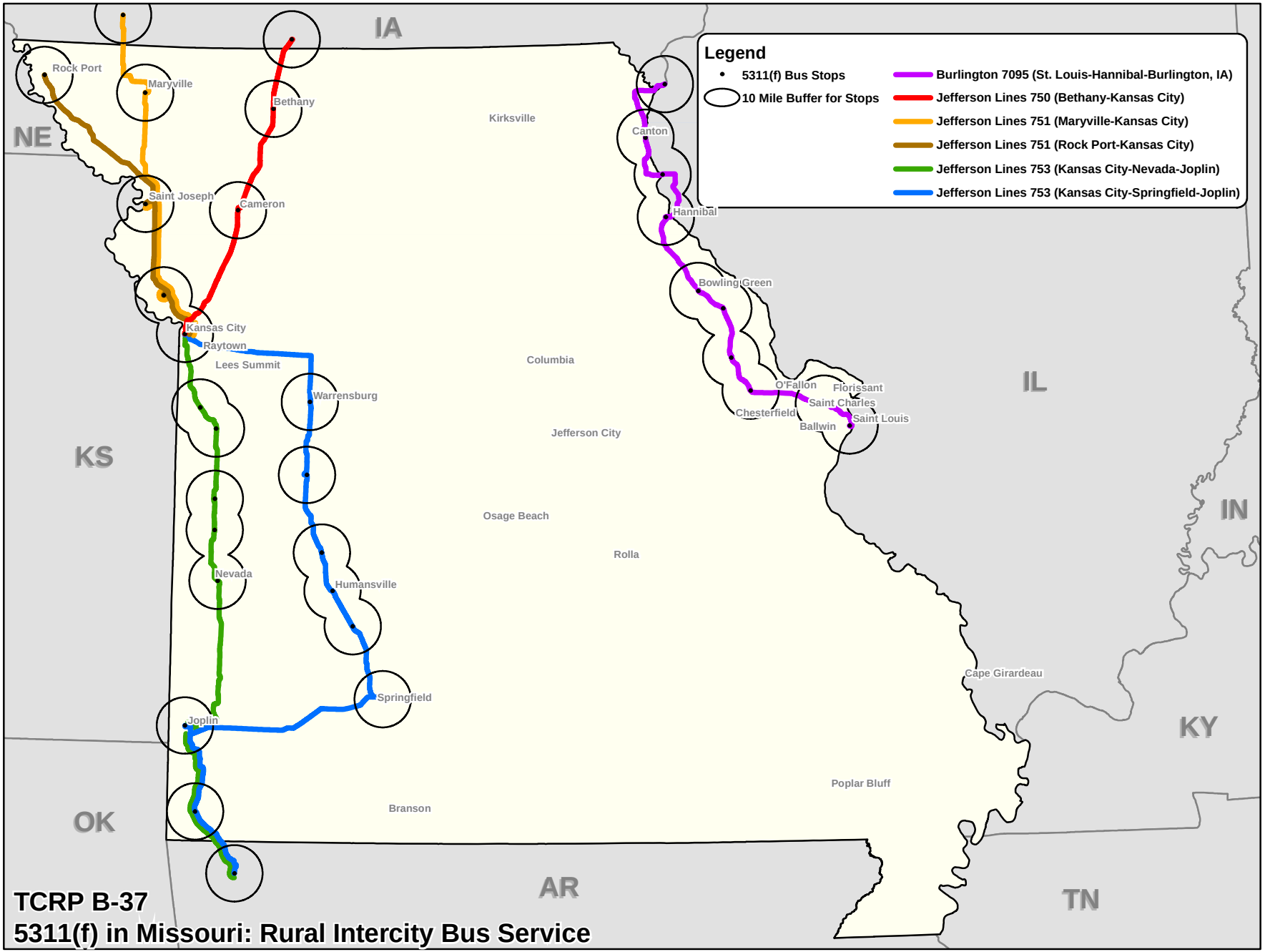


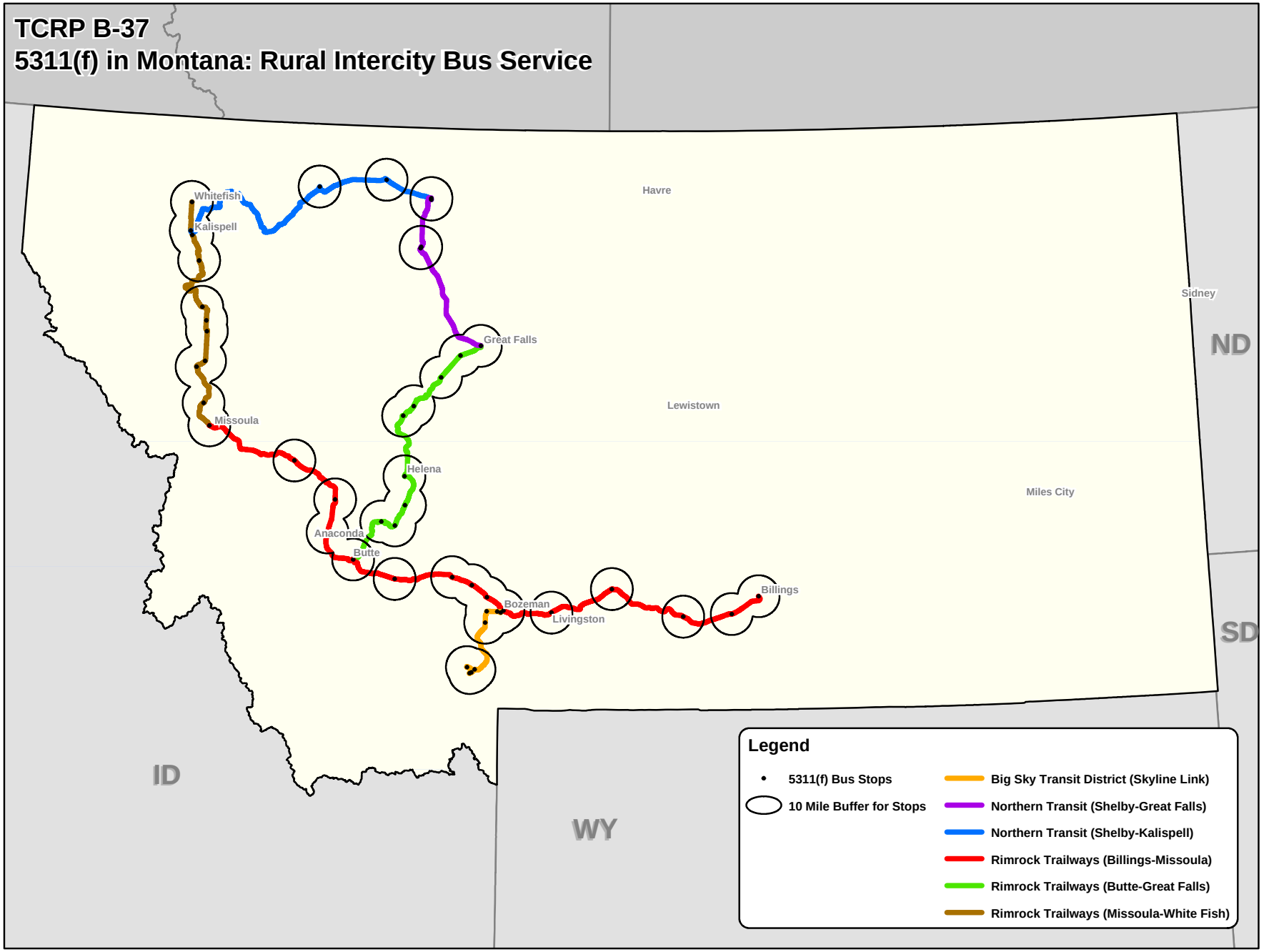


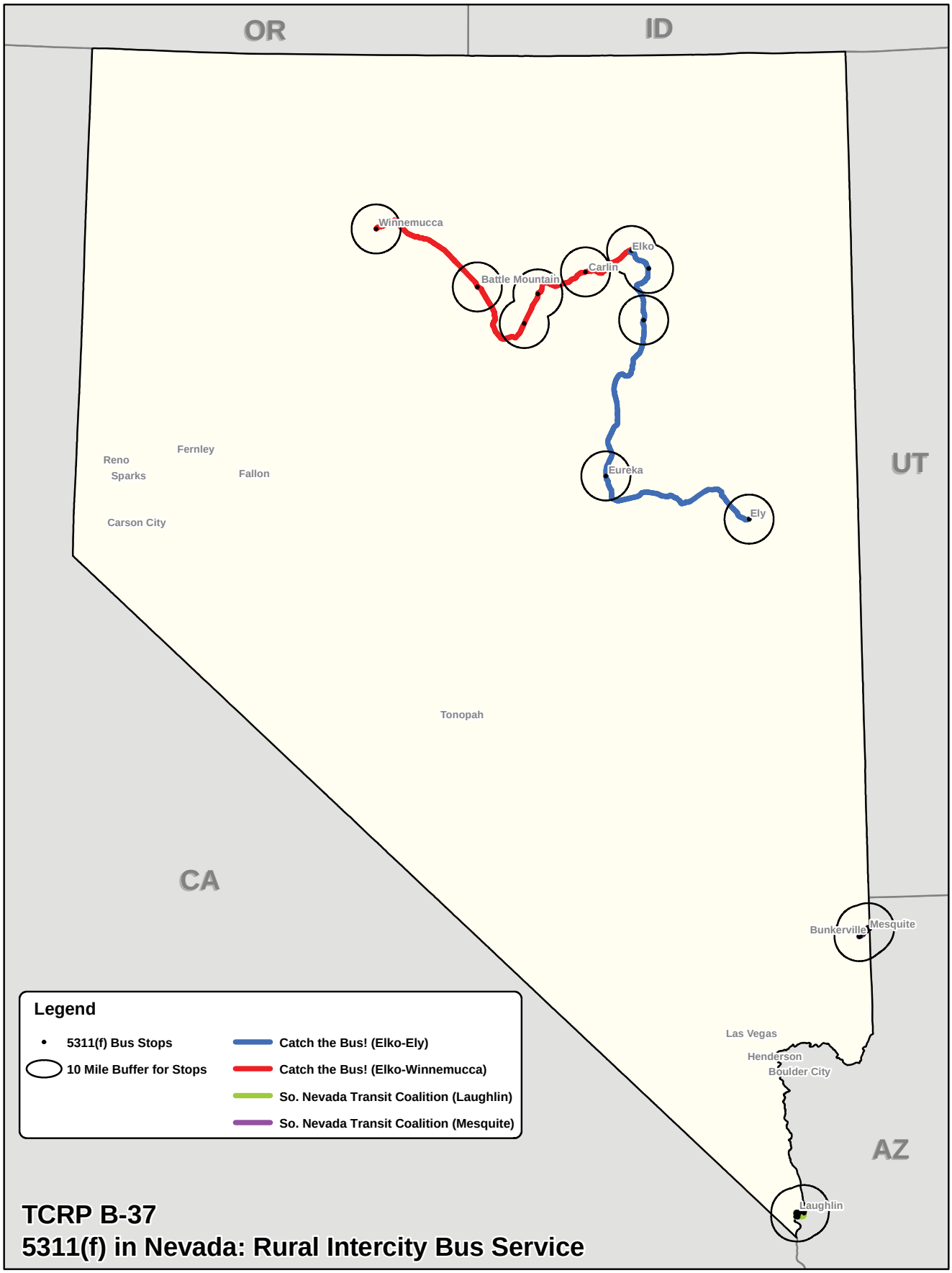


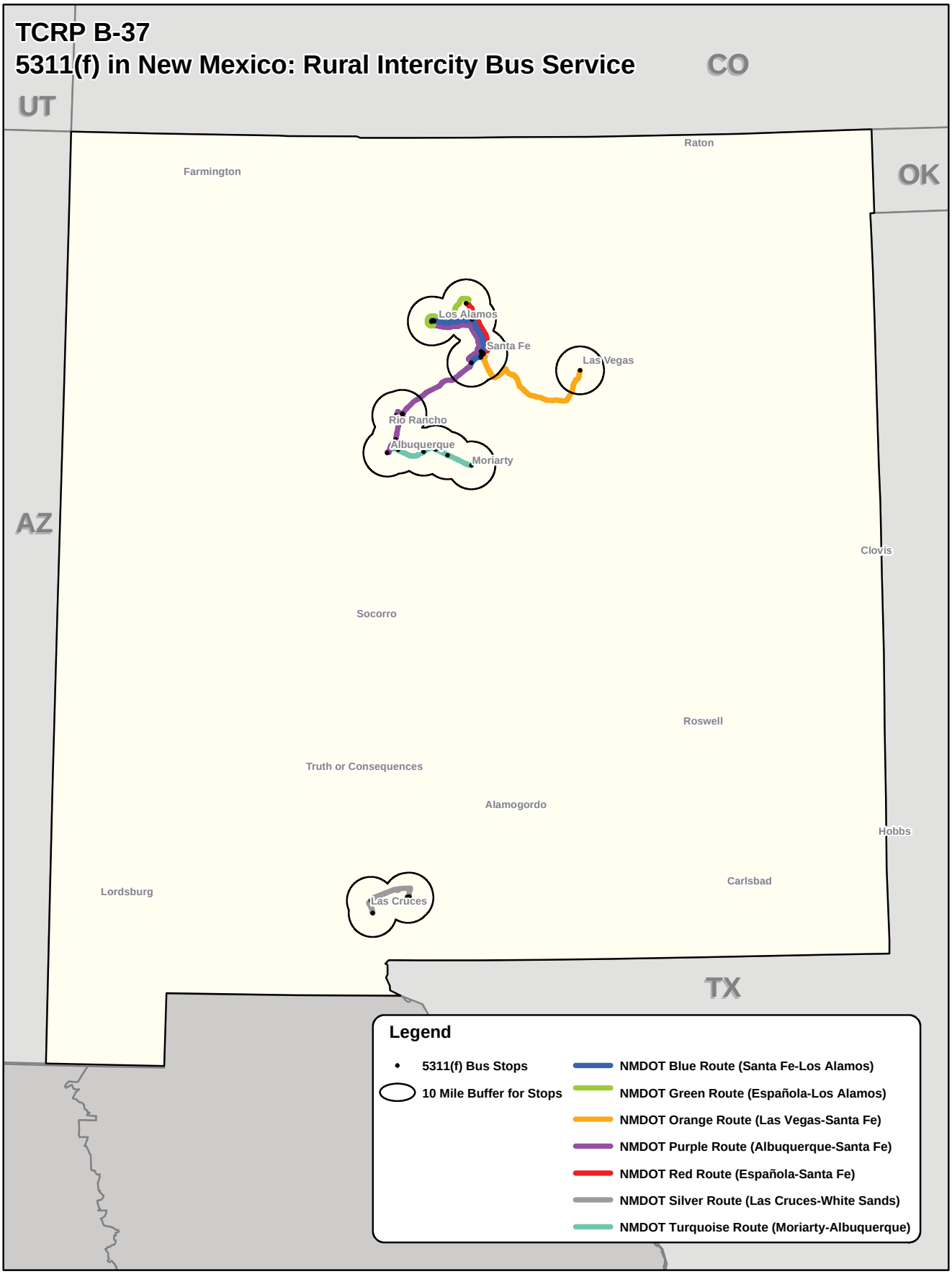


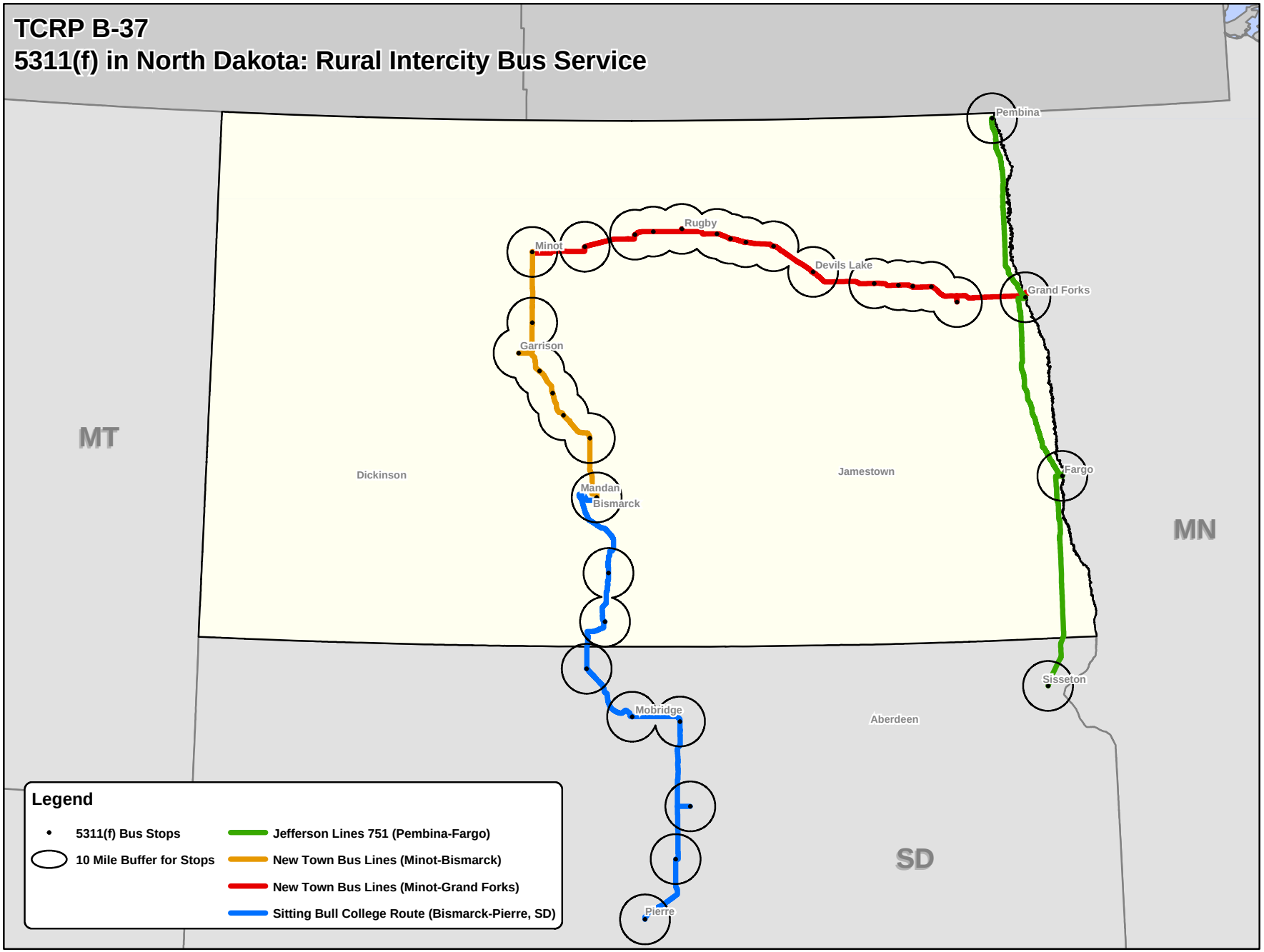


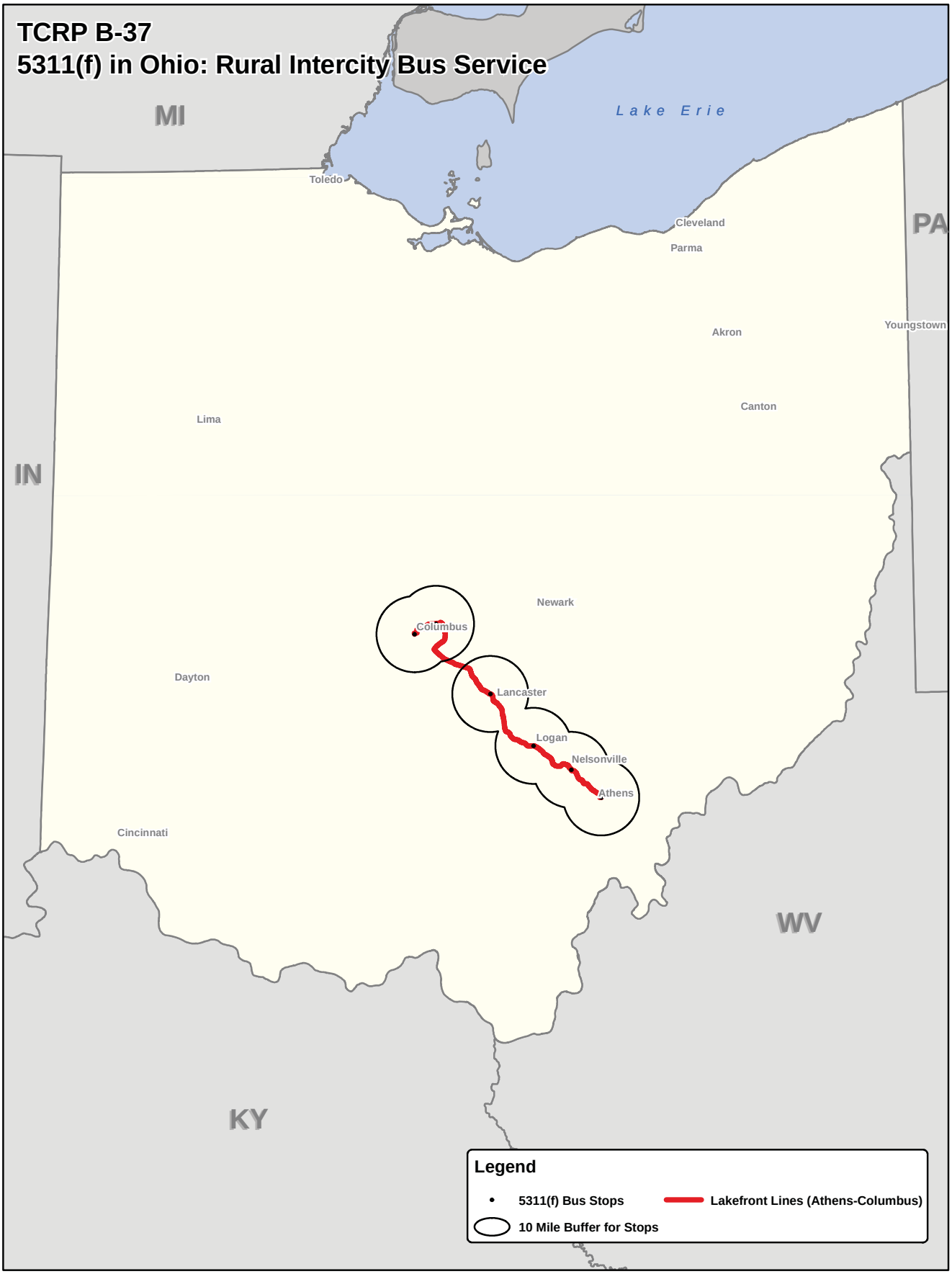


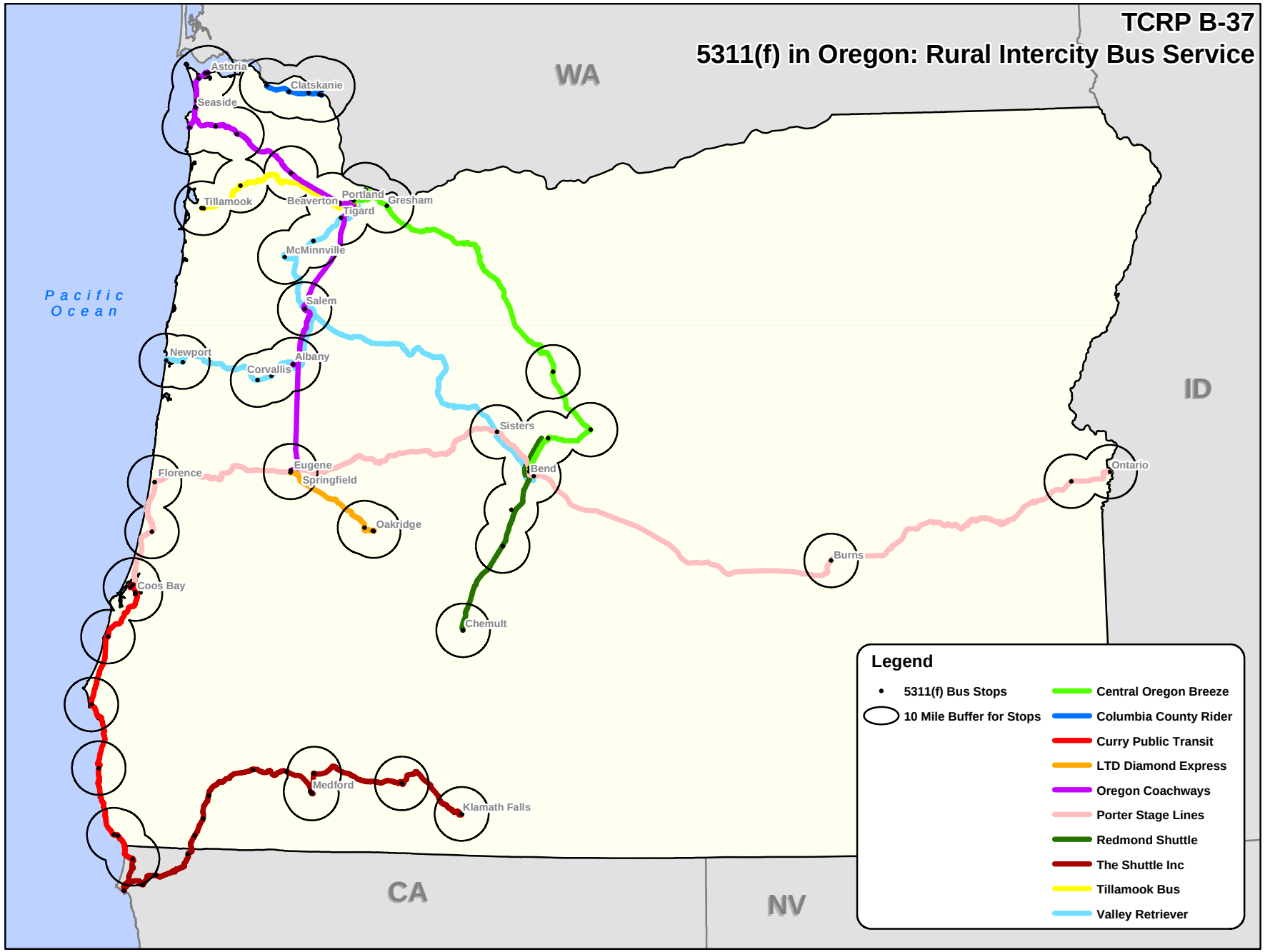


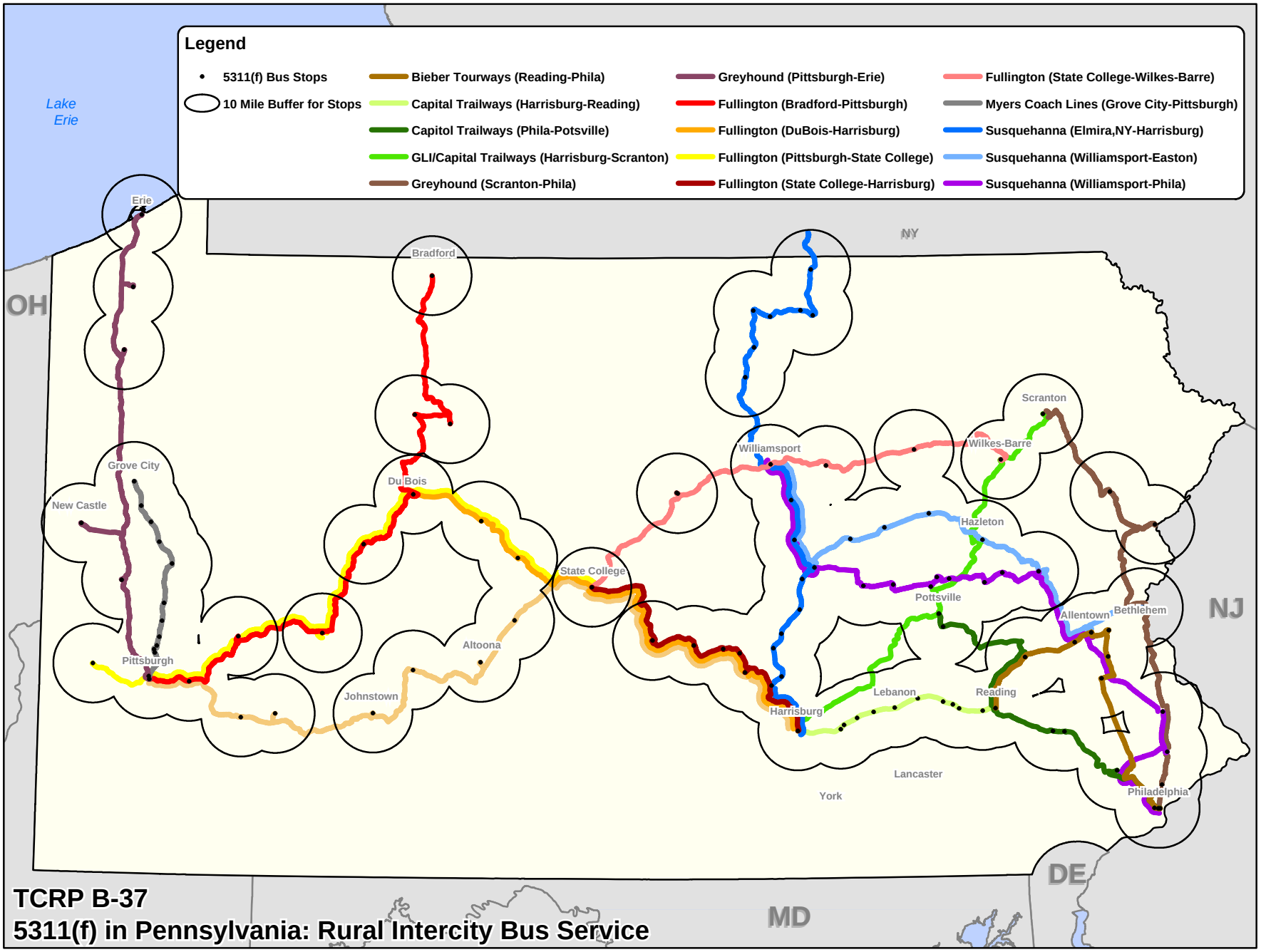


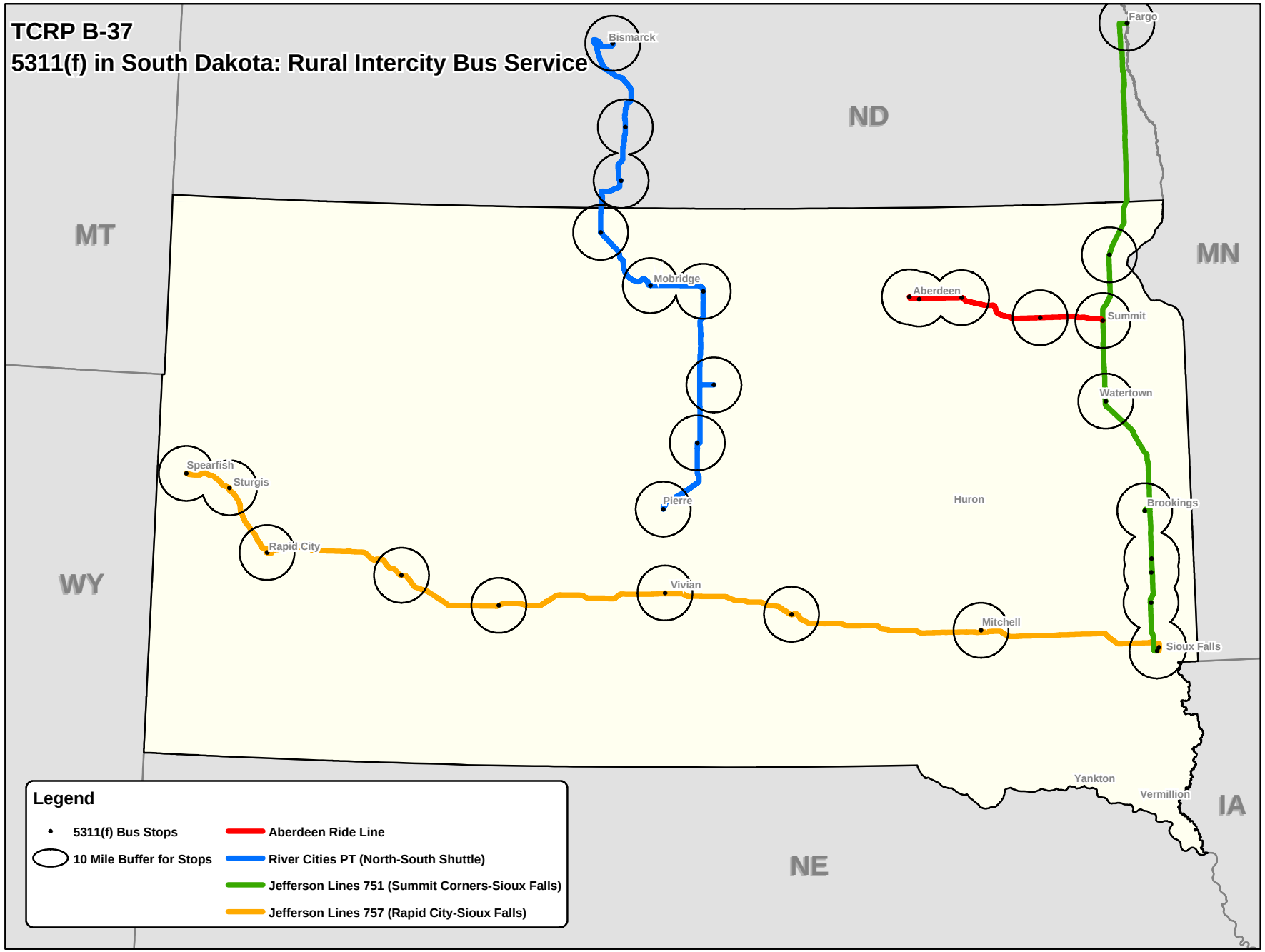


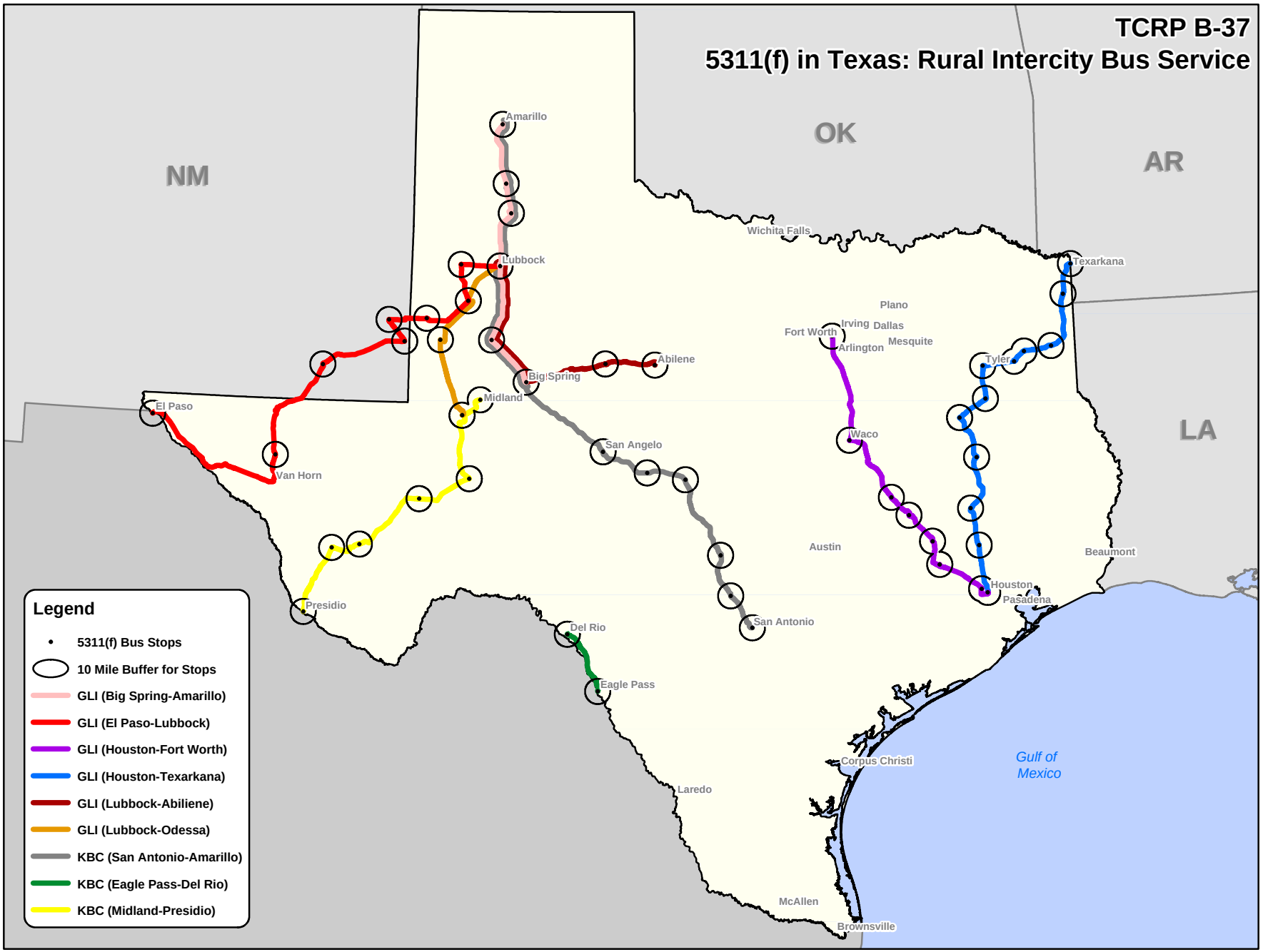


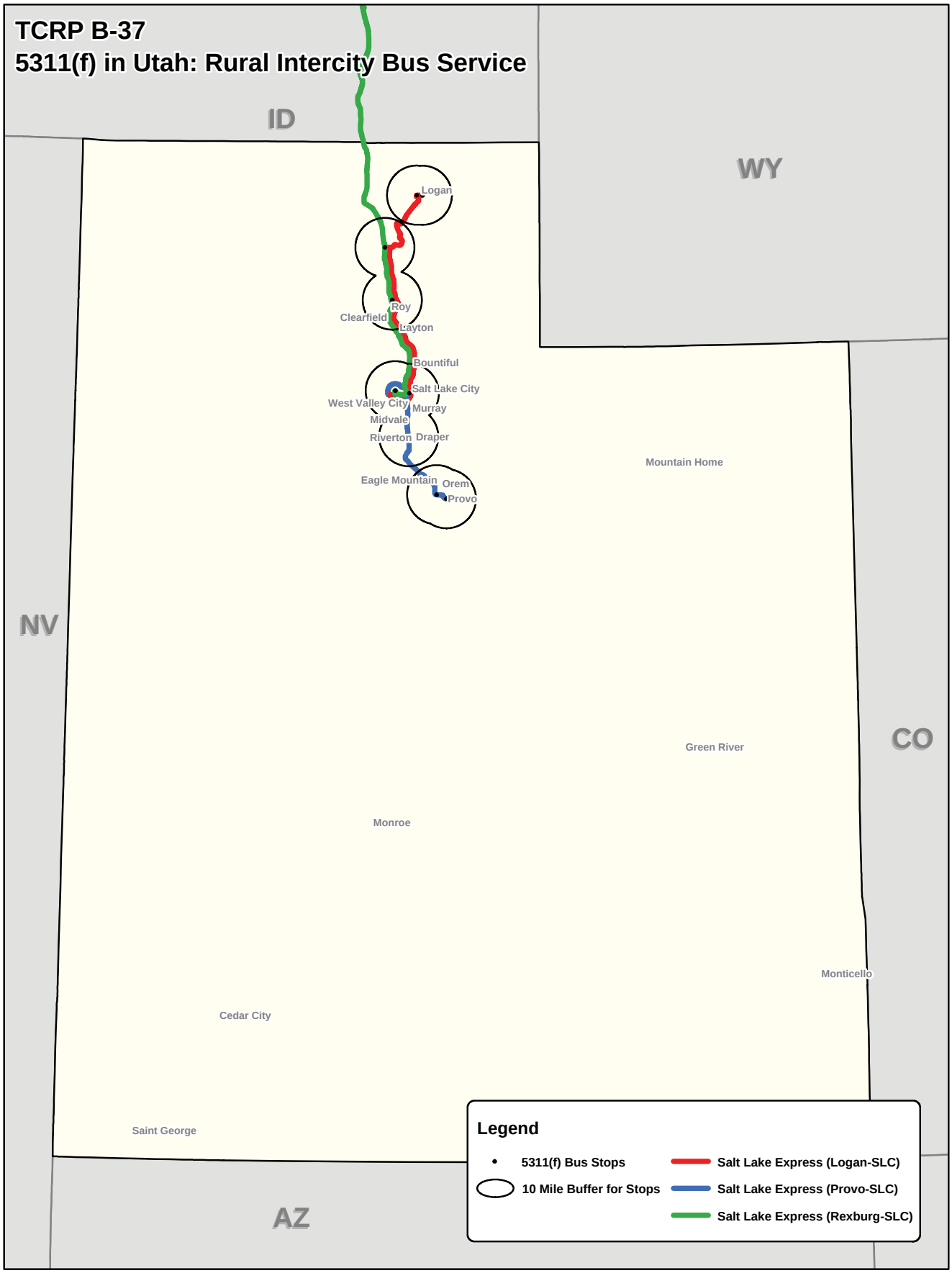


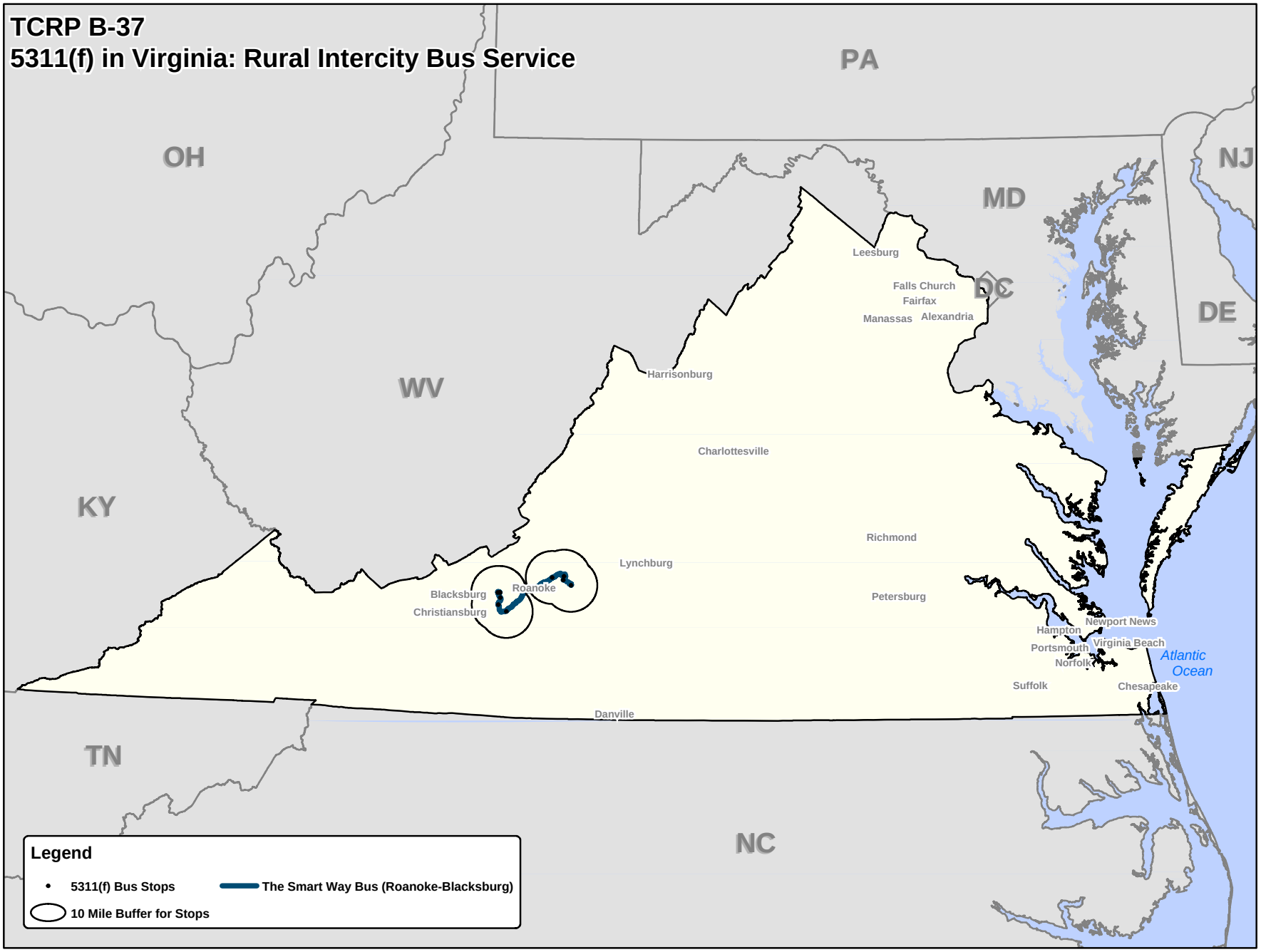


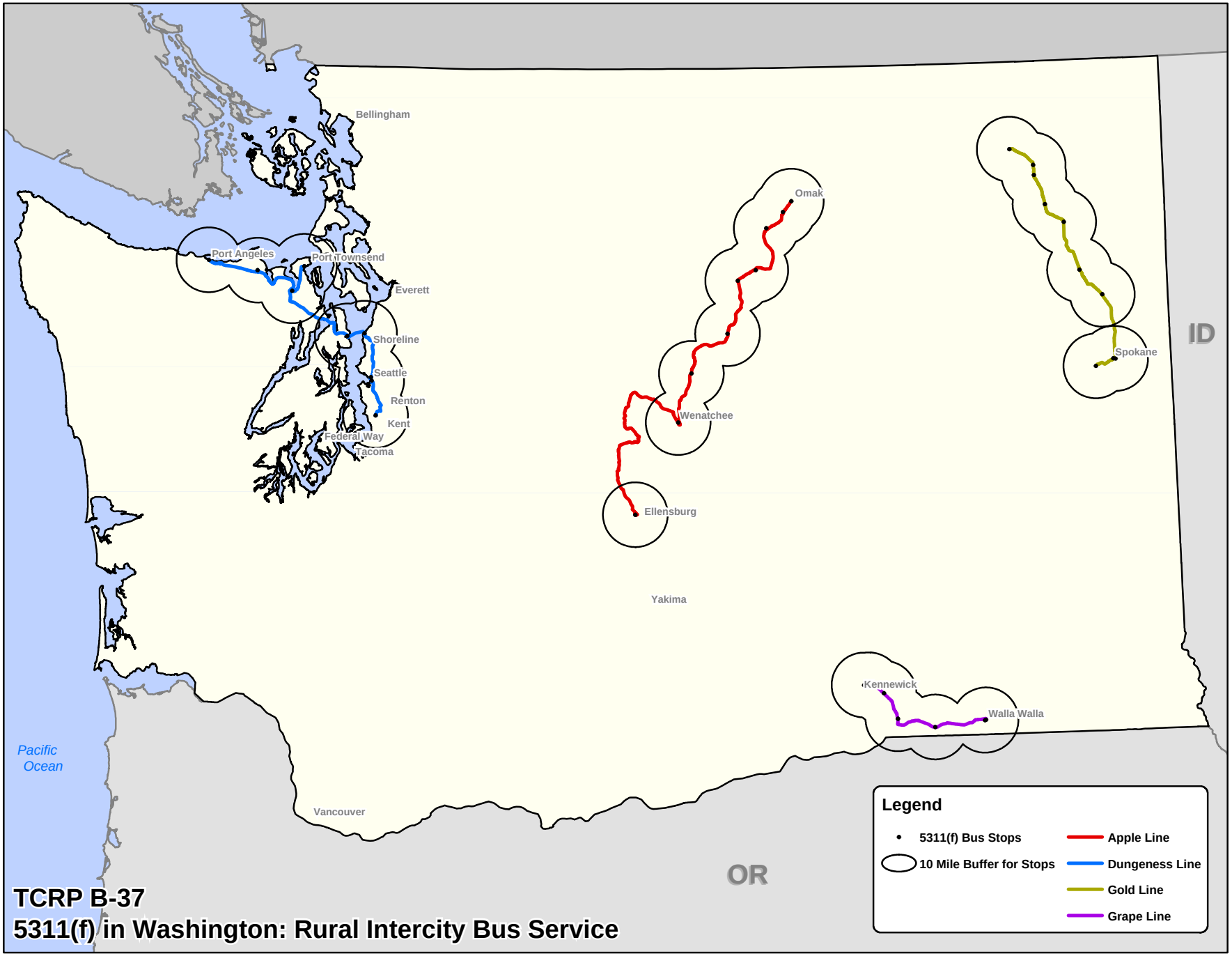


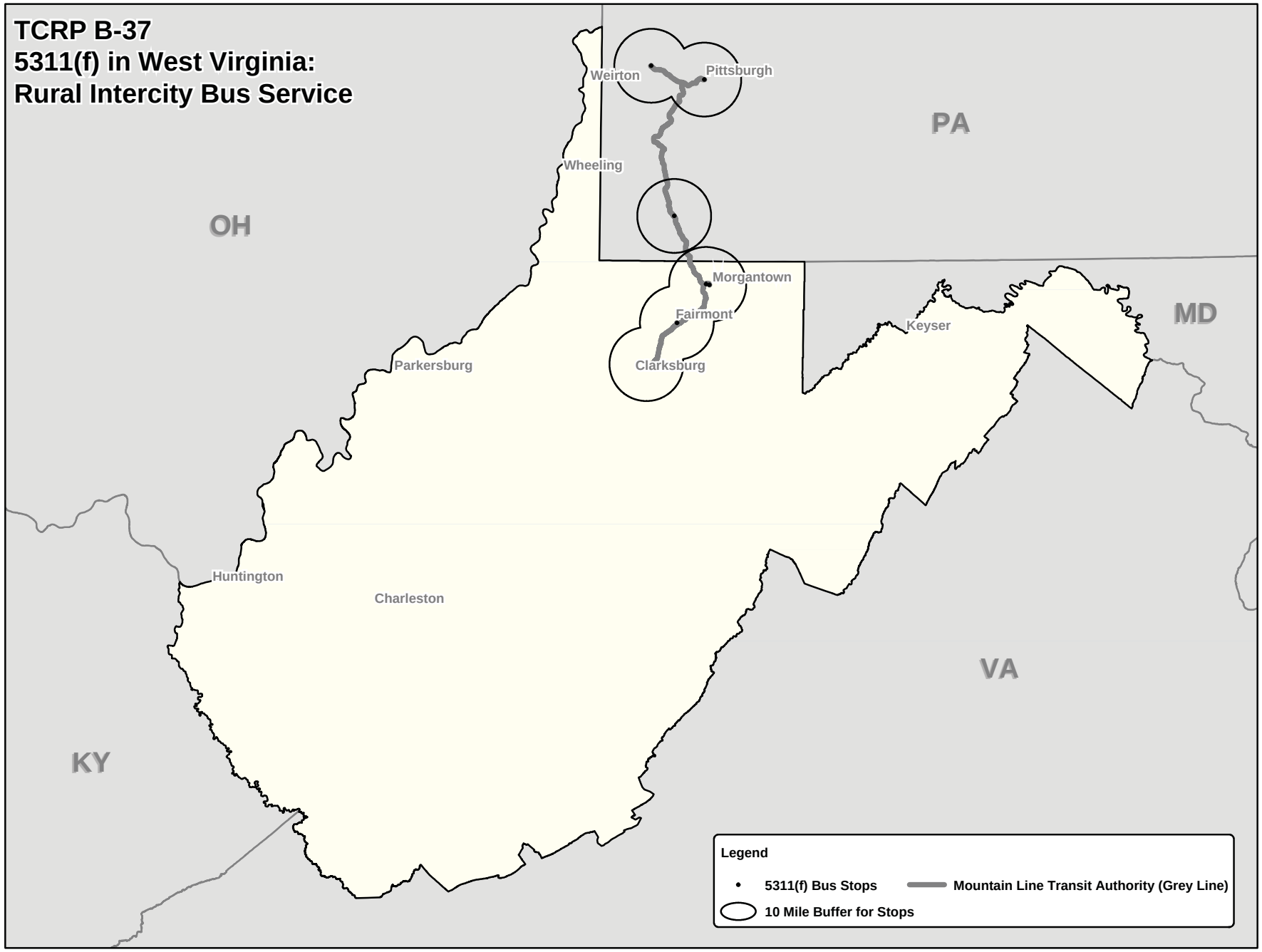


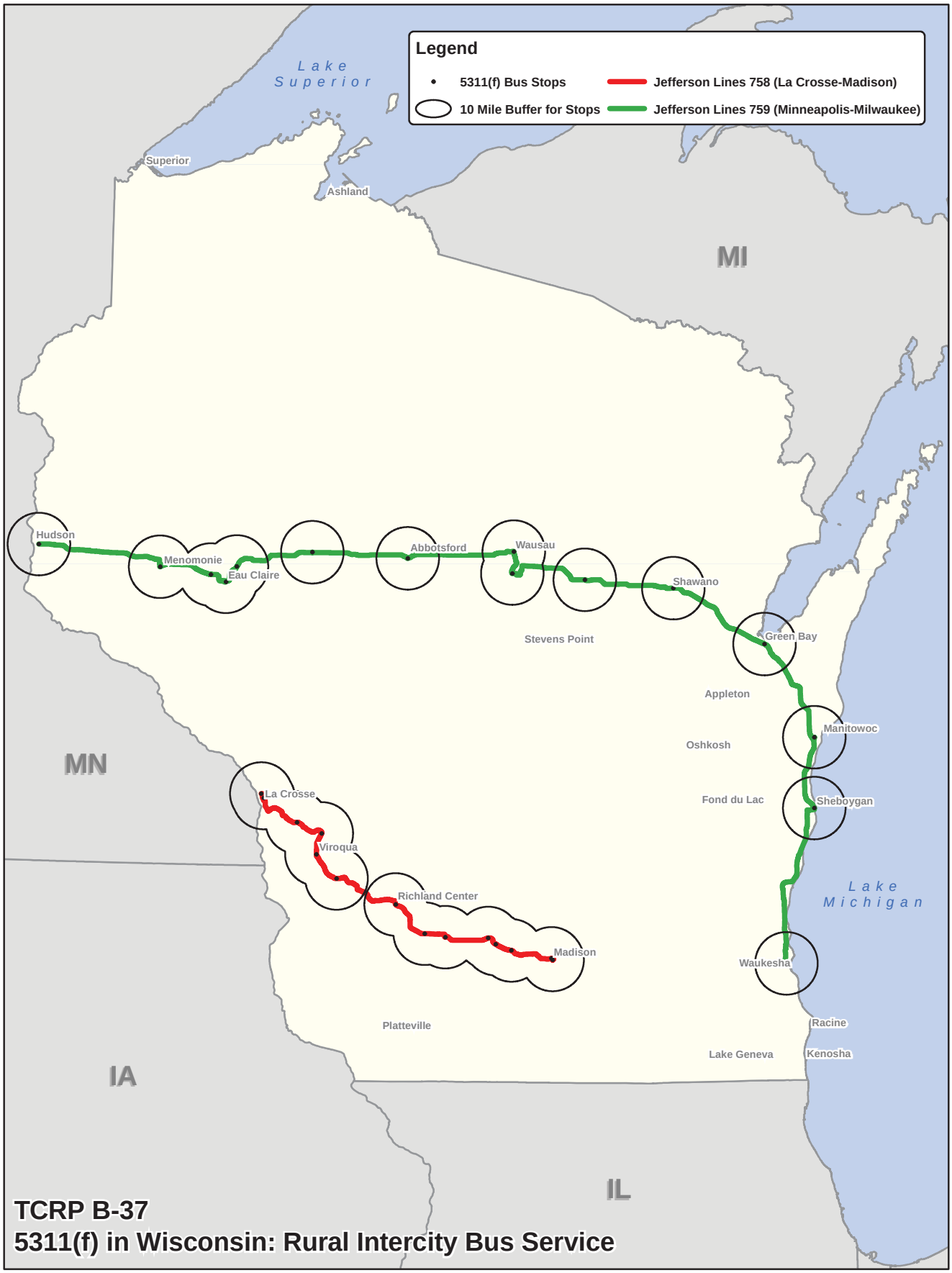












APPENDIX D

Rural Intercity Bus Route–Level Data by State

Alabama, D-2
Alaska, D-3
Arizona, D-4
Arkansas, D-11
California, D-14
Colorado, D-26
Florida, D-28
Idaho, D-29
Iowa, D-32
Maine, D-33
Michigan, D-34
Minnesota, D-36
Missouri, D-43
Montana, D-45
Nebraska, D-47
Nevada, D-49
New Jersey, D-50
New Mexico, D-51
North Dakota, D-53
Ohio, D-54
Oregon, D-55
Pennsylvania, D-59
South Dakota, D-64
Texas, D-65
Utah, D-67
Virginia, D-68
Washington, D-69
West Virginia, D-70
Wisconsin, D-71

Because of the dynamic nature of the Internet, URLs listed in the following tables may no longer work.

Alabama Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Selma-Montgomery (Table 425) operated by West Alabama Public Transportation	S.5311 funding over past three years, for FY 2009 S.5311(f) funding is pending. Greyhound has provided $0.50 per mile in local match.	15-passsenger cutaway	3 round-trips daily (daytime), daily 365 days	Selma, Montgomery	**Selma**: Concordia College (4-year), Wallace Community College (1,780 students); Craig AFB; **Montgomery**: medical facilities, college, Maxwell AFB, Montgomery Regional Airport	**Montgomery**: Service to Greyhound station - interlined (also may let riders off in other locations), and Montgomery Area Transit System service has flag stop at station; **Selma**: West Alabama Public Transportation 8-county rural demand-responsive system may bring passengers from smaller towns to connect with intercity route in Selma.	Yes, NBTA interlining; connects with Greyhound at shared stations	$17.50 one-way non-refundable	CY 08 Jan-Sept: 5008; Average Monthly: 556 Annualized Estimate: 6,677 (Trip Rate: 0.284142 trips/capita) Based on fax received: for CY 2007 – 6,867 trips.	www.greyhound.com One-way route miles: 52

Links to connecting agencies:

Montgomery: www.montgomerytransit.com/

Alaska Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Demand – Response. Operated by: Central Area Transit System, Inc. (CARTS)	For FY 08, 30% of 5311 funds received are for intercity bus service. 5311 funds received: $190,776	1 – 7-psngr mini van; 2 – 12-psngr full-size vans; 2 – 11/12-psngr cut-away with lifts; 1 – 15-psngr full-size van. *Replacement vehs on order.	Work Trips: 24/7; Other Trips: 7:00 am – 11:00 pm, 7 days a week. Advanced reservation required.				No.	Zone Fare: $2.50 - $12.50	FY 08: 44, 450	www.ridealaska.org
Anchorage Commuter Route – (Anchorage – Palmer) Operated by: Mat-Su Community Transit	For FY 08, received approximately $250,000 for ops.	Two – 20-passenger body on chassis, with wheelchair lifts.	Three roundtrips, Mon-Fri.	Anchorage Transit Center, Palmer Intermodal, Palmer (Carrs Store), Wasilla (Walmart and Carrs)	Anchorage: shopping, medical, airport, university.	Anchorage People Mover: Anchorage Transit Center.	No.	$3.00 per one-way trip.	CY 04: 4,489 CY 05: 8,107 CY 06: 10,453 CY 07: 11,192 CY 08 (up to Sept. 08): 11,212	http://www.matsutransit.com/anchorage.html One-way route miles: 60
Demand-Response service, with a scheduled run: Operated by First Student Laidlaw, under contract to Kodiak Area Transit System		One 18-passenger, wheelchair accessible, Girardin MVC Ford E-450, Year 2007		Kodiak: downtown, airport; Women's Bay; Kodiak Station	Coast Guard Station, Providence Kodiak Island Medical Center / Community Clinic, Airport	None.	No.	$2.00 per boarding.	FY 08 (July – June): 1,021	www.kodiakseniorcenter.org One-way route miles: 12

Link to connecting agencies:

Citizens Area Transit: http://www.transit-rider.com/nv/cat.cfm

Anchorage People Mover: http://www.muni.org/transit1/index.cfm

Arizona Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 685 Ajo-Phoenix (Gila Bend – Phoenix) (Valley Metro Contracts service to 'Ajo Transportation') Only manages 65 miles of route length – Gila Bend to Phoenix.	General 5311, for intercity services.	Three 16-passenger buses; with 2 wheelchair spaces	5 daily roundtrips; 2 Saturday roundtrips. (Recently added 5th daily roundtrip.)	Ajo, Gila Bend, Buckeye, Phoenix Metro Area	Phoenix: largest city in the state; Lewis Prison and Perryville Prison Avondale: Walmart. Demand also increasing for Reverse Commuters.	Phoenix: transfer to local transit service at Desert Sky Mall. Gila Bend: stop near Greyhound stop on Pima Ave. 'Flex Route' service available and can deviate up to ¾ mile, with advanced notice.	No	$1.75 entire one-way length.	For the Gila Bend - Phoenix Segment. FY 08 (July 07 – Jun 08): **10,809** FY 07 (July 06 – Jun 07): **7,291**	http://www.valleymetro.org/bus_schedules/bus_routes/BusSchedules.html One-way route miles: 95 one-way miles, however, agency only pays for their portion: 65 miles.
Route 660 – Wickenburg Connector (Valley Metro Contracts service to 'Total Transit')	General 5311, for intercity services.	Two 16-passenger buses; with 2 wheelchair spaces	4 daily roundtrips; 2 Saturday roundtrips	Wickenburg, Sunrise, Glendale	Glendale: Arrowhead Town Center (Shopping)	Glendale: transfer to local transit at Arrowhead Town Center.	No	Zone Fare: $1.25 shorted one-way trip, up to $3.00.	FY 07 (July 06 – Jun 07): **2,454** FY 08 (Part: July 07 – Apr 08): **2,506**	http://www.valleymetro.org/bus_schedules/bus_routes/BusSchedules.html One-way route miles: 44
Route 685 Ajo-Phoenix (Ajo – Gila Bend) (Pima County Rural Transit Contracts service to 'Ajo Transportation.') Manages the Ajo to Gila Bend segment.	General 5311, for intercity services.	Three 16-passenger buses; with 2 wheelchair spaces	5 daily roundtrips; 2 Saturday roundtrips. (Recently added 5th daily roundtrip.)	Ajo, Gila Bend, Buckeye, Phoenix	Phoenix: largest city in the state; Lewis Prison and Perryville Prison Avondale: Walmart. Demand also increasing for Reverse Commuters.	Phoenix: transfer to local transit service at Desert Sky Mall. 'Flex Route'and can deviate up to ¾ mile, with advanced notice.	No			http://www.valleymetro.org/bus_schedules/bus_routes/BusSchedules.html One-way route miles: 95 one-way miles, however, agency only pays for 30 miles of distance.
Ajo-Tucson Route (Pima County Rural Transit contracts service to 'Ajo Transportation' Company.)	General 5311, for intercity services.	El Dorado, 30 passenger bus, wheelchair lift and two wheelchair spaces.	1 daily roundtrip; morning run Ajo to Tucson, and afternoon return trip.	Ajo, Why, Gunsight (turnoff), Hickiwan (turnoff), San Simon, Quijota, Sells, Robles Junction, Tucson	Tucson: metro area facilities; Ajo: Grocery shopping, health clinic, recreation area; Sells: Regional Medical Center	Tucson: Laos Transit Center Stop – connect to local transit services. The local transit connects to Greyhound service. Ajo: provides opportunity for riders to connect with Route 685 (Valley Metro) Reservations are recommended.	No	Zone Fare: $1 one-way shortest distance; $7.50 one-way entire route length one-way.	Federal FY (10.1.06 – 9.30.07): **4,385**	http://www.dot.pima.gov/transsys/bus/ One-way route miles: 130

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Ajo-Why (Pima County Rural Transit contracts service to 'Ajo Transportation' Company.)	General 5311, for intercity services.	El Dorado, 14-passenger cut-away; wheelchair lift and two wheelchair spaces.	3 daily roundtrips; one morning, midday, and evening.	Ajo, Why	Ajo: Grocery shopping, health clinic, recreation area	Ajo: 1 afternoon connection possible with the Route 685 (Valley Metro) service to Phoenix.	No	$1 one-way.	Federal FY (10.1.06 – 9.30.07): **476**	http://www.dot.pima.gov/transsys/bus/ One-way route miles: 10
Ajo (In-town Dial-a-Ride) (Pima County Rural Transit contracts service to 'Ajo Transportation' Company.)	General 5311, for intercity services.	15-passenger; wheelchair-accessible van.	Mon – Sat; 8:00am to 5:00pm.	Ajo: six mile radius of the Ajo Plaza.	Ajo: shopping, social centers, churches.			$.75 per one-way trip.	Federal FY (10.1.06 – 9.30.07): **32,765**	http://www.dot.pima.gov/transsys/bus/
Green Valley & Sahuarita – Regional Connector (Pima County Rural Transit contracts service with American Pony Express)	General 5311, for intercity services	El Dorado Cut Away, 22-passenger; wheelchair accessible – 2 spaces.	4 daily roundtrips - 2 morning and 2 afternoon.	Tucson (Laos Transit Ctr), La Posada, Employment Center – Aero Tech Park. Southbound uses I-19, northbound use Old Nogales Hwy.	Employment: Bombardier/Aero Tech Park	Tucson: Laos Transit Center Additional pick-up locations can be arranged with advanced notice. Specialized transit service offered on Wednesday - $5 one-way. For trips to medical centers and shopping.	No	$2 one-way trip; $5 for specialized service – Wed.	Federal FY (10.1.06 – 9.30.07): **3,705**	http://www.dot.pima.gov/transsys/bus/ One-way route miles: 19
Green Valley & Sahuarita – Local Circulator Routes	General 5311, for intercity services	Same as above.	Mon, Tues, Thur, Sat; service from 9:00 am to 3:00 pm.		Medical Ctr, Green Valley Mall, Safeway Continental, Greev Valley Recreation Ctr, Desert Hills Social Ctr.	Require 24-hours advanced notice for route deviation.	No	$1 one-way trip; $1.50 one-way deviated trip.		http://www.dot.pima.gov/transsys/bus/
Tucson Estates – Irvington Rd (Pima County Rural Transit contracts service to Trax Transportation.)	General 5311, for intercity services	El Dorado cutaway; 14-passenger; 2 wheelchair spaces.	8 daily roundtrips	Laos Transit Center, Irvington Rd and I-19 shopping ctr, Tucson Estates	Laos Transit Center, Copper Crest, Shopping at Irvington Rd and I-19, Home Depot Shopping Area, Fry's Supermarket, Tucson Estates	Tucson: Laos Transit Center.	No	$.50 one-way trip.	Federal FY (10.1.06 – 9.30.07): **15,761**	http://www.dot.pima.gov/transsys/bus/ One-way route miles: 15

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Arizona Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
San Xavier Access Route (Expanded Service) (Pima County Rural Transit contracts service to Trax Transportation.)	General 5311, for intercity services	El Dorado cutaway; 14-passenger; 2 wheelchair spaces.	10 daily roundtrips; 9 roundtrips on Saturday	San Xavier Mission, San Xavier Health Clinic, Little Nogales Dr./ Campus Dr., Middion Rd./San Xavier Rd., Valencia Rd./ Midvale Park Rd., Laos Transit Center	San Xavier Mission, Health Clinic, Laos Transit Center	Tucson: Laos Transit Center	No	$.50 one-way trip.	Federal FY (10.1.06 – 9.30.07): **35,581**	http://www.dot.pima.gov/transsys/bus/ One-way route miles: 10
Route 1: Tuba City – Window Rock (operated by Navajo Transit System)	General 5311, for intercity services	Motorcoaches –	1 daily roundtrip – 1 morning run, 1 afternoon return trip.	Tuba City, Hotevilla, Kyoktsmovi, Second Mesa, Hopi Health Care Facility, Polacca, Keams Canyon, Holbrook Jct., Toyei, Burnside, Ganado, Kinlichee Jct., Cross Canyon, Window Rock, Fort Defiance	Tuba City: PHS (Hospital)		No	Zone Fare: $1 one-way for shortest distance and $14.75 one-way entire route length. Discounts: elderly/ disabled 50% of one-way fare; student/ commuter 25% off of one-way fare; roundtrip 25% off.		http://www.navajotransit.com/ One-way route miles: 175 (est. from Google Maps and deviation based on schedule.)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 2: Toyei – Window Rock (operated by Navajo Transit System)	General 5311, for intercity services	Motorcoaches –	1 daily roundtrip – 1 morning run, 1 afternoon return trip.	Toyei, Steamboat, Burnside, Ganado, Kinlichee, St. Michaels, Window Rock, Fort Defiance			No.	Zone Fare: $1 one-way for shortest distance and $13.25 one-way entire route length. Discounts: elderly/ disabled 50% of one-way fare; student/ commuter 25% off of one-way fare; roundtrip %25 off.		http://www.navajotransit.com/ One-way route miles: approx. 67 (est. from Google Maps and deviation based on schedule.)
Route 3: Kayenta – Tsaile – Ft. Defiance (operated by Navajo Transit System)	General 5311, for intercity services	Motorcoaches –	1 daily roundtrip – 1 morning run, 1 afternoon return trip.	Kayenta, Chilchinbito, Rough Rock Jct., Chinle, Tsaile, Ft. Defiance, Window Rock			No.	Zone Fare: $1 one-way for shortest distance and $5.75 one-way entire route length. Discounts: elderly/ disabled 50% of one-way fare; student/ commuter 25% off of one-way fare; roundtrip 25% off.		http://www.navajotransit.com/ One-way route miles: 150 (est. from Google Maps and deviation based on schedule.)

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Arizona Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 4: Crownpoint – Ft. Defiance (operated by Navajo Transit System)	General 5311, for intercity services	Motorcoaches –	1 daily roundtrip – 1 morning run, 1 afternoon return trip.	Crownpoint, Dalton Pass, Coyote Canyon Store, Tohatchi Mustang Store, Mexican Spring Road Stop, Jct Hwy 491 & Rte 9, Tohlakai, Yahtahey, Window Rock Bashas, Fort Defiance				Zone Fare: $1 one-way for shortest distance and $6.25 one-way entire route length. Discounts: elderly/ disabled 50% of one-way fare; student/ commuter 25% off of one-way fare; roundtrip 25% off.		http://www.navajotransit.com/ One-way route miles: 95 (est. from Google Maps and deviation based on schedule.)
Route 5: Gallup – Ft. Defiance (operated by Navajo Transit System) and 5B	General 5311, for intercity services.	Motorcoaches –	4 daily roundtrips – 2 morning round trips; 2 afternoon roundtrips. Consoli-dated stops on return trip.	Fort Defiance, Window Rock, Tse Bonito, Yatahey, Gallup		Gallup: Amtrak Station and Greyhound Station; stations are approx. 1 mile apart.		Zone Fare: $1 one-way for shortest distance and $3.50 one-way entire route length. Discounts: elderly/ disabled 50% of one-way fare; student/ commuter 25% off of one-way fare; roundtrip 25% off.		http://www.navajotransit.com/ One-way route miles: 45 (est. from Google Maps and deviation based on schedule.)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 7: Shiprock – Farmington – Window Rock (operated by Navajo Transit System)	General 5311, for intercity services.	Motorcoaches –	M, F: 1 daily roundtrip – 1 morning trip, 1 afternoon return trip; T, W, Th: Shiprock – Farmington Shuttle	Shiprock, Jct. 550, Farmington, Littlewater, Burnham, Newcomb, Sheepsprings, Tohatchi, Yatahey, Window Rock				Zone Fare: $1 one-way for shortest distance and $12 one-way entire route length. Discounts: elderly/ disabled 50% of one-way fare; student/ commuter 25% off of one-way fare; roundtrip 25% off.		http://www.navajotransit.com/ One-way route miles: 190 (est. from Google Maps and deviation based on schedule.) *This is for Monday and Friday service only.
Route 8: Chinle – Ganado (operated by Navajo Transit System)	General 5311, for intercity services.	Motorcoaches –	1 daily roundtrip – 1 morning run and 1 afternoon run.	Chinle, Pinon Jct., Nazlini Jct., Burnside, Public Health Ctr.		Chinle: local route service provided during the midday.		Zone Fare: $1 one-way for shortest distance and $3.50 one-way entire route length. Discounts: elderly/ disabled 50% of one-way fare; student/ commuter 25% off of one-way fare; roundtrip 25% off.		http://www.navajotransit.com/ One-way route miles: 80 (est. from Google Maps and deviation based on schedule.) *This is for Monday and Friday service only.

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Arizona Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
City of Show Low	Fully allocated costs, 5311 funds subsidize the operations of the route.	3 29-seat buses, bike-racks, wheelchair accessible	6:30 am – 5:30 pm; Headway = 1 hour (Days of ops?)	Show Low, Pinetop and Lakeside	Walmart, JC Penny's, K-Mart, Safeway, Show Low Library, NRMC Hospital, Aquatic Center, City Utility Dept.	None	No.	$1 one-way trip; $3 All-day pass; -half off fares for persons with disabilities and older adults. Multi-ride and monthly passess available.	-10,500 during peak months -8,000 during off peak months	http://ci.show-low.az.us /departments/finance/pdf /Bus/Rider's_Guide.pdf

Websites for connectivity info:

Sun Tran, Tucson, AZ: http://suntran.com/
Valley Metro, Phoenix, AZ: http://www.valleymetro.org/

Arkansas Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Ft. Smith – Pine Bluff (Oklahoma City to Pine Bluff Route) Tbl 755 Run: 323, 324 Operated by Jefferson Bus Lines **Based on 2007 Schedules and Ridership**	See above.		1 daily roundtrip	Ft. Smith, Booneville, Danville, Ola, Perryville, Ozark, Lamar, Clarksville, Russellville, Morrilton, Conway, Little Rock, Pine Bluff	**Ft. Smith**: University of Arkansas, Webster University, Sparks Regional Med. Ctr,; **Ozark**: hospital, airport; **Clarksville**: Univ. of the Ozarks, County Detention Ctr, Airport; **Russellville**: Ark Tech Univ, Airport; **Morrilton**: Univ. of Ark Comm. Coll; medical ctr; **Conway**: Univ. of Central AR, Reg Med Ctr; **Little Rock**: college, med. ctr, airport, train. **Pine Bluff**: Pine Bluff Arsenal, Univ. of AR in Pine Bluff.	Ft. Smith: Bus terminal also offers Kerrville Bus Lines service, Fort Smith Transit services near stop; Russellville: Russellville Regional Airport; Little Rock: Greyhound services, and Central Area Transit Authority services near stop; Pine Bluff: Greyhound services, and SEAT services at stop.	Yes	$45 one-way adult. $47 on wkends.	CY 07: 29,865 Based on JL data for 2007. Ok City – Pine Bluff CY 07: 42,272 Current services don't serve Lamar, Booneville, Danville, Ola, and Perryville.	www.jeffersonlines.com One-way route miles: 220 (based on JL data for 2007)
Rogers-Bentonville – Fort Smith (Kansas City, MO – Fort Smith Route) Tbl 753 Run: 117, 121, 120, 114 Operated by Jefferson Bus Lines	See above.		2 daily roundtrips	Rogers-Bentonville, Fayetteville, Fort Smith	**Ft. Smith**: University of Arkansas, Webster University, Sparks Regional Med. Ctr,; **Rogers-Bentonville:** Northwest Medical Center, Bentonville Juvenile Detention Center; **Fayetteville** Univ. of Arkansas, hospital,	Ft. Smith: Bus terminal also offers Kerrville Bus Lines service, Fort Smith Transit services near stop; Bentonville: Bus Depot stop near Ozark Regional Transit Services; Fayetteville: near Ozark Regional Transit Services.	Yes	$26 one-way adult.	See above.	www.jeffersonlines.com One-way route miles: 82 (est. from Google Maps)

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Arkansas Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Malvern – El Dorado (Table 478) Operated by: South Central Arkansas Transit (SCAT)	Operating FY 08 = $75,950 FY 09 = $83,425	1 El Dorado Aero Tech – 25 pssnger/1 wheelchair	1 daily RT	Malvern, Sheridan, Fordyce, Camden, El Dorado.	**Malvern**: college; **El Dorado**: South Arkansas Community College, Southern Arkansas University at Magnolia in Camden.	Malvern stop includes access to other Greyhound services. Amtrak station in Malvern.	Yes	$31 non-refundable fare	FY 08: Oct – Sep: 4,343 trips. May 2009: 258 trips. Oct 2008 – May 2009: 2,237 trips. Estimate, from email, 3,600 trips for FY 09.	http://www.cadc.com /services.php , must download brochure and contact agency. One-way route miles: 124 (est. from Google Maps.)
Fort Smith - Texarkana Table 793, Runs: 813, 816 Kerrville Bus Lines	Operating FY08= $25,249		2 daily roundtrips	Fort Smith, Mena, De Queen, Lockesburg, Ashdown, Texarkana	**Ft. Smith**: University of Arkansas, Webster University, Sparks Regional Med. Ctr,; **Mena**: Rich Mountain Comm. Coll., airport; **De Queen**: Cossatot Community College; **Texarkana**: college, train station, hospital, airport, prison, train.	Ft. Smith: Bus terminal also offers Kerrville Bus Lines service, Fort Smith Transit services near stop, Texarkana – Demand Response service (TRAX) in surrounding counties.	Yes	$43 non-refundable; $50 refundable	FY07: 34,700 for **four** routes operated by Kerrville in Arkansas, based on Needs Assessment.	http://www.iridekbc.com/ One-way route miles: 195
South East Arkansas Transit	Operating = $220,652 (Total)	12-pssngr, 2 wheelchair.	At least 1 RT – Mon – Fri.	Lake Village, Pine Bluff, Little Rock	Medical, Airport, Employment – Little Rock; College - Pine Bluff;	Jefferson Bus Lines in Pine Bluff – ticket agent in transit facility. Request to stop at Greyhound in Little Rock.	No			Not on the website, must call in. One –way route miles: 130 (est. from Google Maps)
South East Arkansas Transit		12-pssngr, 2 wheelchair.	At least 1 RT – Mon – Fri.	Crossett, Monticello (Route 425), Pine Bluff, Little Rock	Medical, Airport, Employment – Little Rock; College - Pine Bluff;	Jefferson Bus Lines in Pine Bluff – ticket agent in transit facility. Request to stop at Greyhound in Little Rock.	No			Not on the website, must call in. One-way route miles: 140 (est. from Google Maps)
South East Arkansas Transit		12-pssngr, 2 wheelchair.	At least 1 RT – Mon – Fri.	Crossett, (Route 63), Pine Bluff, Little Rock	Medical, Airport, Employment – Little Rock ; College - Pine Bluff;	Jefferson Bus Lines in Pine Bluff – ticket agent in transit facility. Request to stop at Greyhound in Little Rock.	No			Not on the website, must call in.
South East Arkansas Transit		12-pssngr, 2 wheelchair.	At least 1 RT – Mon – Fri.	Monticello, Pine Bluff, Little Rock	Medical, Airport, Employment – Little Rock; College - Pine Bluff;	Jefferson Bus Lines in Pine Bluff – ticket agent in transit facility. Request to stop at Greyhound in Little Rock.	No			Not on the website, must call in.
South East Arkansas Transit		12-pssngr, 2 wheelchair.	At least 1 RT – Mon – Fri.	Sheridan, Pine Bluff, Little Rock	Medical, Airport, Employment – Little Rock; College - Pine Bluff;	Jefferson Bus Lines in Pine Bluff – ticket agent in transit facility. Request to stop at Greyhound in Little Rock.	No			Not on the website, must call in.

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
South East Arkansas Transit		12-pssngr, 2 wheelchair.	At least 1 RT – Mon – Fri.	Stuttgart, Little Rock	Medical, Airport, Employment – Little Rock	Jefferson Bus Lines in Pine Bluff – ticket agent in transit facility. Request to stop at Greyhound in Little Rock.	No			Not on the website, must call in. One-way route miles: 55 (est. from Google Maps)

*Ridership data from the Arkansas State Highway and Transportation Department's Draft July 2008 *Assessment of the Availability and Need for Intercity Bus Service in Arkansas.*

Websites for connectivity info:

Fort Smith Transit: http://www.fortsmithar.gov/Default.aspx?tabid=80
Little Rock – Central Arkansas Transit Authority: http://www.cat.org/
Texarkana: http://www.atcog.org/trax.htm
Ozark Regional Transit: http://www.ozark.org/

California Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 20: Smith River - Arcata, operated by Redwood Coast Transit Authority.	FY 07: $54,733 Fully allocated costs, funds subsidize the operations of the route.	24 seating/2 wheelchair, with baggage storage area.	2 roundtrips: Mon – Sat.	**Smith River** – Lucky 7 Store, Salmon Harbor, Ray's Food Place, Ft. Dick Market, Pelican Bay State Prison, J&L Market, C.A.N.; **Crescent City** – Cultural Center; **Woodland Villa**; Pem-Mey; Gold Bear Casino; **Orick** (Redwood Nat'l Park Office), Trinidad Park & Ride; **Arcata** – Transit Center		**Arcata** Transit Center – Greyhound, and Amtrak Thruway Bus. On the other hand, connecting to RCTA coming from the south poses more problems. Even coming from Amtrak Thruway Bus No. 6311, it is quite possible that one would have to stay overnight in Arcata in order to catch the RCTA bus.	No	$20, one-way; $30 5-day unlimited; discount senior (60+) and people with disability.	FY 08 (Jul 07 – Jun 08): 12,480 Email attachment. FY 06 (July 2005 – June 2006): 8,195.	http://www.redwoodcoasttransit.org/route20.html One-way route miles: 94

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 4 extension: Clearlake to Lakeport & Route 7 – Lake Port to Ukiah operated by Lake Transit Authority.	FY 07: $78,000		**Route 4**: last scheduled run to Clearlake on M-F and 4 roundtrips on Sat.; **Route 7**: 4 roundtrips Mon-Sat.	*Route 7:* **Lakeport** – Third/Main, **Robinson Racheria**, **Upper Lake** – 1st / Main, **Blue Lakes Lodge**, **Calpella** – Consolidated Tribal Health, **Ukiah** – Mendocino College, Pear Tree Center, Veteran's Clinic, Burger King, Airport. *Route 4:* **Clearlake** – Ray's Food Place/Walmart, **Lowerlake** – Lake Co. Social Services, SR 53/SR 29; **Rivieras** – Kit's Corner; **Kelseyville** – Main/Third; **Lakeport** – K-Mart, Parallel Dr/Lakeport Blvd, Safeway, Third/Main.	**Lakeport**: Mendocino College Lake Center; **Ukiah**: Mendocino College	**Ukiah**: Greyhound at Airport and Amtrak at Burger King stop. Aero Airport Shuttle at Kelseyville, Lower Lake, Clearlake and Clearlake Oaks. *Layover times between Lake Transit and Greyhound services are quite short, and may not always be sufficient to guarantee a connection. However, Lake Transit does provide a phone number to call if a customer's incoming Amtrak or Greyhound bus is running late.	No	Route 7: $3; Seniors 60+ , $3; people with disabilities, $3. Route 4: $2 / $5; $1.25 seniors 60+; $1.25 people with disabilities.	FY 06 (May 2005 – Apr 2006): Route 4 – 4,656; Route 7 – 6,733. Based on 5311(f) Grant 24 app info.	http://laketransit.org/route4.asp; http://laketransit.org/route7.asp One-way route miles: Route 4: 24 Route 7: 45
Pecwan to Willow Creek operated by KT-Net under contract to the Yurok Tribal Government.		On order: Ford #450 Super Duty Bus, 15-22 passenger w/ 2 wheelchair positions (Hoopa to Weitchpac)	2 daily roundtrips (AM and PM) along SR-96 and SR-169. (Mon – Fri)	Willow Creek; Larson's Trailer Park; Ray's Market; Norton Field		**Willow Creek**: Humboldt Transit Authority - service to Arcata and access to intercity services. **Hoopa**: KT-Net services.	No	$2 one-way Willow Creek to Hoopa; $1.75 seniors 62+, children (3-12), persons with disability.		Not in operation yet.

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California Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Alturas - Susanville – Reno operated by Sage Stage.	FY 07: $79,500	Fleet: 6 vehs, Goshen GC II, 3 diesel, 3 unleaded; can accommodate the following configurations: 16 + 1 whlchr or 14 + 2 whlchr; 12 + 2 whlchr or 14 + 1 whlchr.	1 roundtrip on each day - Mon, Wed, Fri.	**Alturas** – Black Bear Restaurant (449 N Main); **Likely** – General Store; **Madeline** – Old Chevron; **Susanville** – Walmart; **Reno** – Reno/Tahoe International Airport, Greyhound, and, by request, Amtrak.	**Reno**: medical facilities, airport; **Susanville**: Walmart.	**Reno**: Greyhound stop, Amtrak station upon request, and Reno/Tahoe International Airport. *On the outbound side, layover times from Greyhound and Amtrak to Sage Stage are fairly short. Connections might be more reliable if Sage Stage outbound service were to run 30 minutes to an hour later.*	Yes: Greyhound with cash or check. **No route information on Greyhound website*.	$30 one-way; $20 one-way seniors 60+, disability, youth < 12 accompanied by fare-paying adult.	FY 08 (Jul 07 – Jun 08): 2,231 Based on email attachment 2.18.09 FY 2006 (Jul 2005 – Jun 2006): 981	http://www.sagestage.com/schedules.html One-way route miles: 203

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Alturas – Redding operated by Sage Stage.	FY 07: $49,685	Fleet: 6 vehs, Goshen GC II, 3 diesel, 3 unleaded; can accommodate the following configurations: 16 + 1 whlchr or 14 + 2 whlchr; 12 + 2 whlchr or 14 + 1 whlchr.	1 roundtrip, Mon and Fri.	**Alturas** – Black Bear Restaurant (449 N Main); **Canby** – Clinic (670 County Rd 83); **Adin** – Adin Supply 104 N Main St; **Bieber** – Kathy's Corner 111 Hwy 299 E; **Fall River Mills** - 42163 Hwy 299; **Burney** – 3744 Enterprise Dr; **Redding** – Transit Center	**Redding**: Redding Medical Center, Shasta County Courthouse, Mercy Medical Center, Mt. Shasta Mall, Costco, Redding Area Bus Authority terminal, Amtrak Station, Greyhound	**Redding**: Redding Area Bus Authority terminal, Amtrak Station, Greyhound. *From Redding to Alturas, there is a workable connection between Greyhound service coming from LA and Sacramento to the outbound Sage Stage. However, the connections from (1) Amtrak Thruway service arriving from the south and (2) Greyhound service coming from Oregon and Washington to the outbound Sage Stage are marginal.*	Yes: Greyhound with cash or check.	$24 one-way; $16 one way seniors 60+, disability, youth < 12 accompanied by fare-paying adult.	FY 08 (Jul 07 – Jun 08): 877 Based on email attachment 2.18.09 FY 06 (July 2005 – June 2006): 790	http://www.sagestage.com/schedules.html One-way route miles: 145
Alturas – Klamath Falls operated by Sage Stage.	FY 07: $39,500	Fleet: 6 vehs, Goshen GC II, 3 diesel, 3 unleaded; can accommodate the following configurations: 16 + 1 whlchr or 14 + 2 whlchr; 12 + 2 whlchr or 14 + 1 whlchr.	1 roundtrip, Wed. only. (For FY 06 (Jul 05 – Jun 06) – service only on Wed.)	**Alturas** – Black Bear Restaurant (449 N Main); **Canby** – Clinic (670 County Rd 83); **Newell** – Market (203 Fourth Ave); **Tulelake** – Jock's Market (395 Modoc Ave), **Klamath Falls** – Transit Center	**Klamath Falls**: Merle West Medical Center, Klamath Mall, Walmart, Klamath Regional Airport.	**Klamath Falls**: The Basin Shuttle Transit service to Medford, OR. The Shuttle connects to Greyhound in Medford. *Amtrak and Greyhound facilities are less than ¼ of a mile apart in Klamath Falls, but requires request by rider as 'excursion' trip.*	Greyhound with cash or check.	$18 one-way; $12 one way seniors 60+, disability, youth < 12 accompanied by fare-paying adult.	FY 08 (Jul 07 – Jun 08): 997 Based on email attachment 2.18.09 FY 06 (July 2005 – June 2006): 979	http://www.sagestage.com/schedules.html One-way route miles: 107

(continued on next page)

California Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 294 - San Mateo-Half Moon Bay operated by SamTrans.	FY 07: $200,000 *Not receiving funds for FY 09.*		10 daily round trips and limited weekend service.	**Pacifica** – Linda Mar Park & Ride, Main /7th; **El Granada** – Hwy 1/ El Granada; **Half Moon Bay** – Main/ Kelly; **San Mateo** – Alameda/20th, El Camino/31st	**Pacifica**: Linda Mar Shopping Center; **Half Moon Bay**: Shopping Center; **San Mateo**: Hillsdale Shopping Center.	**San Mateo**: Hillsdale Shopping Center stop – near Caltrain service.	No	$1.75 one-way; $0.75 senior 65+, person with disability; $1 youth	FY 06 (July 2005 – June 2006): 4,897	http://www.samtrans.com/schedules.html One-way route miles: 30
Route 11 St. Helena – Santa Rosa operated by Napa County Transportation Planning Agency.	FY 07: $95,000 *Will discontinue service for 5311(f) due to lack of demand. Most of the riders wanted access to medical facility in Santa Rosa.*	35 – 40´ vehicle	2 roundtrips Mon, Tues, Wed, Sat.	**St. Helena** – Pearl Street Transit Center, City Hall, Yountville Veteran's Home; **Calistoga** - Chateau, Downtown; **Petrified Forest/Hwy 128**; **Mendocino** – Kaiser Hospital; **Santa Rosa** – Coddingtown Mall, Federal Building	**Santa Rosa**: Kaiser Hospital, Coddingtown Mall, Santa Rosa Junior College.	**Santa Rosa**: route stop near Greyhound and Amtrak Thruway services. Local transit services.	No	$1.25; $0.60 senior 65+/ disabled, Medicare; $1 youth (6-18)	FY 2006 (Jul 2005 – Jun 2006): 2,598 FY 2007 (Jul 06 – Jun 07): 2,751 FY 2008 (Jul 07 – Jun 08): 2,873	http://www.nctpa.net/routes/index.cfm?rt=8&Submit=Go One-way route miles: 30 (est. from Google Maps.)
Line 23: Salinas – King City Express operated by Monterey-Salinas Transit.	FY 07: $123,465	40´ Gillig Phantom Suburban; seats 41 passengers, and provides overhead baggage storage areas	6 daily roundtrips, 2 daily express roundtrips; and weekend service.	**Salinas** – Northridge Mall, Hartnell College, Transit Ctr; **Chualar** – Grant/South; **Gonzales** - Gonzales Center; **Soledad** – Soledad Correctional Facility, Monterey/East, Mission Shopping Ctr; **Greenfield** – Santa Lucia Square**; King City** – Mee Memorial, Third/Lynn		**Salinas**: Stop at Greyhound and Amtrak near transit center. Layover can range between 5 min to several hours.	No	$2 one-way; $1 seniors 65+, people with disabilities, youth (range 5-18)	FY 2006 (Jul 2005 – Jun 2006): 86,635; no data for the month of Sept. 2005, so estimate of 7,500 trips used for the month.	http://www.mst.org/routes/list.htm One-way route miles: 50 (est. from Google Maps.)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 10: San Luis Obispo – Santa Maria operated by Southland Transit, Inc. under contract to San Luis Obispo Regional Transit Authority.	FY 07: $113,102		13 weekday roundtrips between San Luis Obispo and Santa Maria. Saturday and three Sunday roundtrips over the same route. This includes express service runs.	**Santa Maria** – Greyhound (Cypress/Railroad), Town Center Mall Transit, Allan Hancock College (Bradley/Jones), Amtrak Bus (Nicholson/Cypress), Marian Medical Center (Church/Palisade Dr); **Nipomo** – Tefft St/Carillo St, Nipomo High School (Thomspon Ave); **Arroyo Grande** – Park & Ride (El Camino Real/Halcyon), City Hall; **Grover Beach** – Ramona Garden (Ramona St/9th St); **Pismo Beach** – Doliver St/Pomeroy, Prime Outlett; **Shell Beach** – Shell Beach Road/Encanto Ave; **Avila Beach** – Ontario Rd/Bob Jones Trail; **San Luis Obispo** – Los Osos Valley Rd/Los Palos Dr, South Higuera St/Margarita Ave, Marsh St/Broad St, Greyhound (South St/Beebee St), Amtrak (Santa Rosa St/Railroad), City Govt Ctr (Osos St/Palm St), Mott Gym (Cal Poly)	**San Luis Obispo**: California Polytechnical, Marian Medical Center, Nipomo High School, Alan Hancock College, Prime Outlets; **Santa Maria**: Town Center Mall, Hancock College, Marian Medical Center.	**San Luis Obispo**: stop at Greyhound and Amtrak, given number of daily roundtrips, customers have several opportunities to connect with services. **Santa Maria**: stop at Greyhound and Amtrak, given number of daily roundtrips, customers have several opportunities to connect with services. **Grover Beach**: stop at Amtrak.	No	Zone: $1-$2; $0.50-$1 senior 65-79, disability; free children 5 yrs and younger accompanied by regular fare adult.	FY 08 (Jul 07 – Jun 08): 106,996 Email attachment. FY 06 (July 2005 – June 2006): 91,478	http://www.slorta.org/ One-way route miles: 35 (est. from Google Maps.)

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California Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
East Kern Express operated by Kern Regional Transit.	FY 07: $200,000	2 buses, El Dorado 30´	6 roundtrips M-F; 3 roundtrips Sat; 2 roundtrips Sun.	**Bakersfield** – Amtrak, GET, GET Stop (26th/M St), Bakersfield College, Kern Medical Center (Flower St), **Keene**, **Old Towne**, **Tehachapi** – K-Mart; **Mojave** – Stater Bros. Market, Carl's Jr (Inyo St/ Hwy 14); **Rosamond** – Albertson, Hummel Hall; **Lancaster** – Walmart, AV College, AV Medical Ctr, MetroLink, AV Senior Ctr.	**Bakersfield**: College, Kern Medical Center; **Tehachapi**: K-Mart; **Lancaster**: Walmart, AV Medical Center, AV Senior Center.	**Bakersfield**: stop at Amtrak station (train/Thruway), stop at Golden Empire Transit services; **Lancaster**: stop at MetroLink Station, and connections with Inyo/Mono C.R.E.S.T. route.	No	Zone: $1-$5; no discount fares for this route.	FY 08 (Jul 07 – Jun 08): 71,571 Based on email attachment 2.18.09 CY 2006: 60,715	http://www.co.kern.ca.us/roads/kernregionaltransit.asp One-way route miles: 78
Mojave Ridgecrest Express operated by Kern Regional Transit.	FY 07: $68,747		2 roundtrips each day: Mon, Wed, Fri.	**Mojave** – Carl's Jr (Inyo St/Hwy 14), Stater Bros Market; **California City** - Aspen Mall, City Hall; Inyokern; **Ridgecrest** – China Lake Blvd, City Hall.	**California City**: Aspen Mall; **Ridgecrest** – K-Mart.	**Ridgecrest**: City Hall - C.R.E.S.T. Route; **Mojave**: Eastern Kern Express	No	Zone: $0.75-$4; $0.50-$3 senior 62+, person with disability, and youth 5-15.	FY 08 (Jul 07 – Jun 08): 5,754 Based on email attachment 2.18.09 CY 2006: 4,593	http://www.co.kern.ca.us/roads/kernregionaltransit.asp One-way route miles: 60 (est. from Google Maps.)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Carson Ridgecrest Eastern Sierra Transit (C.R.E.S.T) Route (Ridgecrest – Reno, NV) operated by Inyo-Mono Transit.	FY 07: $169,198	27-passenger vehicle with luggage compartments, and 2 wheelchair spaces.	Route consists of two segments: Bishop–Reno (Mon, Tues, Thur, Fri), Mammoth – Ridgecrest (Mon, Wed, Fri).	**Bishop** – 201 S. Warren Terminal, Tom's Place; Crowley Lake – Crowley Storefront; Mammoth – McDonalds; June Lake – Fire House; Lee Vining – Caltrans Yard; Mono City; Bridgeport – General Store; Walker – Walker Sporting Goods; Coleville – Across from Post Office; Topaz – Trailer Park Entry; Gardnerville, Carson City – Nugget (Robinson St /Hwy 395), and Reno Airport; Big Pine – Texaco Bench; Aberdeen – Storefront; Independence – Mair's Market; Lone Pine – Statham Hall; Olancha – Ranch House Restaurant; Coso Junction – Rest Stop; Pearsonville – Texaco Parking Lot, **Ridgecrest** – City Hall (100 W. California).	**Reno**: airport, regional medical centers; **Ridgecrest**: medical facilities; **Carson City**: medical; **Mammoth Lakes**: recreation.	**Reno**: Reno/Tahoe International Airport, where passengers need to take a taxi or Regional Transportation Commission service to reach the Greyhound and Amtrak stations. **Lee Vining** (Summer): connect with Yosemite Area Transit System to access Yosemite National Park. **Ridgecrest**: Kern Regional Transit	No	Zone: Bishop-Reno $8-$28, $6-$23 senior 60+, person with disability, and children 5-16. *Updated – July 31, 2009: two fares: $26.50 (Lancaster-Bishop) + $48.00 (Bishop-Reno)	FY 08 (Jul 07 – Jun 08): 4,953 Based on email attachment 2.18.09 Calendar Year 2006: 4,364	http://www.inyocounty.us/transit/CRESTpage.htm One-way route miles: 340

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California Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Hwy 120 Route operated by Yosemite Area Regional Transportation System.	FY 07: $400,000 for operation of two routes – Hwy 120 and Hwy 140.	40´ buses, carried 45–52 passengers.	Summer Service: 1 daily roundtrip, (Jun, Sep – wknds only; July, August daily).	**Yosemite**-Valley Visitor Center, White Wolf Lodge, Crane Flat Gas Station; **Tuolumne** – Meadows Store, Meadows Visitor Center; **Lee Vining** – Lake View Lodge, Forest Service Visitor Center, Tioga Mobil Gas Mart; **June Lake** – Ski Area/Parking Lot, Rush Creek Trailhead; Mammoth Lakes – Mammoth Mountain Inn, Juniper Springs Summit, Mammoth Lakes Park & Ride, Shilo Inn	Yosemite National Park, Mammoth Lakes, June Lake Ski Area, Lee Vining.	Connecting to YARTS Highway 140 service to Merced requires waiting all day at Yosemite, and connecting to CREST in Lee Vining requires spending the night at a motel.	No	Zone: $3-$30; $2-$20, for senior 62+, children 12 and younger.	2006: 2,430 for Jun, Jul, Aug, Sep seasonal service. Data based on 5311(f) app.	http://www.yarts.com/schedule.html One-way route miles: 120 (est. from Google Maps.)
Hwy 140 Route operated by Yosemite Area Regional Transportation System.	FY 07: $400,000 for operation of two routes – Hwy 120 and Hwy 140.	40´ buses, carried 45–52 passengers, but due to detour, smaller buses were required to navigate route, 26.5´ buses, which carry 18–22 passengers.	Summer: Merced to Yosemite, 6 trips, Yosemite to Merced, 7 trips. Winter: Merced to Yoesemite, 3 trips, Yosemite to Merced, 4 trips.	**Merced** – Airport, Merced College, Merced Mall/Target, P G&E, Merced Transp Ctr, Amtrak, Courthouse, Catheys Valley; **Mariposa** – Midtown, Roadside Rest, Visitors Center, KOA, Midpines Park & Ride, Midpines Post Office, Yosemite Bug Resort; **El Portal** – Cedar Lodge, NPS Maintenance, Barium Mine Rd, El Portal Post Office, Yosemite View Lodge; **Yosemite** – Curry Village, Ahwahnee Hotel, Valley Visitors Center, Yosemite Lodge.	**Merced**: shopping, medical, college; **Yosemite** National Park (recreation and employment).	**Merced**: Amtrak, Greyhound, Merced Airport, and Merced County Transit.	No	Zone: $6-$25; $4-$18, for senior 62+, children 12 and younger	CY 2006: 31,075 Data based on 5311(f) app.	http://www.yarts.com/schedule.html One-way route miles: 80 (est. from Google Maps.)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Acton/Agua Dulce Route - Sierra Hwy operated by Los Angeles County Department of Public Works.	FY 07: none FY 08: $44,660		2 roundtrips/ day; Mon, Wed, Fri.	Acton, Agua Dulce, Santa Clarita on Mon, Wed.	Santa Clarita: medical services, shopping	**Santa Clarita** - Santa Clarita Transit Services; **Acton** – MetroLink; Newhall - MetroLink.	No	$1 per trip; free for seniors (60+) persons with disabilities, and children under 5 years of age.	CY 2006: 1,941	http://ladpw.org/PDD/Transit/Page_02.cfm One-way route miles: 65
Route 386: Escondido to Ramona, operated by North County Transit District San Diego.	FY 07: none. FY 08: $109,000		8 daily roundtrips. Also, provides demand response service.	**Ramona** (Station); Hwy 78 & Weekend Villa Rd.; **San Pasqual Academy** Parking Lot; Hwy 78 and San Pasqual Academy; Wild Animal Park; Hwy 78 and **Wild Animal Park**; Valley Parkway and Midway Dr.; **Escondid**o (Transit Center) along SR-78		**Escondido** Escondido Transit Center - local transit services, Greyhound and SPRINTER Regional Rail. **Ramona Station**: San Diego MTS service.		Zone: $4.50-$6; $2.25-$3, discounted.	FY 08 (Jul 07 – Jun 08): 22,025 Based on email attachment 2.18.09 FY 06 (Jul 2005 – Jun 2006): 43,000	http://www.gonctd.com/html_breeze_routes/386.htm One-way route miles: 21.5
Route 388: Escondido to Pala, operated by North County Transit District San Diego.	FY 08: $200,000		6 roundtrips, each day, 7 days a week.	**Pala** – Casino; Harrah's **Rincon** Casino; Valley Center and Cole Grade Rd.; Valley Parkway and Midway Dr.; and **Escondido** Transit Center	**Pala**: Casino; Harrah's Rincon Casino.	**Escondido** Transit Center - local transit services, Greyhound and SPRINTER Regional Rail.	No.	Zone: $4.50-$6; $2.25-$3, senior 60+, person with disability, Medicare recipient	FY 08 (Jul 07 – Jun 08): 13,285 Based on email attachment 2.18.09 FY 06 (July 2005 – June 2006): 124,564	http://www.gonctd.com/html_breeze_routes/388.htm One-way route miles: 27.1 mi.

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California Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 888: **Jacumba – El Cajon,** operated by Veolia, under contract to San Diego Metropolitan Transit System.	FY 08: $200,000 (portion)		1 roundtrip per day; Monday and Friday only.	**Jacumba** – Old Hwy 80 and Campo St., Boulevard – 39335 Old Hwy 80, Live Oak Springs – Royal Rd; **Morena Village** – Oak Dr.; Buckman Springs; **Pine Valley** – 28870 Old Hwy 80; Descanso – Viejas Blvd; Viejas Casino; Alpine Creek Shopping Ctr.; **El Cajon** – Main St, Transit Center, and Westfiled Parkway Plaza.		**El Cajon** Transit Center - Greyhound and Crucero Bus service and light rail to downtown San Diego and connect to further intercity services from there.	No	$5-$10; $1 seniors 60+, persons with disability, Medicare recipients; free, children less than 5 and accompanied by paying passenger		Website: http://www.sdmts.com/Bus/Bus.asp One-way route miles: 65 (est. from Google Maps.)
Route 891/892 : **Borrego Springs – El Cajon**, operated by Veolia, under contract to San Diego Metropolitan Transit System.	FY 08: $200,000 (portion)		1 roundtrip per day. 891 on Fri only. 892 on Thur only.	**Borrego Springs**; Rachita; Shelter Valley (Resort); **Banner** (store); **Julian** (Town Hall); Lake Henshaw (Resort); Santa Ysabel (Dudley's); **Ramona Station**; Mapleview; Westfield Parkway Plaza; and **El Cajon** Transit Center.		**El Cajon** Transit Center - Greyhound and Crucero service. Greyhound service in El Cajon is somewhat less feasible, requiring an extremely long wait in one direction and too little time to ensure that a transfer can be made in the other. However, passengers can use light rail to connect to more services downtown.	No.	$5-$10; $1 senior 60+, person with disability, Medicare recipients; free, children less than 5 and accompanied by paying passenger		Website: http://www.sdmts.com/Bus/Bus.asp One-way route miles: 75 (est. from Google Maps.)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 894: El Cajon – Morena Village, operated by Veolia, under contract to San Diego Metropolitan Transit System.	FY 08: $200,000 (portion)		3 daily roundtrips	**Westfield Parkway Plaza**; **El Cajon** Transit Center; Rancho SD Town Center; **Jamul**; **Dulzura**; Barrett Junction; **Tecate; Potrero**; Campo - Cameron Corners; **Lake Morena**		**El Cajon** Transit Center - Greyhound and Crucero service. The connection to Greyhound service to Phoenix and the connection from Crucero service from Calexico do involve long layovers in El Cajon, though.	No	$5-$10; $1 senior 60+, person with disability, Medicare recipients; free, children less than 5 and accompanied by paying passenger		Website: http://www.sdmts.com/Bus/Bus.asp One-way route miles: 50 (est. from Google Maps.)

Web sites for connectivity info:

Greyhound Lines, Inc.: www.greyhound.com
SPRINTER Regional Rail: http://www.gonctd.com/sprinter_intro.htm
Santa Clarita Transit: http://www.santa-clarita.com/cityhall/admin/transit/
MetroLink Train: http://www.metrolinktrains.com/
Amtrak: www.amtrak.com
CalTrain: http://www.caltrain.com/
Regional Transportation Commission (Reno, NV): http://www.rtcwashoe.com/

Colorado Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Omaha – Denver (Denver – Sterling) operated by Black Hills Stage Lines, Inc. (Tbl 881)	CDOT contracts with operator	Over the road bus (OTRB)	1 roundtrip daily	**Denver; Ft. Morgan; Brush; Sterling**	**Denver**: Several colleges/universities and major medical centers, Denver Women's Correctional Facility, Denver Reception & Diagnostic Center; major airport. **Ft. Morgan**: Morgan Community College, Colorado Plains Medical Center **Brush**: Brush Correctional Facility **Sterling**: Northeastern Junior College, Sterling Correctional Facility	**Denver**: Intercity buses: Greyhound; Texas, New Mexico, and Oklahoma Coaches, Inc. (TNM&O); Burlington Trailways; Denver Regional Transportation District (RTD); Hispanic bus lines—Americanos USA, Autobuses de Mexico, Camionetas Chihuahua, El Paso-Los Angeles Limousine, Los Paisanos Commuter buses: Front Range Express (FREX) Amtrak: Rail and Thruway Bus Service (two stations); Denver RTD stop near Greyhound station on 19th St. **Ft. Morgan**: Northeast Colorado Association of Local Governments-County Express (demand response), Amtrak **Brush**: Northeast Colorado Association of Local Governments-County Express (demand response), Brush Municipal Airport **Sterling**: Northeast Colorado Association of Local Governments-County Express (demand response), Sterling Municipal Airport	NBTA interlining; connects with Greyhound at shared stations	Examples: Denver to Sterling regular fare: $40.50 one-way/ $81 roundtrip; senior fare: $36.45 one-way/ $72.90 roundtrip children's fare (under 12): $24.30 one-way/ $48.60 roundtrip Denver to Ft. Morga regular fare: $29.75 one-way/ $59.50 roundtrip senior fare $26.78 one-way/ $53.55 roundtrip children's fare (under 12): $17.85 one-way/ $35.70 roundtrip Ft. Morgan to Sterling regular fare: $18.50 one-way/ $37 roundtrip senior fare: $16.65 one-way/ $33.30 roundtrip children's fare (under 12): $11.10 one-way/ $22.20 roundtrip	10,779 for 2007 (on Colorado segment)	http://www.blackhillsstagelines.com/Default.asp One-way route miles: 125 (est. from Google Maps.)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Omaha – Denver (Julesburg – Denver) operated by Burlington Trailways (Tbl 7096)	CDOT contracts with operator	Over the road bus (OTRB)	1 roundtrip daily	**Denver; Ft. Morgan; Brush; Sterling; Julesburg**	**Denver**: Several colleges/universities and major medical centers, Denver Women's Correctional Facility, Denver Reception & Diagnostic Center **Ft. Morgan**: Morgan Community College, Colorado Plains Medical Center **Brush**: Brush Correctional Facility **Sterling**: Northeastern Junior College, Sterling Correctional Facility	**Denver**: Intercity buses: Greyhound, TNM&O, Black Hills Stage Lines, Denver RTD, Hispanic bus lines—Americanos USA, Autobuses de Mexico, Camionetas Chihuahua, El Paso-Los Angeles Limousine, Los Paisanos Commuter buses: FREX Amtrak: Rail and Thruway Bus Service (two stations) **Ft. Morgan**: Northeast Colorado Association of Local Governments-County Express (demand response), Amtrak **Brush**: Northeast Colorado Association of Local Governments-County Express (demand response), Brush Municipal Airport **Sterling**: Northeast Colorado Association of Local Governments-County Express (demand response), Sterling Municipal Airport	NBTA interlining; connects with Greyhound at shared stations	Denver–Julesburg: $47.25 Adult one-way **Fare based on current Internet information.**	23,960 for 2007 (on Colorado segment)	http://www.burlingtontrailways.com/ One-way route miles: 182 (est. from Google Maps.)

Links for connecting agencies:

Americanos USA: http://www.autobusesamericanos.us/EN/Home.shtml
Amtrak: http://www.amtrak.com/servlet/ContentServer?pagename=Amtrak/HomePage
Black Hills Stage Lines: http://www.blackhillsstagelines.com/
Brush Municipal Airport: http://www.airnav.com/airport/7V5
Burlington Trailways: http://www.burlingtontrailways.com/
Denver RTD: http://www.rtd-denver.com/
El Paso-Los Angeles Limousine: http://www.eplalimo.com/
FREX: http://www.frontrangeexpress.com/
Greyhound: http://www.greyhound.com/home/
Northeast Colorado Association of Local Governments-County Express: http://www.northeasterncolorado.com/htm/welcome.php
Sterling Municipal Airport: http://www.airnav.com/airport/KSTK
TNM&O: http://www.tnmo.com/

Florida Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Miami–Key West Tbl 414 operated by Greyhound Lines		OTRB	2 daily RT.	Miami – city, airport, and Cutler Ridge; Key Largo, Islamorada, Marathon, Big Pine Key, Key West	Miami – airport, college, medical facilities;	**Miami** – airport, Miami-Dade Transit provides service at the airport and the Greyhound station on 27th St.	NBTA	Miami–Key West: $35.40 (web only); $44.25		No map. One-way route miles: 160 (est. from Google Maps.)
Tampa–Tallahassee Tbl 403 operated by Greyhound Lines		OTRB	1 daily RT.	Tampa Tallahassee, No service through New Port Richey.	Tampa – college, medical, airport, Tallahassee – college, medical, airport	**Tampa** – Hillsborough Area Transit service near the GLI stop on Polk St; Amtrak service approx. ½ mile away	NBTA			No Map. One-way route miles: 272 (est. from Google Maps.)
Orlando–Ft. Pierce Tbl 416 operated by Greyhound Lines		OTRB	1 daily RT.	Orlando, Titusville, Melbourne, Ft. Pierce	Orlando: Columbia College; Ft. Pierce: University of FL Research & Education Center; medical facilities, and other colleges; Melbourne: Melbourne International Airport, colleges.	**Orlando**: stop not near local transit service; **Ft. Pierce**: stop near Treasure Coast Connector service (Route 3); **Melbourne**: Greyhound stop at Melbourne International Airport, Space Coast Area Transit stop at airport.	NBTA	$24.80 non-refundable, web-only complete one-way trip; $31 non-refundable		No Map. One-way route miles: 121 (est. from Google Maps.)

Links to connecting agencies:

Miami-Dade Transit: www.miamidade.gov/transit/
Hillsborogh Area Transit: www.hartline.org/
Orlando: www.golynx.com/
Tallahassee: www.talgov.com/
Community Transit -Treasure Coast Connector (Ft. Pierce): www.treasurecoastconnector.com
Space Coast Area Transit (Brevard County – Melbourne and Titusville): www.ridescat.com/

Idaho Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Moscow-Lewiston, operated by RPT, Inc. (Valley Transit)	Service funded begin-ning Aug. 2006	20 pass, 2 wheelchair positions cutaway with bicycle rack	4 roundtrips Mon-Fri.	**Lewiston**: Lewiston Community Center (1424 Main St), Lewis-Clark State College (7th Ave at 5th St), Lewiston-Nez Perce County Airport **Moscow**: Eastside Marketplace (1420 S Blaine St), 1912 Building (412 E 3rd St), Best Western-University Inn (1516 Pullman Rd), University of Idaho Student Union Bldg. (709 Deakin Ave)	**Lewiston**: Lewis-Clark State College, St. Joseph Regional Medical Center **Moscow**: University of Idaho, Gritman Medical Center, Eastside Marketplace	**Lewiston**: Community Center-Valley Transit (also serving Clarkston and Asotin), Appaloosa Express, Lewiston-Nez Perce County Airport-two commercial airlines; **Moscow**: Moscow Valley Transit, Northwest Trailways (5-6 blocks), Wheatland Express	No	$5.00 per one-way trip	Average monthly ridership: 2006: 212 (operations began in August 2006) 2007: 23 2008 to date: 242 Total 2007: 2,773	(no map) General http://users.lewiston.com/valleytransit/default.htm Brochure: http://users.lewiston.com/valleytransit/Intercity/MoscowIntercityBrochure10-22-06.pdf One-way route miles: 36 (est. from Google Maps)
Moscow-Boise, operated by Boise-Winnemucca Stages and Northwestern Stage Lines, dba Northwestern Trailways	Service funded begin-ning April 2006	47-pass. MCI coach	1 roundtrip daily	**Moscow**: Royal Motor Inn (120 W. 6th) **Lewiston**: Shell Dyna Mart (1920 Hwy 128) Craigmont: Craigmont Hardware (200 W. Main) **Cottonwood**: Mini Village (1306 King St) **Grangeville**: Zip Trip (901 W. Main, Hwy 95) **Whitebird**: Hoots Cafe (1 mile S. of Whitebird) (meal stop) **Riggins**: Back Eddy Grill (533 N. Main) **New Meadows**: Turning Point Chevron (Hwy. 55 & 95) **McCall**: Jim's Grocery (147 3rd St.) **Donnelly**: Sinclair Country Store **Cascade**: Harpo's Chevron (823 S. Main) **Horseshoe Bend**: Ray's Corner Market **Boise**: Greyhound Bus Depot (1212 Bannock St.) BEYOND 5311(f) FUNDING: Pullman, Colfax, Spokane, Spokane Airport	**Moscow**: University of Idaho, Gritman Medical Center; **Lewiston**: Lewis-Clark State College, St. Joseph Regional Medical Center, Potlatch Pulp Mill (major employer), outdoor recreation; **Cottonwood**: North Idaho Correctional Institution; **Riggins**: Hell's Canyon National Recreation Area; **McCall**: outdoor recreation; **Donnelly**: resort, outdoor recreation; **Boise**: regional medical facilities BEYOND 5311(f) FUNDING: Pullman: Washington State University Spokane: regional medical facilities	**Moscow**: Moscow Valley Transit, Wheatland Express **Lewiston**: Valley Transit (also serving Clarkston and Asotin), Appaloosa Express; **Boise**: Valley Regional Transit, ValleyRide POINTS BEYOND 5311(f) FUNDING: Pullman: Pullman Transit Spokane: Spokane Transit Spokane Airport: commercial airlines	with Greyhound and Amtrak	Examples: Moscow to Boise: $47 per one-way trip, $89 roundtrip New Meadows to Boise: $27 one-way, $51 roundtrip	CY 2006: Average monthly: 584 Total: 7,008 CY 2007: Average monthly: 823 Total: 9,877	http://66.193.141.11/ http://www.northwesterntrailways.com/ One-way route miles: 301 (est. from Google Maps)

(continued on next page)

Idaho Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Coeur d'Alene to Sandpoint Route operated by NICE (North Idaho Community Express), Coeur d'Alene		32 pass., 2 wheelchair positions	3 roundtrips Mon-Fri	Ponderay: Yokes Foods (on call) Sandpoint: Post Office (N 4th Ave & Church St.) Sagle: Conoco Westmond: Chevron (on call) Careywood: fire station (on call) Athol: Crossroads Texaco (on call) Coeur d'Alene: Coeur d'Alene Charter school area (on call), Ironwood area (on call), North Idaho College (campus map & Lee Hall), special stops, Greyhound station (137 E Spruce St.)	**Sandpoint**: tourism, major employers; **Coeur d'Alene**: North Idaho College, tourism, major employers, regional medical, regional shopping.	**Ponderay**: local NICE service **Sandpoint**: Amtrak (many blocks away at 450 Railroad Avenue), NICE curb-to-curb; **Sagle**: NICE curb-to-curb; **Coeur d'Alene**: Greyhound, local NICE service (KATS-LINK), CityLink	None (though NICE is the Greyhound ticket agent in Coeur d'Alene)	$14 one-way	CY 2004: (April-Dec. only) Average monthly: 707 Total: 6,360 CY 2005: Average monthly: 527 Total: 6,320 CY 2006: Average monthly: 551 Total: 6,608 CY 2007: Average monthly: 494 Total: 5,928 CY 2008: (Jan-June only) Average monthly: 608 Total: 3,648	http://nicetransportation.com/ One-way route miles: 45 (est. from Google Maps)
Boise - Rexburg operated by Rocky Mountain Trails	Receives a small grant to expand between Pocatello and Boise to twice a day and from Twin Falls to Boise four times a day. (assumed eastern Idaho Grey-hound route, operating with no subsidy.)	16 pass. vans with 12 trailer for luggage, bikes and freight. No wheelchair lifts; works with PRTA in Pocatello if lift is needed.	Twin Falls to Boise: 2 roundtrips daily	**Boise**: Boise Airport & BSU/Jackson's Shell Station **Mountain Home**: Pilot/Arby's **Glenns Ferry**: Shell Station **Bliss**: Ziggy's Gas & Grub **Wendell**: Farmhouse Restaurant **Jerome**: Walmart **Twin Falls**: Shilo Inn **Kimberly**: Shell Oasis **Burley**: HUB Phillips 66 **Rupert/Declo**: Jake's Over the Top Shell **American Falls**: American Falls Airport **Pocatello**: Jackson's Shell Station & Pocatello Transit Center **Blackfoot**: McDonald's; **Idaho Falls**: Bus Terminal; **Rexburg**: AmericInn.	**Boise**: VA Medical Center, other regional medical facilities, major employers, tourism **Mountain Home**: Mountain Home Air Force Base **Jerome**: Walmart **Twin Falls**: College of Southern Idaho, major employers **Burley**: Walmart **Pocatello**: Idaho State University, major employers, tourism	**Boise**: ValleyRide, commercial airlines **Twin Falls**: Trans IV **Pocatello**: Pocatello Regional Transit, Greyhound	Greyhound	Calculated by miles and how many days in advance a reservation is made online. Examples: $22 for Mountain Home to Boise or $45 Boise to Pocatello	2006: 665 2007: 1,451 (expanded to Boise in 2007) usually have increased ridership around holidays and weekends	No map but schedule is online at http://www.saltlakeexpress.com/ One-way route miles: 335 (est. from Google Maps)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Targhee Regional Public Transit Authority, Rexburg-Driggs			2 daily roundtrips, weekdays	Rexburg, Salmon, Driggs	**Rexburg**: Brigham Young University- Idaho	**Rexburg:** Salt Lake Express, TRPTA Local Idaho Falls Services	None	$12 one way		http://www.trpta.org/page04.html
TRANS IV Buses, College of Southern Idaho, Twin Falls	(Burley route added since 5311(f) funding began.)	12 to 24 pass. + 2 wheelchairs with lifts	6:30 am – 5 pm Mon-Fri (advanced reservations are required) (Burly only runs about 160 days per year.)	**Twin Falls**: College of Southern Idaho **Gooding**: NE corner across from Mavrick station **Wendell**: Simerlys **Jerome**: Tiger Stop 10th & Lincoln, Old Con Palos parking lot, Honks store across from Walmart **Buhl**: North side of swimming pool, Ridley's store **Burley**: Old K-Mart parking lot (701 N. Overland) **Filer**: Cedar Lanes **Kimberly**: various homes **Hansen**: Post Office and various homes	**Twin Falls**: College of Southern Idaho, regional medical facilities, major employers, various centers for adults with disabilities **Gooding**: Idaho School for the Deaf and Jerome: Walmart	**Twin Falls**: local TRANS IV service, Greyhound (1390 Blue Lakes Blvd) **Burley**: Greyhound (approx. 10 blocks away at 725 W Main St)	None	One-way fares from Twin Falls: Gooding: $8, Wendell: $6.50, Jerome & Filer & Kimberly & Hansen: $5, Buhl $5.50, monthly rates are available + Medicaid transportation	Gooding/ Wendell/ Jerome: 2,132 per year = 8.5 average boardings/ day Burley (164 days): 2,320 per year = 14.2 average boardings/ day Buhl/Filer: 884 per year = 3.5 average boardings/ day Kimberly/ Hansen: 2,704 per year = 10.8 average boardings/ day Total: 8,040 per year, 37 per day	General information, though no route or schedule: http://www.csi.edu/support/transiv/tiv_body.html

Links for connecting agencies:

Appaloosa Express: http://www.nezperce.org/content/Programs/Appaloosa%20Express.htm
CityLink: http://www.idahocitylink.com/
Moscow Valley Transit: http://www.ci.moscow.id.us/Transit/index.htm?page=transportation
Pocatello Regional Transit: http://www.pocatellotransit.com/
Pullman Transit: http://www.pullmantransit.com/
Spokane Transit: http://www.spokanetransit.com/
Valley Regional Transit: http://www.valleyregionaltransit.org/
ValleyRide: http://www.valleyride.org/
Wheatland Express: http://www.wheatlandexpress.com/

Iowa Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Minneapolis, MN – Kansas City, MO **Mason City – Lamoni, Iowa** (Table 750 – Nos. 807 and 804) operated by Jefferson Lines			1 daily roundtrip	Minneapolis: Greyhound, Univ. of Minn.; St. Paul, Minn-St. Paul Airport; Burnsville, Northfield, Faribault, Owatonna, Albert Lea, Mason City, Clear Lake, Dudley's Corner, US20/I35, Ames, Des Moines, Osceola, Lamoni, Bethany, Cameron, Kansas City	**Minneapolis**: Univ. of MN-Minneapolis and many colleges, several major medical centers **St. Paul**: University of MN-St. Paul and many colleges, several major medical centers MSP Int'l Airport; **Mason City**: Municipal Airport; **Ames**: Iowa State Univ., Ames Muni Airport, Greely Med Ctr; **Des Moines**: medical centers, college, airport; **Osceola**: community college, train station, Clarke Co. Hospital; **Lamoni**: Graceland Univ, community health center; **Bethany**: Harrison Co. Comm Hospital; **Cameron**: Cameron Reg. Med Ctr, airport; **Kansas City**: college, med ctr, train station, airport	Minneapolis: Greyhound, Metro Transit, several cab companies, Amtrak in St. Paul; St. Paul: Greyhound, Amtrak, Metro Transit, several cab companies; MSP Int'l Airport: Commercial airlines, Metro Transit, taxis, private shuttles; Mason City: Greyhound services at stop; Des Moines: near Des Moines Area Regional Transit Services; Kansas City: Greyhound service at stop, near The Metro Services; and stop at Amtrak.	Yes, NBTA interlining; connects with Greyhound at shared stations	$45, one-way adult.		www.jeffersonlines.com One-way route miles: 500 (est. from Google Maps)
Davenport – Des Moines Chicago – Denver (Table 7096 – Nos. 1401, 1402, 1410) operated by Burlington Trailways			1 daily roundtrip	Davenport, Burlington, Mt. Pleasant, Fairfield, Ottumwa, Oskaloosa, Knoxville, Des Moines, Atlantic, Council Bluffs, Omaha	**Davenport:** Eastern Iowa Comm Coll., St. Ambrose Univ., Augustana Coll., med ctr.; **Burlington**: Southeastern Iowa Comm. Coll., Iowa Army Ammunition Plant; **Mt. Pleasant:** Iowa Wesleyan College; Henry Co. Health Ctr., Municipal Airport; **Fairfield**: Maharishi Univ., Indian Hills Comm. Coll., Jefferson Co. Hospital; Ottumwa: Indian Hills Comm. Coll., **Ottumwa** Reg. Health Ctr.; **Oskaloosa**: William Penn Univ., Mahaska Co. Hospital; **Des Moines**: medical centers, college, airport; **Atlantic**: Iowa Western Comm. Coll., Cass County Mem. Hosp., **Council Bluffs**: Iowa Western Comm. Coll.; **Omaha**: Clarkson Coll., Creighton Univ., Metro. Comm. Coll., NE Med. Ctr., St. Joseph Hospital, Omaha Correctional Facility, Eppley Airfield.	Davenport: at Citibus Transit Ground Transportation Center, Amtrak Station; Burlington: Amtrak Station, B.U.S. services; Ottumwa: Amtrak Station, Ottumwa Transit service; Omaha: Amtrak Station, stop near Metro Area Transit Services.				

Links for connecting agencies:

Kansas City: http://www.kcata.org/
Davenport: http://www.cityofdavenportiowa.com/department/?fDD=27-0
Burlington (Burlington Urban Service): http://www.burlingtoniowa.org/publicworks/bus.html
Ottumwa: http://www.ottumwatransit.com/
Des Moines: http://www.dmmta.com/index.asp
Omaha, NE: Metro Area Transit: http://www.metroareatransit.com/

Maine Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Bangor – Limestone: Operated by Cyr Bus Line	For FY 04 – 06: received $30,000 annually. FY 08 – $30,000	1 - MCI 54-passenger Coach	1 daily roundtrip.	Limestone, Caribou, Presque Isle, Mars Hill, Bridgewater, Monticello, Houlton, Oakfield, Sherman, Medway, Howland, Bangor, Orono, Old Town.	**Bangor**: airport, medical facilities; **Caribou**: medical facility; **Ft. Kent**: college; **Preseque Isle**: medical facility, college; **Orono**: University of Maine.	**Bangor**: Greyhound Terminal and Concord Trailways.	Yes. Greyhound, Concord Trailways	Zone Fare: $1.25 to $27 (entire one-way)	CY 04: 13,510 CY 05: 14,795 CY 06: 15,891 CY 07: 15,571 CY 08 (Jan – Jul): 10,271 Oct 08: 45 riders/day	MDOT Region 3: Biennial Operations Plan (Projected for FY 07 and 08) One-way route miles: 200 (est. from Google Maps)
Calais – Bangor Intercity Service: Operated by West's Transportation Inc.	For FY 04: $30,500; FY 05: $30,500, and FY 06: $39,000. FY 07 and 08, projected $39,000	Cut-van, 16-passenger; wheelchair accessible, and bike racks.	1 daily roundtrip.	Calais, Perry, Machias, Gouldsboro, Ellsworth, Bangor. (with flag stops in between)	**Machias**: University of Maine; **Bangor**: Vocational Schools, airport, hospital; **Calais**: college; Ecotourism – increase in recreation stops along route.	**Bangor**: Greyhound Stop, Concord Trailways Stop, Bangor International Airport; and near Bangor Area Transit services.		Zone Fare: $11- $22 (one-way); $16-$37 (roundtrip)	CY 04: 3,217 CY 05: 3,544 CY 06: 3,600 CY 07: 4,000	MDOT Region 2: Biennial Operations Plan (Projected for FY 07 and 08) One-way route miles: 175 (est. from Google Maps)
Portland – Biddeford: ShuttleBus Intercity Service Operated by ShuttleBus	For FY 04: $30,500; FY 05: $30,500, and FY 06: $39,000. FY 07: $59,800	Vehicle information provided, but cannot identify which pertain to this route service.	4 weekday roundtrips; limited Sat/Sun service.	Tri-Towns: Biddeford, Saco, Old Orchard Beach; Scarborough, South Portland, Portland	**Portland**: college, airport, medical.	**Portland**: Transportation Center: Amtrak, Concord Trailways – on request; and Metro – Greater Portland Transit District.		Zone Fare: $1.50 - $5 (one-way); 10-ride pass $23.		

Link to connecting agencies:

West's Bus: www.westbusservice.com
ShuttleBus: www.shuttlebus-zoom.com/intercity.htm
Greater Portland Transit District: www.gpmetrobus.com
City of Bangor: www.bangormaine.gov/cs_publictransit.php
Greyhound Lines, Inc.: www.greyhound.com
Concord Trailways: www.concordtrailways.com

Michigan Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Ironwood - St. Ignace (Hiawatha Route) – Tbl 1489, Schedule Nos: 51, 50 operated by Indian Trails			1 daily roundtrip.	St. Ignace, Epoufette, Naubinway, Gould City, Blaney Park, Mantisque, Thompson, Rapid River, Gladstone, Escanaba, (Green Bay, Milwaukee,), Bark River, Wilson, Powers, Norway, Iron Mountain, Spread Eagle, Florence, Crystal Falls, Iron River, Watersmeet, Marenisco, Wakefield, Bessemer, Ironwood	**Escanaba**: Bay De Noc Community College; **Ironwood**: college, and medical.	**St. Ignace**: shared stop with Greyhound; **Escanaba**: stop at the Delta Area Transit Authority; **Ironwood**: shared stop with Greyhound and Gogebic County Transit.	NBTA interlining; ("Error" on GLI website when searching for these two points.)	$71.45 Discount avail. with 7-day advanced notice.	FY 07 (Oct 06 – Sep 07): 10,335 FY 08 (Oct 07 – Sep 08): 9,578	http://www.indiantrails.com/13.html?sm=1961 One-way route miles: 329
Calumet - Milwaukee (Superior Route) – Tbl 1490 Schedule Nos: 53, 52 operated by Indian Trails.			1 daily roundtrip	Calumet, Hancock, Hougton, Chassell, Keweenaw Bay, Baraga, L'Anse, Three Lakes, Michigamme, Champion, Ishpeming, Negaunee, Marquette, Gwinn, Gladstone, Escanaba, Bark River, Wilson, Powers, Nadeau, Carney, Bagley, Daggett, Stephenson, Wallace, Menominee, (Marinette, Peshtigo, Oconto, Green Bay, Manitowoc, Sheboygan, Milwaukee – WI)	**Calumet**: Aspirus Keweenaw Hospital; **Hancock**: Finlandia University; **Houghton**: Michigan Tech University; **Escanaba**: Bay De Noc Community College; **Baraga**: Ojibwa Community College; **Marquette**: colleges, and hospital; **Green Bay**: colleges, hospital, airport.	**Marquette**: stop at Marquette County Transit Authority Transportation Center that includes Greyhound service; **Escanaba**: stop at the Delta Area Transit Authority; **Marinette**: Shared stop with Greyhound; **Green Bay**: Greyhound Terminal; Green Bay: Greyhound Terminal, near the Green Bay Metro Transit Service (Route 11); **Milwaukee**: Intermodal station – Amtrak Train, and Coach USA, MegaBus and Greyhound	Greyhound website does not show this route service.	$82.45	FY 07 (Oct 06 – Sep 07): 23,665 includes ridership to Milwaukee FY 08 (Oct 07 – Sep 08): 20,863	http://www.indiantrails.com/13.html?sm=1961 One-way route miles: 435
Lansing – St. Ignace (Straits Route) Tbl. 1488 Schedule Nos: 55, 54 operated by Indian Trails			1 daily roundtrip	E. Lansing, Lansing, Alma, Mt. Pleasant, Clare, Harrison, Houghton Lake, Grayling, Gaylord, Boyne Falls, Boyne City, Walloon Lake, Petoskey, Pellston, Mackinaw, St. Ignace	**Lansing**: college, medical, airport; **Gaylord**: Grace Baptist College, Spring Arbor University, Ostego Memorial Hospital,	**E. Lansing**; **Lansing**: Capital Area Transportation Authority (CATA) Transportation Center that includes Greyhound service; **Alma**: City Dial-A-Ride Transit Center with Greyhound services; Grayling: Greyhound stop; **St. Ignace**: shared stop with Greyhound;	NBTA interlining; ("Error" on GLI website when searching for these two points.)	$48.95	FY 08 (Oct 07 – Sep 08): 10,294	http://www.indiantrails.com/13.html?sm=1961 One-way route miles: 203

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
St. Ignace - Bay City (Huron Route) – Tbl. 1485 Schedule Nos: 84, 85 operated by Indian Trails			1 daily roundtrip.	St. Ignace, Mackinaw City, Cheboygan, Tower, Onaway, Rogers, Alpena, Ossineke, Harrisville, Oscoda, Tawas City, Au Gres, Omer, Standish, Pinconning, Bay City	**Onaway**: hospital; **Oscoda**: hospital; **Standish**: hospital, correctional facility; **Bay City**: hospital, college.	**St. Ignace**: shared stop with Greyhound; **Cheboygan**: shared stop with Greyhound; **Bay City**: Central Bus Terminal for Bay Metro Services and Greyhound services.	NBTA interlining; ("Error" on GLI website when searching for these two points.)	$44.00	FY 07 (Oct 06 – Sep 07): 8,967 FY 08 (Oct 07 – Sep 08): 9,360	http://www.indiantrails.com/13.html?sm=1961 One-way route miles: 247
St. Ignace – Grand Rapids (Sleeping Bear Route) – Tbl. 1484 Schedule Nos: 81, 80 operated by Indian Trails			1 daily roundtrip.	St.Ignace, Mackinaw City, Pellston, Petoskey, Wallon Lake, Boyne City, Boyne Falls, Mancelona, Kalkaska, Traverse City, Kingsley, Manton, Cadillac, Reed City, Big Rapids, Stanwood, Morley, Howard City, Cedar Springs, Rockford, Grand Rapids	**Pellston**: airport; **Petoskey**: hospital; **Traverse City**: college, hospital, airport; **Grand Rapids**: college, hospital, airport.	**St. Ignace**: shared stop with Greyhound; **Pellston**: Otsego County Bus System Demand-Response service, Amtrak Bus; **Petoskey**: shared stop with Amtrak Bus; **Mancelona**: shared stop with Amtrak Bus; **Traverse City**: stop at BATA (local transit) and near Amtrak Bus service; **Cadillac**: stop at Wexford Transit (local transit – demand response) includes Amtrak Bus service; **Big Rapids**: shared stop with Amtrak Bus; **Grand Rapids**: Greyhound Terminal, Grand Rapids: The Rapid Central Station – The Rapid Transit (local transit) and Greyhound service; local transit operates service to Amtrak station.	NBTA interlining; ("Error" on GLI website when searching for these two points.)	$48.95	FY 07 (Oct 06 – Sep 07): 20,667 FY 08 (Oct 07 – Sep 08): 24,972	http://www.indiantrails.com/13.html?sm=1961 One-way route miles: 270

Links to connecting agencies:

The Rapid (Grand Rapids): www.ridetherapid.org
Delta Area Transit Authority (Escanaba): www.databus.org/
Bay Metro Transit Authority (Bay City): www.baymetro.com
Bay Area Transportation Authority (Traverse City): www.bata.net
Capital Area Transportation Authority (Lansing): www.cata.org
Marquette County Transit Authority (Marquette): www.marq-tran.com
Gogebic County Public Transit (Ironwood): www.gogebic.org/transit.htm
Greyhound Lines, Inc.: www.greyhound.com
Amtrak: www.amtrak.com

Minnesota Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Duluth – Minneapolis Tbl 760 Runs 909, 910 operated by Jefferson Lines	MNDOT contracts with operator	Over the road bus (OTRB)	3 daily roundtrips (two are express to Duluth, one stops at towns between St. Paul and Duluth)	University of MN-Duluth College of St. Scholastica Duluth Transit Center Duluth Greyhound Terminal Cloquet Moose Lake Willow River Sandstone Hinckley Pine City Rush City North Branch Forest Lake Blaine Transit Center St. Paul Greyhound Terminal St. Paul Amtrak University of MN-St. Paul Univ. of MN-Minneapolis Minneapolis Greyhound Burnsville Transit Center MSP Int'l Airport	Duluth: University of MN-Duluth, College of St. Scholastica, Lake Superior College, Duluth Int'l Airport, Dept. of Health-Northeastern District, Miller-Dwan Medical Center, St. Luke's Hospital, St. Mary's Medical Center, Coast Guard-Marine Safety Unit Duluth, Duluth Air National Guard Base Cloquet: Fond Du Lac Tribal & Community College Moose Lake: MN Correctional Facility-Willow River/Moose Lake Pine City: Pine Technical College Rush City: MN Correctional Facility-Rush City, Rush City Hospital Blaine: Globe University/MN School of Business - Blaine St. Paul: University of MN-St. Paul and many colleges, several major medical centers Minneapolis: Univ. of MN-Minneapolis and many colleges, several major medical centers Burnsville: Fairview Ridges Hospital MSP Int'l Airport	Duluth: Greyhound, Duluth Transit Authority (bus service), 3 cab companies (Ace-Hi Taxi, Allied Taxicab Co., A Custom Cab), Amtrak Thruway Bus Service, Duluth Int'l Airport Cloquet: Arrowhead Transit (Cloquet Dial-a-Ride) Hinckley: Amtrak Thruway Bus Service Pine City: Pine County Citizens Committee on Aging St. Paul: Greyhound, Amtrak, Metro Transit, several cab companies Minneapolis: Greyhound, Metro Transit, several cab companies Burnsville: Minnesota Valley Transit Authority MSP: Commercial airlines, Metro Transit, taxis, private shuttles	NBTA interlining; connects with Greyhound at shared stations	Examples: MSP to Univ. of MN-Duluth Regular Fare: $29 one-way/ $56 roundtrip; senior fare: $25.20 one-way/$48.60 roundtrip; College Connection fare: $23.80 one-way/ $45.90 round-trip Minneapolis to Pine City regular fare: $20.50 one-way/$41 roundtrip; senior fare (over 62): $18.45 one-way/$36.90 roundtrip; children's fare (under 12): $12.30 one-way/$24.60 roundtrip	19,030 for 2007 including 4 new runs that began in September 07 2007 ridership by runs: 905 = 82 906 = 546 907 = 579 908 = 87 909 = 8,710 910 = 9,026 (Runs 905-908 were new in Sept 07) On/Off counts available by stop by day/month	http://www.jeffersonlines.com/

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Minneapolis – Rochester – La Crosse operated by Jefferson Lines	MNDOT contracts with operator	OTRB	1 daily roundtrip	Minneapolis Greyhound Univ. of MN-Minneapolis Univ. of MN-St. Paul St. Paul Greyhound Terminal MSP Int'l Airport Rochester Winona	Minneapolis: Univ. of MN-Minneapolis and many colleges, several major medical centers St. Paul: University of MN-St. Paul and many colleges, several major medical centers MSP Int'l Airport Rochester: Rochester Int'l Airport, Crossroads College, Globe Univ/MN School of Business-Rochester, Mayo Clinic College of Medicine, Rochester Community & Technical College, Saint Mary's Univ. of MN-Rochester Center, Univ. of MN-Rochester, Dept. of Health-Southeastern District, Olmsted Medical Center, Rochester Methodist Hospital, Saint Mary's Hospital Winona: Minnesota State College-Southeast Technical, Saint Mary's Univ. of MN-Winona Campus, Winona State Univ., Community Memorial Hospital	Minneapolis: Greyhound, Metro Transit, several cab companies St. Paul: Greyhound, Amtrak, Metro Transit, several cab companies MSP Int'l Airport: Commercial airlines, Metro Transit, taxis, private shuttles Rochester: City of Rochester, MN-Public Works (bus service and Zumbro Independent Passenger Service (ZIPS, Dial-a-Ride)), Rochester City Lines (commuter service), Rochester Int'l Airport Winona: Winona Transit Service (deviated fixed-route bus service), Southeastern Minnesota Community Action Council (Semcac) Public Transit (mainly serves rural Winona County, has scheduled trips to Winona and Rochester, 24 hr advance reservation required), Amtrak	NBTA interlining; connects with Greyhound at shared stations	Examples: Winona to Minneapolis regular fare: $39 one-way/ $41 roundtrip; senior fare (over 62): $35.10 one-way/$36.90 roundtrip; children's fare (under 12): $23.40 one-way/$24.60 roundtrip	16,889 for 2007 2007 ridership by runs: 901 = 8,511 902 = 8,378 On/Off counts available by stop by day/month	http://www.jeffersonlines.com/

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Minnesota Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Minneapolis – Sioux Falls – Rapid City – Billings Tbl 757 Runs 701, 925, 926, 702 operated by Jefferson Lines	MNDOT contracts with operator	OTRB	2 daily roundtrips (one from Minn'plis through Fairmont to Luverne on US Hwy 169, the other from Minn'plis to St. Cloud to Luverne via State Hwy 23—stops in bold)	MSP Int'l Airport Minneapolis Greyhound St. Peter Mankato Madelia Fairmont Jackson Worthington **Monticello*** **St. Cloud** **Paynesville** **Willmar** **Clara City** **Granite Falls** **Cottonwood** **Marshall** **Ruthton** **Pipestone** Luverne *Stops in bold represent the stops in a different route within this schedule.	**MSP** Int'l Airport **Minneapolis**: Univ. of MN-Minneapolis and many colleges, several major medical centers **St. Peter**: Gustavus Adolphus College **Mankat**o: Bethany Lutheran College, Minnesota State Univ.-Mankato, Rasmussen College-Mankato, Dept. of Health-South Central District, Immanuel St. Joseph's-Mayo Health System **Fairmont**: Fairmont Medical Center-Mayo Health System **Jackson**: MN West Community & Technical College-Jackson **Worthington**: MN West Community & Technical College-Worthington **St. Cloud**: Dept. of Health-Central District, St. Cloud Hospital, Veterans Affairs Medical Center, St. Cloud Int'l Airport, Rasmussen College-St. Cloud, St. Cloud State Univ., St. Cloud Technical College, Minnesota Correctional Facility-St. Cloud **Willma**r: Ridgewater College, Rice Memorial Hospital **Granite Falls**: MN West Community & Technical College-Granite Falls **Marshall**: Southwest MN State University, Dept. of Health-Southwestern District **Pipestone**: MN West Community & Technical College-Pipestone	MSP Int'l Airport: Commercial airlines, Metro Transit, taxis, private shuttles Minneapolis: Greyhound, Metro Transit, several cab companies, Amtrak in St. Paul St. Peter: St. Peter Transit (Dial-a-Ride) Mankato: Mankato Transit System (fixed-route and paratransit) Fairmont: Martin County Express (Dial-a-Ride) Jackson: Jackson County Heartland Express (Dial-a-Ride) Worthington: Prairieland Transit System (Route deviation and Dial-a-Ride) St. Cloud: Transit Connection by Tri-County Action Program, Inc. (Tri-CAP) (scheduled trips and Dial-a-Ride), Metro Bus by St. Cloud Metropolitan Transit Commission, Amtrak Willmar: Kandiyohi Area Transit Granite Falls: Granite Falls Heartland Express (Dial-a-Ride) Marshall: Marshall Area Transit (shared rides), Lyon County Heartland Express by Western Community Action (Dial-a-Ride) Pipestone and Ruthton: Pipestone County Transit System (Dial-a-Ride) Luverne: Rock County Heartland Express (Dial-a-Ride)	NBTA interlining; connects with Greyhound at shared stations	Examples: Luverne to Minneapolis regular fare: $67 one-way/ $134 round-trip; senior fare (over 62): $60.30 one-way/$120.60 roundtrip; children's fare (under 12): $40.20 one-way/$80.40 roundtrip Marshall to St. Cloud regular fare: $39 one-way/$78 roundtrip; senior fare (over 62): $35.10 one-way/$70.20 roundtrip; children's fare (under 12): $23.40 one-way/$46.80 roundtrip; college connection fare (student ID required): $33.15 one-way/$66.30 roundtrip	27,867 for 2007 2007 ridership by runs: 701a = 11,296 702a = 8,494 925 = 4,293 926 = 3,784 On/Off counts available by stop by day/month	http://www.jeffersonlines.com/ One-way route miles: 994 (Based on Google Maps estimate)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Minneapolis – Sioux Falls, SD (Through Fairmont) Tbl 757 Runs 701, 702 operated by Jefferson Lines **Based on 2007 schedules and ridership**	MNDOT contracts with operator	OTRB	1 daily roundtrip (one from Minn'plis through Fairmont)	UM St Paul, UM Coffman Union, Minneapolis, Shakopee, New Prague, Montgomery, Le Center, St Peter, Mankato, MN State Univ.-Mankato, Madelia, St James, Fairmont, Jackson, Worthington, Luverne, Sioux Falls, SD **Note: These are Year 2007 stops, and stops have changed based on current schedule information.**	**MSP** Int'l Airport **Minneapolis**: Univ. of MN-Minneapolis and many colleges, several major medical centers **St. Peter**: Gustavus Adolphus College **Mankato**: Bethany Lutheran College, Minnesota State Univ.-Mankato, Rasmussen College-Mankato, Dept. of Health-South Central District, Immanuel St. Joseph's-Mayo Health System **Fairmont**: Fairmont Medical Center-Mayo Health System **Jackson**: MN West Community & Technical College-Jackson **Worthington**: MN West Community & Technical College-Worthington **St. Cloud**: Dept. of Health-Central District, St. Cloud Hospital, Veterans Affairs Medical Center, St. Cloud Int'l Airport, Rasmussen College-St. Cloud, St. Cloud State Univ., St. Cloud Technical College, Minnesota Correctional Facility-St. Cloud	MSP Int'l Airport: Commercial airlines, Metro Transit, taxis, private shuttles Minneapolis: Greyhound, Metro Transit, several cab companies, Amtrak in St. Paul St. Peter: St. Peter Transit (Dial-a-Ride) Mankato: Mankato Transit System (fixed-route and paratransit) Fairmont: Martin County Express (Dial-a-Ride) Jackson: Jackson County Heartland Express (Dial-a-Ride) Worthington: Prairieland Transit System (Route deviation and Dial-a-Ride) St. Cloud: Transit Connection by Tri-County Action Program, Inc. (Tri-CAP) (Scheduled trips and Dial-a-Ride), Metro Bus by St. Cloud Metropolitan Transit Commission, Amtrak Luverne: Rock County Heartland Express (Dial-a-Ride)	NBTA interlining; connects with Greyhound at shared stations	Minneapolis – Sioux Falls regular fare: $108 one-way; senior fare (over 62): $102.60 one-way; children's fare (under 12): $40.20 one-way; college: $91.80 Based on **2010** Internet information	Ridership for Minn-Sioux Falls, SD: 2007: **19,790** By runs: 701(a) = 11,296 702(a) = 8,494 On/Off counts available by stop by day/month	http://www.jeffersonlines.com/ One-way route miles: 321 (Est. from Google Maps)

(continued on next page)

Minnesota Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Minneapolis – Sioux Falls, SD (through Willmar) Tbl 757 Runs 925, 926 operated by Jefferson Lines **Based on 2007 schedules and ridership**	MNDOT contracts with operator	OTRB	1 daily roundtrip (one from Minn'plis through Willmar)	UM St. Paul, UM Coffman Union, Minneapolis, St. Louis Park, Hutchinson, Dassel, Litchfield, Atwater, Willmar, Clara City, Granite Falls, Cottonwood, SW MN State Univ., Marshall, Ruthton, Pipestone, Luverne, Sioux Falls, SD	**MSP** Int'l Airport **Minneapolis**: Univ. of MN-Minneapolis and many colleges, several major medical centers **St. Peter**: Gustavus Adolphus College **Willma**r: Ridgewater College, Rice Memorial Hospital **Granite Falls**: MN West Community & Technical College-Granite Falls **Marshall**: Southwest MN State University, Dept. of Health-Southwestern District **Pipestone**: MN West Community & Technical College-Pipestone	Willmar: Kandiyohi Area Transit Granite Falls: Granite Falls Heartland Express (Dial-a-Ride) Marshall: Marshall Area Transit (shared rides), Lyon County Heartland Express by Western Community Action (Dial-a-Ride) Pipestone and Ruthton: Pipestone County Transit System (Dial-a-Ride) Luverne: Rock County Heartland Express (Dial-a-Ride)	NBTA interlining; connects with Greyhound at shared stations	Minneapolis – Sioux Falls regular fare: $108 one-way; senior fare (over 62): $102.60 one-way; children's fare (under 12): $40.20 one-way; college: $91.80 Based on **2010** Internet information	Ridership for Minn - Sioux Falls, SD: 2007: **8,077** By runs: 925 = 4,293 926 = 3,784	http://www.jeffersonlines.com/ One-way route miles: 300 (Est. from Google Maps)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Winnipeg – Fargo – Minneapolis Tbl 765 Runs 928, 927 operated by Jefferson Lines	MNDOT contracts with operator	OTRB	3 daily roundtrips, but trip segments overlap (one trip between Minn'plis and St. Cloud, one trip between Fargo and Minn'plis, one trip between Grand Forks and Minn'plis; last 2 trips meet in Wadena and riders from Grand Forks leg transfer to Fargo leg to cont. to Minn'pls)	(Grand Forks, ND) *Fisher, MN** Crookston *Marcoux* *Mentor* Erskine *McIntosh* *Fosston* Bagley *Shevlin* *Solway* Bemidji State University Bemidji Golden Eagle Transp Cass Lake Walker Park Rapids (Fargo, ND) Detroit Lakes Wadena Staples Brainerd Little Falls St. Cloud Monticello Minneapolis Greyhound Univ. of MN-Minneapolis *Stops in italics are flag stops; bus will stop on signal to pick up passengers.	Crookston: Univ. of Minnesota-Crookston Bemidji: Bemidji Regional Airport, Bemidji State University, Northwest Technical College, Oak Hills Christian College, Dept. of Health-Northwestern District, North Country Health Services Cass Lake: Leech Lake Tribal College Detroit Lakes: MN State Community & Technical College-Detroit Lakes, St. Mary's Innovis Health Wadena: MN State Community & Technical College-Wadena Brainerd: Brainerd Lakes Regional Airport, Central Lakes College, Saint Josephs Medical Center Little Falls: Camp Ripley Military Reservation St. Cloud: Dept. of Health-Central District, St. Cloud Hospital, Veterans Affairs Medical Center, St. Cloud Int'l Airport, Rasmussen College-St. Cloud, St. Cloud State Univ., St. Cloud Technical College, Minnesota Correctional Facility-St. Cloud Minneapolis: Univ. of MN-Minneapolis and many colleges, several major medical centers	East Grand Forks, MN (Grand Forks, ND): Grand Forks Cities Area Transit Crookston: T.H.E. (Tri-Valley Heartland Express) Bus (subscription service and Dial-a-Ride) Fosston: Fosston Community Transit Service (Dial-a-Ride) Bemidji: Paul Bunyan Transit (scheduled service) [Red Lake Transit is a Dial-a-Ride service based out of Red Lake Falls, which is within 10 miles of the route; potential connection to this route.] Walker: Cass County Senior Services Transportation Program (only serves people age 60 and over) Park Rapids: Hubbard County Heartland Express (Dial-a-Ride) Moorhead, MN (near Fargo, ND): Clay County Rural Transit (Dial-a-Ride and commuter service), Metro Area Transit (fixed-route and paratransit) Detroit Lakes: Becker County Transit (Dial-a-Ride), Amtrak Wadena: Friendly Rider Transit (scheduled service and Dial-a-Ride) Staples: Amtrak Brainerd: Brainerd and Crow Wing County Public Transit (Dial-a-Ride) Little Falls: Tri-CAP Transit Connection St. Cloud: Transit Connection by Tri-County Action Program, Inc. (Tri-CAP) (scheduled trips and Dial-a-Ride), Metro Bus by St. Cloud Metropolitan Transit Commission Minneapolis: Greyhound, Metro Transit, several cab companies, Amtrak in St. Paul	NBTA interlining; connects with Greyhound at shared stations	Examples: Minneapolis to Detroit Lakes regular fare: $37.25 one-way/$72.50 roundtrip Crookston to Wadena regular fare: $39 one-way/ $78 roundtrip; senior fare (over 62): $35.10 one-way/$70.20 roundtrip; children's fare (under 12): $23.40 one-way/$46.80 roundtrip; college connection fare (student ID required): $33.15 one-way/$66.30 roundtrip Minneapolis to St. Cloud regular fare: $14 one-way/ $27 roundtrip; college connection fare: $11.90 one-way/ $22.95 round-trip	34,342 for 2007 2007 ridership by runs: 927 = 6,250 928 = 6,001 929a = 7,471 929b = 3,170 930a = 6,817 930b = 4,633 Note: The runs are not identical in terms of stops. Also, service changes were made in June so ridership was not consistent throughout the year. On/Off counts available by stop by day/month	http://www.jeffersonlines.com/

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Minnesota Section 5311(f) Route Information (Continued).

Notes: Stops along routes are based on the schedules from Russell's Guide July 2008. 2007 ridership data from Jefferson Lines—some of the stops listed in each run in the data from Jefferson Lines are slightly different than the stops listed in Russell's Guide likely due to slight service changes over 7 months.

Links for connecting agencies:

Amtrak: http://www.amtrak.com/servlet/ContentServer?pagename=Amtrak/HomePage
Arrowhead Transit: http://www.aeoa.org/atcarlton.html
Becker County Transit: http://www.co.becker.mn.us/dept/transit/default.aspx
Brainerd and Crow Wing County Public Transit: http://www.ci.brainerd.mn.us/Departments/Transit%20Department.htm, http://www.brainerd.com/bus/index.html
Cab Companies in Minneapolis/St. Paul: http://www.thecityofminneapolis.com/taxi/index.html
Cass County Senior Services Transportation Program: http://www.co.cass.mn.us/senior_service/seniors_transportation_program.html
City of Rochester, MN-Public Works: http://www.rochesterbus.com/
Clay County Rural Transit: http://www.co.clay.mn.us/Depts/CCRT/CCRT.htm
Duluth Int'l Airport: http://www.duluthairport.com/
Duluth Transit: http://www.duluthtransit.com/
Fosston Community Transit Service: http://www.fosston.com/index.asp?Type=B_BASIC&SEC={18408C1E-E55A-45E3-9C3A-B2366E3D456F}
Friendly Rider Transit: http://www.co.wadena.mn.us/Friendly%20Rider_files/New%20Schedule%206.pdf
Grand Forks Cities Area Transit: http://www.grandforksgov.com/bus/index.html
Granite Falls Heartland Express: http://www.granitefalls.com/City3.html
Hubbard County Heartland Express: http://www.co.hubbard.mn.us/SocialService/Forms/Public%20Transportation.pdf
Jackson County Heartland Express: http://www.wcainc.org/transportation.html
Kandiyohi Area Transit: http://www.katbus.org/
Mankato Transit System: http://www.ci.mankato.mn.us/MTS/ServiceArea.aspx
Marshall Area Transit: http://www.marshall-mn.org/Relocation/transit.htm
Martin County Express: http://www.co.martin.mn.us/Countyinfo/mcexpress.htm
Metro Area Transit (Moorhead): http://www.matbus.com/
Metro Bus (St. Cloud): http://www.stcloudmtc.com/
Minnesota Valley Transit Authority: http://www.mvta.com/
Paul Bunyan Transit: http://paulbunyantransit.com/
Pipestone County Transit System: http://www.pipestone-county.com/departments/transit/
Private shuttle services from MSP: http://www.mspairport.com/msp/Ground_Transportation/Scheduled_Transportation.aspx
[Red Lake Transit: http://www.arrivemn.org/component/option,com_sobi2/sobi2Task,sobi2Details/catid,7/sobi2Id,41/Itemid,102/]
Rochester City Lines: http://www.rochestercitylines.com/commuterservices/CommuterSchedules.htm
Rochester Int'l Airport: http://www.rochesterintlairport.com/
St. Peter Transit: http://www.ci.st-peter.mn.us/transit/
Tri-CAP Transit Connection: http://www.tricap.org/transportation.html
Tri-Valley Heartland Express-T.H.E. Bus: http://www.tvoc.org/heartland.htm
Winona Transit Service: http://www2.cityofwinona-mn.com/content/transit.htm

Missouri Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Des Moines, IA – Kansas City, MO Table 750, Run Nos. 807, 802 operated by Jefferson Lines			1 daily RT	Des Moines, Osceola, Lamoni, IA; Bethany, Cameron, Kansas City.	**Des Moines**: medical centers, college, airport; **Osceola**: community college, train station, Clarke Co. Hospital; **Lamoni**: Graceland Univ., community health center; **Bethany**: Harrison Co. Comm. Hospital; **Kansas City**: college, med ctr., train station, airport; **Springfield**: airport, college, hospital; **Joplin**: college, hospital, airport; **Ft. Smith**: University of Arkansas, Webster University, Sparks Regional Med. Ctr.; **Little Rock**: college, med. ctr, airport, train.	**Kansas City**: Greyhound service at stop, near The Metro Services; and stop at Amtrak; **Des Moines**: near Des Moines Area Regional Transit Services; **Springfield**: near City Utilities Bus Service; Joplin: near City of Joplin Sunshine Lamp Trolley services,	Yes	$49		
Kansas City – Fort Smith, AR Table **753**, Run Nos. 117, 114 Operated by Jefferson Lines			1 daily RT	Kansas City, Peculiar, Harrisonville, Butler, Rich Hill, Nevada, Joplin, Anderson; Rogers-Bentonville, Fayetteville, Fort Smith, AR	**Kansas City**: college, med ctr, train station, airport; Butler: Bates County Memorial Hosp.; Nevada: college, hospital, airport; **Joplin**: college, hospital, airport; **Rogers-Bentonville**: college, airport, juvenile detention ctr.; **Fayetteville**: college, hospital, airport; **Ft. Smith**: University of Arkansas, Webster University, Sparks Regional Med. Ctr.	**Kansas City**: Greyhound service at stop, near The Metro Services; and stop at Amtrak; **Rogers-Bentonville**: Ozark Regional Transit (No. 44); **Ft. Smith**: Bus terminal also offers Kerrville Bus Lines service, Fort Smith Transit services near stop.	Yes	$71		One-way route miles: 306 (est. from Google Maps)
Kansas City – Fort Smith, AR Table **753**, Run Nos. 120, 121 Operated by Jefferson Lines			1 daily RT	Kansas City, Warrensburg, Clinton, Osceola, Collins, Humansville, Bolivar, Springfield, Joplin, Anderson; Rogers-Bentonville, Fayetteville, Fort Smith, AR	**Kansas City**: college, med ctr, train station, airport; Butler: Bates County Memorial Hosp.; **Warrensburg**: Univ. of Central Missouri; **Clinton**: Golden Valley Mem. Healthcare; Osceola: hospital; Humansville: Mem. Hospital; Bolivar: college, hospital; **Springfield**: airport, college, hospital; **Joplin**: college, hospital, airport; **Rogers-Bentonville**: college, airport, juvenile detention ctr.; **Fayetteville**: college, hospital, airport; **Ft. Smith**: University of Arkansas, Webster University, Sparks Regional Med. Ctr.	**Kansas City**: Greyhound service at stop, near The Metro Services; and stop at Amtrak; **Warrensburg:** stop near Amtrak services; **Rogers-Bentonville**: Ozark Regional Transit (No. 44); **Ft. Smith**: Bus terminal also offers Kerrville Bus Lines service, Fort Smith Transit services near stop.	Yes	$71		One-way route miles: 415 (est. from Google Maps)
Omaha, NE – Kansas City, MO Table **751**, Run Nos. 501, 502 Operated by Jefferson Lines			1 daily RT	Omaha, NE; Rock Port, St. Joseph, Kansas City Airport, Kansas City	**Omaha**: Clarkson Coll., Creighton Univ., Metro. Comm. Coll., NE Med. Ctr., St. Joseph Hospital, Omaha Correctional Facility, Eppley Airfield; **St. Joseph**: Missouri Western State Univ., Vatterott Coll., hospital, Western Correctional Ctr., airport; **Kansas City**: college, med ctr., train station, airport;	**Omaha**: Amtrak Station, stop near Metro Area Transit Services; **St. Joseph**: stop at St. Joseph Transit Center; **Kansas City**: Greyhound service at stop, near The Metro Services; and stop at Amtrak	Yes.	$45		One-way route miles: 200 (est. from Google Maps)

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Missouri Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Omaha, NE – Kansas City, MO Table **751**, Run Nos. 706, 705 Operated by Jefferson Lines			1 daily RT	Omaha, NE; Shenandoah, Clarinda, IA; Maryville, St. Joseph; Kansas City Airport, Kansas City	**Omaha**: Clarkson Coll., Creighton Univ., Metro. Comm. Coll., NE Med. Ctr.; **Shenandoah**: Comm. college, Mem. Hospital, Mun. Airport; **Clarinda**: Comm. College, Regional Health Ctr., Clarinda Corr. Facility, airport; **Maryville**: Northwest Missouri State, St. Francis Hospital, NW MO Reg. Airport, Maryville Treatment Ctr – Corr. Facility; **St. Joseph**: Missouri Western State Univ., Vatterott Coll., hospital, Westerb Correctional Ctr., airport; **Kansas City**: college, med ctr., train station, airport	**Omaha**: Amtrak Station, stop near Metro Area Transit Services; **St. Joseph**: stop at St. Joseph Transit Center; **Kansas City**: Greyhound service at stop, near The Metro Services; and stop at Amtrak	Yes	$45.00		One-way route mile: 218 (est. from Google Maps)
St. Louis, MO – Burlington, IA **(St. Louis – Hannibal, Tbl 7095, Run Nos. 1403, 1404)** Operated by Burlington Trailways			1 daily RT	St. Louis, St. Louis Airport, Wentzville, Troy, Bowling Green, Hannibal; Quincy, IL; Canton, MO; Keokuk, IA, Fort Madison, IA, Burlington IA	**St. Louis:** Airport, hospital, college, military, prison; **Wentzville**: Lindenwood Univ., Midwest Univ., St. Joseph Health Ctr.; **Hannibal**: Hannibal-LaGrange College, hospital, airport, military; Quincy: college, hospital, airport; Canton: college; **Keokuk**: college, hospital, military; **Ft. Madison**: college, hospital; **Burlington**: Southeastern Iowa Comm. Coll., Iowa Army Ammunition Plant	**St. Louis**: stop includes Greyhound, Amtrak, and St. Louis Metro buses; **Quincy:** near Quincy Transit Lines services; **Ft. Madison:** Amtrak services in town; **Burlington**: Amtrak Station, B.U.S. services	Yes	$49.50		One-way route mile: 230 (est. from Google Maps)

Links to connecting services:

St. Louis Metro: http://www.metrostlouis.org/
City of Quincy: http://www.quincyil.gov/Transit/home.htm
City Utilities Bus Service – Springfield, MO: http://www.ozarkstransportation.org/Transit/index.html
City of Joplin: http://www.joplinmo.org/pdf/Trolley_Brochure2.pdf
City of St. Joseph Transit (MO): http://www.ci.st-joseph.mo.us/publicworks/transit.cfm
Des Moines: http://www.dmmta.com/index.asp
Rogers-Bentonville (AR) – Ozark Regional Transit: http://www.ozark.org/

Montana Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
-- Shelby to Kalispell, Northern Transit Interlocal operated by Toole County	New service which began March 2008	Currently leasing 15-pass. small buses until delivery of grant-funded vehicles which will be 26 pass.	1 roundtrip Tue & Wed	Shelby: Amtrak Station, Cut Bank: Parkview Senior Center, Browning: Blackfeet Community Hospital, Kalispell: Kalispell Regional Medical Center (requires advanced reservation)	Browning: Blackfeet Community Hospital, Kalispell: Kalispell Regional Medical Center	Shelby: Amtrak; Kalispell: Eagle Transit, four commercial airlines	None	By donation only	In first five months of operation has grown to an estimated 200 trips per month, with an estimated 5% connecting to other routes Annualized: 2,400	http://toolecountymt.gov/Kalispell_Route.html
-- Shelby to Great Falls			1 roundtrip Mon & Thu	Shelby: Shelby Senior Center, Amtrak, Conrad: Town Pump, Pondera Shopping Center, Great Falls: Transit Center, scheduled medical providers	Great Falls: Benefis Hospital, Malstrom Air Force Base, Air National Guard, Army Reserve, Montana State University, regional medical, regional shopping, major employment, tourism	Shelby: Amtrak, Toole County Transit (service on Mon & Thu to Four Corners, Prairie Market, Sweet Grass); Great Falls: Great Falls Transit District, Rimrock Trailways, commercial airlines				http://toolecountymt.gov/NTI_Schedule.html One-way route miles: 85 (est. from Google Maps)
Missoula to Whitefish (operated by Rimrock Trailways)	Current recipient per MT DOT; 2007 recipient per rural NTD	Rimrock website indicates accessible 25-, 47-, & 55-pass. coaches	1 roundtrip per day	Missoula, Evaro, Ravalli, St. Ignatius, Ronan, Pablo, Poulson, Lakeside, Kalispell, Whitefish	Missoula: university, regional shopping, regional medical Kalispell: regional shopping Whitefish: outdoor recreation	Missoula: Mountain Line (Missoula Urban Transportation District, MUTD), Greyhound, commercial airlines Kalispell: Eagle Transit Whitefish: Amtrak	Yes	Complete one-way $35; RT $70	The total ridership for all three Rimrock Trailway Routes: FY 2007: 32,866 FY 2008: 58,013 Oct 08 – Aug 09: 3,809 need one more month.	http://www.rimrocktrailways.com/schedules/missoula_whitefish.htm One-way route miles: 138 (est. from Google Maps)
Butte to Great Falls (operated by Rimrock Trailways)	Current recipient per MT DOT; 2007 recipient per rural NTD	Rimrock website indicates accessible 25-, 47-, & 55-pass. coaches	1 roundtrip per day	Butte, Basin, Boulder, Jefferson City, Helena, Wolf Creek, Craig Jct., Cascade, Ulm Jct, Great Falls.	Butte: regional shopping, regional medical, tourism; Great Falls: Air Force Base, Air National Guard, Army Reserve, Montana State University, regional medical, regional shopping, major employment, tourism	Butte: The Bus (Butte-Silver Bow Transit System), Greyhound, commercial airlines; Helena: Helena Area Transportation Council, commercial airlines; Great Falls: Northern Transit Interlocal, Great Falls Transit District, commercial airlines	Yes	Complete one way $31, RT $62 (10-day advance purchase by mail required for stop in Basin)	Oct 08 – Aug 09: 7,659 need one more month.	http://www.rimrocktrailways.com/schedules/butte_greatfalls.htm One-way route miles: 156 (est. from Google Maps)
Billings to Missoula (operated by Rimrock Trailways)	Current recipient per MT DOT; 2007 recipient per rural NTD	Rimrock website indicates accessible 25, 47, & 55 pass. coaches	1 roundtrip per day	Billings, Laurel, Columbus, Big Timber, Livingston, Bozeman, Belgrade, Manhattan, Three Forks, Whitehall, Butte, Warm Springs, Deer Lodge, Drummond, Missoula		Bozeman: Big Sky Transit, Greyhound	Yes	Complete one-way $51, RT $102	Oct 08 – Aug 09: 12,177 need one more month.	http://www.rimrocktrailways.com/schedules/blgs_Missoula.htm One-way route miles: 343 (est. from Google Maps)

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Montana Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Big Sky Transit District -- Skyline Link	5311(f) funding since 2006	45- to 55-passenger coaches	Summer: 3 roundtrips daily Winter: 7 roundtrips daily Off season: 2 roundtrips Mon-Fri	Bozeman: Montana State University (MSU, 7th & Grant), Gallatin Valley Mall, Four Corners (Valley Ice Garden), Gallatin Gateway Inn Big Sky: Meadow Village Center, Hungry Moose - Route 1 Summer and Winter: Yellowstone Club Off-Season: Mountain Village Center Off-season: April 14 through May 30 and Sept. 15 through Nov. 21	Bozeman: Montana State University, regional shopping Big Sky: outdoor recreation (skiing, mountain biking), resort employment	Bozeman: Streamline Bus, Greyhound, Rimrock Trailways, commercial airlines	No fares	Free	CY 2006: (five months of service) 57,445 CY 2007: 101,922	http://www.skylinebus.com/

Links for connecting agencies:

The Bus (Butte-Silver Bow Transit System): http://www.co.silverbow.mt.us/transit/
Eagle Transit: http://flathead.mt.gov/eagle/
Great Falls Transit District: http://www.gftransit.com/
Helena Area Transportation Council: http://www.ci.helena.mt.us/index.php?id=393
Mountain Line (Missoula Urban Transportation District, MUTD): http://www.mountainline.com/
Streamline Bus: http://www.streamlinebus.com/
Toole County Transit: http://toolecountymt.gov/Toole%20County%20Transit.html

Nebraska Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Norfolk - Omaha operated by Arrow / Black Hills Stage Lines			1 roundtrip per day, Mon-Fri	Norfolk, Madison, Humphrey, Columbus, Schuyler, North Bend, Fremont, Omaha	**Omaha**: Creighton University, Creighton Univ. Med Ctr, Univ. of NE Med Ctr, Metropolitan Comm. Coll, Eppley Airfield	**Norfolk**: Norfolk Handi Bus (Demand Response); **Columbus**: Columbus Area Transit (Demand Response); **Omaha**: GLI Station, Metro Area Transit service near stop;	No	Norfolk to Omaha: $37.50 one-way/ $75 RT	FY 2009: 4,001 All A/BHSL routes.	http://www.blackhillsstagelines.com/default.asp One-way route miles: 130 (Est. from Google Maps)
Omaha – Denver, CO operated by Arrow / Black Hills Stage Lines									FY 2009: 4001 All A/BHSL routes.	
Intercity Eastern Route to Lincoln to Omaha operated by Blue Rivers AAA		10/2 small bus	1 roundtrip per day, Tues, Wed, Fri	Auburn, Nebraska City, Lincoln – 2 days per week; Auburn, Nebraska City, Omaha – 1 day per week	**Lincoln:** Univ. of NE, med centers, Lincoln Muni Airport; **Omaha**: Creighton University, Creighton Univ. Med Ctr, Univ. of NE Med Ctr, Metropolitan Comm. Coll, Eppley Airfield	Demand Response requests to: airport, shopping, bus station	No	$9 complete one-way trip; $18 roundtrip	FY 2009: 1,908 All BR AAA routes	http://braaa.org/services/transportation.aspx One-way route miles: 70 (Est. from Google Maps) One-way route miles: 77 (Est. from Google Maps)
Intercity Western Route operated by Blue Rivers AAA		10/2 small bus	1 roundtrip per day, Mon-Wed-Thu	Hebron, Fairbury, Beatrice, Lincoln	Lincoln	Demand Response requests to: airport, shopping, bus station	No	$9 complete one-way trip; $18 roundtrip	FY 2009: 1,908 All BR AAA routes	http://www.olympicbuslines.com/ One-way route miles: 92 (Est. from Google Maps)
Route 1: North Platte – Sidney operated by Dashabout Roadrunner				North Platte, Ogallala, Big Springs, Chappell, Sidney … (cont. to Denver, Boulder, Greely in CO.)					FY 2009: 852 All Dashabout routes	

(continued on next page)

Nebraska Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Route 2: McCook – Haigler operated by Dashabout Roadrunner				McCook, Trenton, Benkelman, Haigler…(cont. to Denver in CO.)					FY 2009: 852 All Dashabout routes	http://www.grapeline.us/
Route 3: Imperial – Denver, CO operated by Dashabout Roadrunner				Imperial, Denver Airport, Denver Downtown, Ft. Collins					FY 2009: 852 All Dashabout routes	
Route 4: McCook – Grand Island operated by Dashabout Roadrunner			1 trip per day, Mon-Fri	McCook, Indianola, Bartley, Cambridge, Holbrook, Arapahoe, Edison, Oxford, Atlanta, Holdrege, Funk, Kearney to Axtell, Axtell, Minden, Heartwell, Hastings, Doniphan, Grand Island						
Route 5: North Platte – Omaha operated by Dashabout Roadrunner				North Platte, Lexington, Kearney, Grand Island, Lincoln, Downtown Omaha, Eppley Airport						

Links to connecting agencies:

Ben Franklin Transit: http://www.bft.org/
Chelan-Douglas Public Transportation Benefit Area (LINK): http://www.linktransit.com/
Clallam Transit: http://www.clallamtransit.com/
Community Transit: http://www.commtrans.org/
Jefferson Transit: http://www.jeffersontransit.com/
King County Metro Transit: http://transit.metrokc.gov/
Kitsap Transit: http://www.kitsaptransit.org/
M.V. Coho: http://www.cohoferry.com/
Sound Transit: http://www.soundtransit.org/
Valley Transit: http://www.valleytransit.com/
Victoria Express: http://www.victoriaexpress.com/
Washington State Ferries: http://www.wsdot.wa.gov/Ferries/

Nevada Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Mesquite Operated by Southern Nevada Transit Coalition	Capital and Operating	22-Passenger Cutaway buses; Vans; All come with bicycle racks and luggage storage; Must request a vehicle with wheelchair accessibility 24-hours in advance	45 minutes to an hour, 7 days a week, 24 hours	Mesquite, NV; Bunkerville, NV	Mesquite: Virgin River Casino; Recreation Center Complex; North St. Library; Valley Inn Motel; Oasis Resort; America First Credit Union; Stateline Casino; Mesquite City Hall; Pioneer Memorial Park Bunkerville: Bunkerville Community Center; Riverside Commercial Center; Oasis Resort	Bullhead Area Transit; Drop off customers at Greyhound and Mesquite Amtrak Bus Station	No	$2 per one way	Monthly Average: 6,000 Annualized: 72,000	http://www.sntc.net/MesquiteBroch.pdf
Las Vegas Express Operated by Southern Nevada Transit Coalition	Capital and Operating	22-Passenger Cutaway buses; Vans; All come with bicycle racks and luggage storage; Must request a vehicle with wheelchair accessibility 24-hours in advance	45 minutes to an hour, 7 days a week, 24 hours	Laughlin, NV (see link to route map)	Las Vegas: Green Valley Casino, Sunset Station, Galleria Mall	Drop off riders at Greyhound station	No	$1.50 per one way	Monthly Average: 156 Annualized: 1,872	http://www.sntc.net/LaughlinBroch.pdf
Elko to Winnemucca Catch the Bus! Operated by K-t Contract Services	Capital and Operating	45- to 50-Passenger vehicles; Baggage storage; Wheelchair accessible	3.5 hours Mon-Fri; one morning outbound, one afternoon return	Elko, NV; Carlin, NV; Beowawe, NV; Crescent Valley, NV; Battle Mountain; Winnemucca, NV	Elko, NV: Bald Mountain Mine	Drop passengers off at Greyhound station in Elko, NV	No	Free-Zone	Monthly Average: 4,000 Annualized: 48,000	Dist: depends on route, preliminary Google maps show approx. 125 mi
Elko to Ely Catch the Bus! Operated by K-T Contract Services	Capital and Operating	45- to 50-Passenger vehicles; Baggage storage; Wheelchair accessible	4 hours and 15 minutes, Mon-Fri; one morning outbound, one afternoon return	Ely, NV; Spring Creek, NV; Jiggs, NV; Eldorado, NV; Elko, NV	Elko, NV: Bald Mountain Mine, NV: Battle Mountain, NV: Battle Mountain Hospital	Drop passengers off at Greyhound station in Elko, NV		Free-Zone	Monthly Average: 16,000 Annualized: 192,000	Dist: depends on route, preliminary Google maps show approx. 200 mi

Link to connecting agencies:

Citizens Area Transit: http://www.transit-rider.com/nv/cat.cfm
Greyhound Lines, Inc.: www.greyhound.com
Regional Transportation Commission of Southern Nevada: www.rtcsouthernnevada.com

New Jersey 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Cape May, NJ - Philadelphia, PA, Route 313 operated by New Jersey Transit		OTRB	3 daily trips Cape May to Phil; 4 daily trips Phil to Cape May	Cape May, Lower Township, Rio Grande, Wildwood, North Wildwood, Cape May Courthouse, Goshen, Woodbine, Millville, Vineland (3 stops), Glassboro (2 stops), Pitman, Camden – Walter Rand Trans Ctr, Philadelphia – GLI terminal.	**Philadelphia**: airport, college, medical facilities; **Camden**: college, medical	**Philadelphia**: Greyhound Terminal, Bieber Tourways, Susquehanna Transit Company, near SEPTA services; **Camden**: Transportation Center – Southern NJ Light Rail and Port Authority Transit Corporation (PATCO);	No	Zone Fares. Cape May to Philadelphia: $18.25		http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=BusSchedules One-way route miles: 93 (est. from Google Maps)
Cape May, NJ - Philadelphia, PA, Route 315 operated by New Jersey Transit		OTRB	3 trips daily Cape May to Phil; 2 trips daily Phil to Cape May.	Cape May, Lower Township, Rio Grande, Wildwood, North Wildwood, Cape May Court House, Stone Harbor, Avalon, Sea Isle City, Tuckahoe, Mays Landing, Collings Lake, Turnersville, Camden – Walter Rand Trans Ctr, Philadelphia – GLI terminal.	**Philadelphia**: airport, college, medical facilities; **Camden**: college, medical	**Philadelphia**: Greyhound Terminal, Bieber Tourways, Susquehanna Transit Company, near SEPTA services; **Camden**: Transportation Center – Southern NJ Light Rail and Port Authority Transit Corporation (PATCO);	No	Zone Fares Cape May to Philadelphia: $18.25		http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=BusSchedulesTo One-way route miles: 93 (est. from Google Maps)
Asbury Park, NJ - Philadelphia, PA Route 317 operated by Greyhound Lines		OTRB	7 trips daily to Phil; 9 trips daily to Asbury Park	Asbury Park, Belmar-NJ Transit, Point Pleasant Beach, Brick Township, Lakewood-NJT Bus Terminal, Cassville, Cookstown, Fort Dix Trans Bldg, Browns Mills, Pemberton (2 stops), Mt Holly, Mt Laurel, Moorestown Mall, Cherry Hill, Camden – Trans Center, Philadelphia – GLI terminal.	**Philadelphia**: airport, college, medical facilities; **Camden**: college, medical	**Philadelphia**: Greyhound Terminal, Bieber Tourways, Susquehanna Transit Company, near SEPTA services; **Camden**: Transportation Center – Southern NJ Light Rail and Port Authority Transit Corporation (PATCO);	No	Zone Fares Asbury Park to Philadelphia: $16.50		http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=BusSchedulesTo One-way route miles: 81 (est. from Google Maps)

Links to connecting agencies:

Southeastern Transportation Authority (Philadelphia): www.septa.com
Susquehanna Transit Company: www.susquehannabus.com/routes.html
Bieber Tourways: www.biebertourways.com
Greyhound Lines, Inc.: www.greyhound.com
Port Authority Transit Corporation: www.ridepatco.org

New Mexico Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Blue Route: Santa Fe – Los Alamos. (operated by NMDOT)	General 5311, for intercity services.	57-passenger motorcoaches, ADA accessible 2 wheelchair spaces. Undercarriage baggage storage and overhead, and restroom.	8 weekday roundtrips	District Five Lot (Jaguar Dr), NMDOT (Pen Rd.), PERA-Capitol (Paseo de Peralta), Santa Fe Lot (Calle Mejia), Sheridan Place (Alta Vista St.), Pojoaque (US 285/4 and Cities of Gold Rd.), TA-3 (E. Jemez Rd), Los Alamos Hospital (Diamond Dr), 20th St./Central Ave	Santa Fe: college, hospital, airport; Los Alamos Lab	Santa Fe: Santa Fe Shuttle, and NM Rail Runner Express	No	$3 one-way trip; $90 monthly pass	FY 08 (based on 251 service days): **65,682**	http://nmshtd.state.nm.us/main.asp?secid=14635 One-way route miles: 33
Green Route: Española – Los Alamos (operated by NMDOT)	General 5311, for intercity services.	57-passenger motorcoaches, ADA accessible 2 wheelchair spaces. Undercarriage baggage storage and overhead, and restroom.	16 M-F roundtrips – 8 morning and 8 afternoon.	Española (US 285), TA-3, Los Alamos Hospital, 20th St/Central Ave	Los Alamos Lab	Not able to determine from schedule.	No	$2 one-way trip; $60 monthly pass	FY 08 (based on 262 service days): **51,428**	http://nmshtd.state.nm.us/main.asp?secid=14635 One-way route miles: 18
Red Route: Santa Fe – Española. (operated by NMDOT)	General 5311, for intercity services.	57-passenger motorcoaches, ADA accessible 2 wheelchair spaces. Undercarriage baggage storage and overhead, and restroom.	2 M-F roundtrips – 2 morning one-way trips; 2 afternoon return trips.	Española, Pojoaque, Sheridan/Palace (Dwtn Santa Fe, Sheridan St), PERA, South Complex, NMDOT	Santa Fe: college, hospital, airport;	Sheridan/Palace Ave. Stop – connects with Santa Fe Trails Transit.		$2 one-way trip; $60 monthly pass	FY 08 (based on 205 service days): **18,656**	http://nmshtd.state.nm.us/main.asp?secid=14635 One-way route miles: 25
Purple Route: Albuquerque – Santa Fe – Los Alamos (operated by NMDOT)	General 5311, for intercity services.	57-passenger motorcoaches, ADA accessible 2 wheelchair spaces. Undercarriage baggage storage and overhead, and restroom.	10 M-F one-way trips (Alb – Santa Fe); 9 daily one-way trips (Santa Fe – Alb)	Albuquerque, Rio Rancho, Bernalilo, Santa Fe, Los Alamos	**Albuquerqu**e: college, hospital, airport, air force base; **Santa Fe**: college, hospital, airport; Albuquerque, Bernalilo, Los Alamos Lab	Bernalilo: Rail Runner Station; Santa Fe: NM Rail Runner Express	No	$3 one-way trip (Alb – Santa Fe); $6 one-way trip for Alb – Los Alamos; $90 monthly pass	FY 08 (based on 251 service days): **194,475**	http://nmshtd.state.nm.us/main.asp?secid=14635 One-way route miles: 110
Orange Route: Las Vegas – Santa Fe (operated by NMDOT)	General 5311, for intercity services.	57-passenger motorcoaches, ADA accessible 2 wheelchair spaces. Undercarriage baggage storage and overhead, and restroom.	1 M-F roundtrip – 1 morning one-way trip (Las Vegas to Santa Fe), 1 afternoon return trip.	Las Vegas, Santa Fe: South Complex, NMDOT, PERA	Santa Fe: college, hospital, airport; Las Vegas	Santa Fe: NMDOT stop connects with Santa Fe Trails Transit and NM Rail Runner Express.	No	$3 one-way trip; $90 monthly pass	FY 08 (based on 251 service days): **19,147**	http://nmshtd.state.nm.us/main.asp?secid=14635 One-way route miles: 70

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New Mexico Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Silver Route: New Mexico State University – Las Cruces – White Sands Missile Range (operated by NMDOT)	General 5311, for intercity services.	57-passenger motorcoaches, ADA accessible 2 wheelchair spaces. Undercarriage baggage storage and overhead, and restroom.	2 M-F roundtrips – 1 morning and 1 afternoon.	New Mexico State University, Las Cruces, White Sands Missile Range	New Mexico State University, Las Cruces, White Sands Missile Range		No	$3 one-way trip, $90 monthly pass.	FY 08 (based on 251 service days): **10,827**	http://www.nmshtd.state.nm.us/main.asp?secid=14635 One-way route miles: 25 (est. from Google Maps)
Turquoise Route: Moriarty – Albuquerque (operated by NMDOT)	General 5311, for intercity services.	57-passenger motorcoach, ADA accessible 2 wheelchair spaces. Undercarriage baggage storage and overhead, and restroom.	2 M-F roundtrips	Moriarity, Edgewood, Sedillo, Tijeras, Albuquerque			No	$3 one-way trip, $90 monthly pass.	**FY 08 (based on 251 service days): 12,473**	http://www.nmshtd.state.nm.us/main.asp?secid=14635 One-way route miles: 40 (est. from Google Maps)

Links to connecting agencies:

NM Rail Runner Express, NM DOT: http://www.nmrailrunner.com/
City of Santa Fe, Santa Fe Trails Transit: http://www.santafenm.gov/index.aspx?NID=498

North Dakota Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Fargo to Pembina Tbl. 751 operated by Jefferson Lines		Over-the-road coach, accessible with 48-hour notice	Northbound: Mon, Wed, Fri, Sat Southbound: Tue, Thu, Sat, Sun (4 roundtrips per week)	Fargo: 402 NP Ave N, Grand Forks: 450 Kittson Ave., Pembina: Gastrac	**Grand Forks**: Air Force Base, college; **Fargo**: university, regional medical, regional shopping; **Pembina**: major employer (MCI bus factory)	**Fargo**: Greyhound, Amtrak, Metro Area Transit, Handi-Wheels Transportation, Metro Senior Ride Service **Grand Forks**: Cities Area Transit, Amtrak	NBTA member; Yes	13 to 25 cents per passenger mile Regular fare: $41; college fare: $34.85	2006: 4,541 2007: 4,544	www.jeffersonlines.com One-way route miles: 160 (Est.based on Google Maps.)
New Town Bus Line Service area: Bismarck to Minot, Minot to Grand Forks		15 pass. vans with storage area and 20 passenger people mover buses with wheelchair lift and capacity	1 roundtrip Sun, Mon, Tue, Wed, Fri	Minot, Bismarck, Grand Forks, and convenience stores in Max, Garrison, Coleharbor, Underwood, Washburn, Wilton, Granville, Towner, Berwick Corner, Rugby, Knox, York, Leeds, Churches Ferry, Devils Lake, Lakota, Michigan, Petersburg, Niagara Corner, and Larimore	**Grand Forks**: medical, airport, energy industries, college; **Minot**: Military Air Base, veteran's clinic, Job Corp center, regional hospitals, airport, energy industries, college; **Bismarck**: medical, airport, energy industries, college	**Minot**: Amtrak, City Bus **Grand Forks**: Amtrak, Jefferson Lines, Cities Area Transit **Bismarck**: Bis-Man Transit, West River Transit, Greyhound, commercial airlines		$44.55 Minot to Grand Forks, and $25.30 from Bismarck to Minot, other stops based on distance	Approx. 380 boardings during one month Annualized: 4,560	http://www.sourisbasintransit.com/ http://ndinfo.org/transit/profile.php?id=33 One-way route miles: Minot–Bismarck: 110 Minot–Grand Forks: 211 (Est. based on Google Maps) Total: 321 miles
Sitting Bull College (same route as River Cities, SD North-South route on SD table)	Could not determine if jointly funded by ND and SD.	Varies according to need from minivan to 23-pass. bus	1 round trip Mon and Thu	Bismarck, ND – Bis-Man Transit, Fort Yates, ND – Standing Rock Public Transit, McLaughlin, SD – Cenex Station, Mobridge, SD – Gas & Goodies, Selby, SD , Onida, SD – The Corner, Pierre, SD – River Cities Transit	**Bismarck**: university, medical, major employer, major retail; **Fort Yates**: college; **Mobridge**: medical; **Pierre**, SD: medical, major employer, major retail Tourism (National Scenic Byway, the Missouri River and the Black Hills)	**Bismarck**: Bis-Man Transit, Greyhound, commercial airlines; **Fort Yates**: Standing Rock Public Transit, commercial airlines; **Pierre**: River Cities Transit, Jefferson Lines, commercial airlines	Yes	Approximately $0.10 per mile	Approximately 116 passengers per year or 10 passengers per month	www.sittingbull.edu/aboutus/transportation www.sittingbull.edu/elements/pdfs/Shuttle.pdf One-way route miles: 208 (Est. based on Google Maps)
Kansas City – Winnipeg operated by Jefferson Lines				Kansas City, St. Joseph, Maryville, MO; Clarinda, Shenendoah, IA; Omaha, NE; Onawa, Sioux City, IA; Vermillion, Sioux Falls, Flandreau, Brookings, Watertown, Summit Corner, Sisseton Jct, SD; Fargo, Grand Forks, Pembina, ND; Emerson, Morris, Winnipeg, MB	**Fargo**: North Dakota State University, University of North Dakota, Hector International Airport, regional medical centers	**Fargo**: Jefferson Lines/Greyhound, Fargo Moorehead Metro Area Transit, Amtrak; **Grand Forks**: Cities Area Transit and Jefferson Lines/Greyhound.	Yes			

Links to connecting agencies:

Bis-Man Transit: www.ndinfo.org/transit/ or http://bismantransit.com/ (under construction)
Cities Area Transit (Grand Forks): www.grandforksgov.com/bus/index.html
City Bus (Minot): web.ci.minot.nd.us/cb/ Handi-Wheels Transportation: www.ndinfo.org/transit/
Metro Area Transit (Fargo): www.matbus.com/ Metro Senior Ride Service: www.fargoseniorservices.org/services_transportation.html
Standing Rock Public Transit: www.sittingbull.edu/elements/pdfs/Schedule.pdf
West River Transit: ndinfo.org/transit/profile.php?id=50
Greyhound Lines, Inc.: www.greyhound.com
Jefferson Lines: www.jeffersonlines.com
Amtrak: www.amtrak.com

Ohio Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Athens – Cleveland, only operate Athens to Columbus: Operated by Lakefront Lines	FY 09 – $125,000 subsidy for operations.	MCI, 55-passenger coach; wheelchair accessible.	1 daily roundtrip.	Athens, Nelsonville, Logan, Lancaster, Columbus-Airport, Columbus.	**Athens**: Ohio University, medical; **Nelsonville**: college, prison; **Columbus**: Ohio State University	**Athens**: Community Center – Greyhound; **Columbus**: Greyhound Terminal, and near Central Ohio Transit Authority transit services.	Yes. Greyhound (Athens)	Zone fare: $10 minimum, $32 (Athens – Columbus)	FY 07 (Jan-Dec): 3,582	http://route.lakefrontlines.com/listroutes.asp?rt_ID=20&rt_DIR=in One-way route miles: 114 (est. from Google Maps)

Links to connecting agencies:

Greyhound Lines, Inc.: www.greyhound.com
Lakefront Lines: www.lakefrontlines.com/
Central Ohio Transit Authority (Columbus): www.cota.com

Oregon Section 5311(f) Route Information

Route Name	Section 5311(F) Funding Status	Vehicle Description	Frequency	Stops Along Route	Major Trip Generators	Connectivity	Interlining?	Fares	Ridership	Route Map And Other Information Online
Central Oregon Breeze (Portland – Bend) CAC Transportation	Capital only	Two 25-passenger accessible buses	2 daily roundtrips	Portland, Gresham, Sandy, Welches, Government Camp, Warm Springs, Madras, Terrebonne, Prineville, Redmond Airport, Bend	**Portland**: college, medical, airport, other transportation; **Welches**: outdoor recreation **Government Camp**: outdoor recreation Bend: outdoor recreation	**Portland**: Amtrak, Greyhound, TriMet, Ride Connection **Gresham**: TriMet MAX **Sandy**: Sandy Transit, Mountain Express **Prineville**: People Mover **Redmond Airport**: 4 commercial airlines, Redmond-Bend-Chemult Amtrak Thruway, People Mover **Bend**: Bend Area Transit, Greyhound, 4 other rural intercity routes	No	$13-49; details: www.cobreeze.com/PriceDetail.htm	(operator was not responsive to request for this information)	www.cobreeze.com/ One-way route miles: 161 (est. from Google Maps)
Coastal Express (Brookings-Smith River and Brookings-North Bend), Curry Public Transit	Capital and Operating	Two 14-passenger, accessible cutaways with bicycle racks	3 roundtrips 3 days a week (Mon, Wed, Fri)	Brookings, Smith River, CA, Harbor, Gold Beach, Port Orford, Bandon, Coos Bay, North Bend, plus flag stops and route deviations	**Brookings**: outdoor recreation **Coos Bay**: outdoor recreation	**Smith River, CA**: Redwood Coast Transit (connects to Amtrak in Arcata) Brookings, Gold Beach **Port Orford**: local dial-a-ride service **Coos Bay**: Porter Stage, Coos County Area Transit District	No	$4 per city segment, $3 per deviation; Brookings-North Bend $20	Average monthly: 2006: 752 Annualized: 9,024 2007: 730 Annualized: 8,760	www.currypublictransit.org/ One-way route miles: 123 (est. from Google Maps)
Columbia County Rider: Westport-Clatskanie-Rainier-Longview/Kelso route (county contracts with private operator)	Capital and Operating	15-passenger, accessible, bicycle rack	4 roundtrips 3 days a week (Mon, Wed, Fri)	Westport, Clatskanie, Alston Corner, Rainier, Longview, WA, Kelso, WA	**Longview**: St. John's Medical Centre, Walmart **Kelso**: Three Rivers Mall, multimodal transit center	**Westport**: Sunset Empire Transit **Longview**: Community Urban Bus Service (CUBS) **Kelso**: Amtrak, Greyhound	No (transfers to Sunset Empire through informal agreement)	$2-$5	Started August 2007 Current monthly ridership: 70-80 Annualized: 900	www.columbiacountyrider.com/ route brochure: www.columbiacountyrider.com/resources/sh$2520to$2520CRL$252012-18.pdf (no map) One-way route miles: 30 (est. from Google Maps)
Diamond Express, administered by Lane Transit District and operated by Special Mobility Services, Inc.	Capital and Operating	26-passenger accessible body-on-chassis with bicycle rack and interior storage	3 weekday roundtrips	Oakridge, Westfir, Eugene; curb-to-curb within Eugene-Springfield area during mid-day trip only	**Oakridge**: outdoor recreation **Eugene**: University of Oregon, Sacred Heart Medical, other regional destinations by mid-day curb-to-curb	**Eugene**: Lane Transit District, Amtrak, Greyhound	No (roundtrip ticket includes day pass on Lane Transit District)	$2.50 one way, $5 roundtrip	Average monthly: 2003: 423 2004: 491 2005: 552 2006: 731 2007: 809 2007 Annualized: 9,708 2008 so far: 893	www.ltd.org/diamondex/ (map: www.ltd.org/diamondex/schedule.html) One-way route miles: 45 (est. from Google Maps)

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Oregon Section 5311(f) Route Information (Continued).

Route Name	Section 5311(F) Funding Status	Vehicle Description	Frequency	Stops Along Route	Major Trip Generators	Connectivity	Interlining?	Fares	Ridership	Route Map And Other Information Online
Bend-Ontario, operated by Porter Stage (Amtrak Thruway route)	Through ODOT Rail: capital, 62 FTA/38 state operating	17- to 18-pass. "car rental shuttle type", 2 w/c, luggage	1 daily roundtrip	Bend, Burns, Vale, Ontario	**Bend**: outdoor recreation **Ontario**: Snake River Correctional Institute	**Bend**: Bend Area Transit, Greyhound, 4 other rural intercity routes including interline to Coos Bay **Burns**: Harney County Senior Center **Vale**: Vale Senior Center **Ontario**: Greyhound, Malheur County Special Transportation System	Yes with Amtrak	$41 Ontario to Bend	Average monthly: 2003: 210 2004: 256 2005: 304 2006: 394 2007: 399 Annualized 2007: 4,788	One-way route miles: 259 (est. from Google Maps)
Portland-Astoria, operated by Oregon Coachways (Amtrak Thruway route)	Through ODOT Rail: capital, 65 FTA/35 state operating	50- to 55-pass. OTRB; 2 w/c, luggage, restrooms, fairly new	1 daily roundtrip	Astoria, Seaside, Cannon Beach, Necanicum, Else, Manning, Portland	Astoria, Seaside, Cannon Beach: tourism, outdoor recreation **Portland**: college, medical, airport.	**Astoria**: Sunset Empire Transit **Seaside**: Greyhound, Sunset Empire Transit **Cannon Beach**: City of Cannon Beach Shuttle, Sunset Empire Transit **Portland**: Amtrak, Greyhound, TriMet, Ride Connection	Yes with Amtrak	$17 Astoria to Portland	Average monthly: 2003: 547 2004: 611 2005: 867 2006: 936 2007: 918 Annualized 2007: 11,016	Thruway website: 106 mi one-way.
Portland-Eugene, operated by Oregon Coachways (Amtrak Thruway route)	Through ODOT Rail: capital, no operating subsidy needed in 2007	50- to 55-pass. OTRB; 2 w/c, luggage, restrooms, fairly new	2.5 daily roundtrips plus extra run Fri & Sun eves	Portland, Oregon City, Salem, Albany, Eugene/ Springfield	**Portland**: college, medical, airport **Salem**: Willamette University, Oregon State Correctional Institution **Eugene/Springfield**: University of Oregon	**Portland**: Amtrak, Greyhound, TriMet, Ride Connection **Salem**: Amtrak, Greyhound, Cherriots **Eugene**: Amtrak, Greyhound, Lane Transit District, Porter Stage	Yes with Amtrak	$21 Portland to Eugene	Average monthly: 2003: 2,327 2004: 2,477 2005: 2,680 2006: 2,984 2007: 3,431 Annualized 2007: 41,172	One-way route miles: 112 (est. from Google Maps)
Oregon DOT Rail: **Redmond-Bend-Chemult**, operated by Redmond Airport Shuttle (Amtrak Thruway route)	Through ODOT Rail: capital, 65 FTA/35 state operating	17- to 18-pass. "car rental shuttle type", 2 w/c, luggage	2 daily roundtrips	Redmond, Bend, Sunriver Lodge, La Pine, Chemult	**Bend**: outdoor recreation **Chemult**: outdoor recreation	**Redmond**: airport, Redmond Dial-A-Ride **Bend**: Bend Area Transit, Greyhound, 4 other rural intercity routes **La Pine**: La Pine Dial-A-Ride **Chemult**: Amtrak	Yes with Amtrak	$29 Redmond Airport to Chemult	Average monthly: 2003: 313 2004: 317 2005: 319 2006: 289 2007: 284 Annualized 2007: 3,408	
Oregon DOT Rail: **Portland-Medford** (Amtrak Thruway route)	Discontinued after 2002								Average monthly: 2000: 393 2001: 306 2002: 318 Annualized 2002: 3,816	

Route Name	Section 5311(F) Funding Status	Vehicle Description	Frequency	Stops Along Route	Major Trip Generators	Connectivity	Interlining?	Fares	Ridership	Route Map And Other Information Online
People Mover, Grant County Transportation District	none	11-passenger accessible small bus (a 16-pass vehicle can be used per advanced reservations)	1 roundtrip 2 days per week (Wed and Fri)	Prairie City (advanced request only), John Day, Mt. Vernon, Dayville, Mitchell, Prineville, Redmond Airport (advanced request only), Redmond, Bend	**Bend**: outdoor recreation	**Prineville**: Central Oregon Breeze **Redmond Airport**: 4 commercial airlines, Redmond-Bend-Chemult Amtrak Thruway, Central Oregon Breeze **Bend**: Valley Retriever, Porter Stage Lines	No	Examples: $21.50 Prairie City to Bend, $18.50 Prineville to Bend	Averages 5 passengers per trip	
Porter Stage Lines Coos Bay to Bend route (also operates ODOT Rail Bend-Ontario route)	Capital only for Coos Bay to Bend	(operator was not responsive to interview request)	2 roundtrips Mon-Fri, 1 roundtrip each day on Sat and Sun	Coos Bay, Reedsport, Florence, Eugene, Sisters, Bend	**Coos Bay**: outdoor recreation **Eugene**: University of Oregon, other regional destinations **Bend**: outdoor recreation	**Coos Bay**: Coastal Express **Eugene**: Amtrak, Greyhound, Lane Transit District, Portland-Eugene Amtrak Thruway route **Bend**: Bend Area Transit, Greyhound, 4 other rural intercity routes including interline to Ontario	Yes with Amtrak	From Coos Bay: $26 to Eugene, $39 to Bend	(operator was not responsive to interview request)	One-way route miles: 251 (est. from Google Maps)
Klamath Falls - Medford Operated by: The Shuttle Inc.	Operations only	28-passenger accessible bus (at peak holiday times, a 47-passenger coach is used)	1 daily roundtrip	Klamath Falls, Lake of the Woods, White City, Medford	**Klamath Falls**: outdoor recreation, Sky Lakes Medical Center, Air National Guard base, Oregon Institute of Technology **Lake of the Woods**: mountain lake resort / outdoor recreation **White City**: Veterans Administration rehab facility	**Klamath Falls**: Amtrak, Basin Transit Service **Medford**: Greyhound, Rogue Valley Transportation District	Yes with both Amtrak and Greyhound	$8-25	Average monthly: 2007: 342 2007 Annualized: 4,104 2008 so far: 412	(no map or website) One-way route miles: 76 (est. from Google Maps)
Tillamook County Transportation District's Tillamook-Portland route	Capital only	(operator was not responsive to interview request)	3 roundtrips Mon-Sat, 1 roundtrip on Sun	Tillamook, Forest Center, Beaverton, Portland	**Tillamook:** college, medical; **Portland**: college, medical, airport	**Tillamook**: Tillamook County Transportation District - Transfer Center; **Beaverton**: TriMet MAX **Portland**: Amtrak, Greyhound, TriMet, Ride Connection	No (? operator was not responsive to interview request)	$10 one-way/$15 roundtrip	(operator was not responsive to interview request)	http://www.tillamookbus.com/ MPA: http://www.tillamookbus.com/route-schedules.htm#portland One-way route miles: 73 (est. from Google Maps)

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Oregon Section 5311(f) Route Information (Continued).

Route Name	Section 5311(F) Funding Status	Vehicle Description	Frequency	Stops Along Route	Major Trip Generators	Connectivity	Interlining?	Fares	Ridership	Route Map And Other Information Online
Valley Retriever – Albany-Corvalis-Newport, operated as Amtrak Thruway service (website)	Capital only	25- to 30-passenger accessible bus with luggage space	2 daily roundtrips (1 serving Bend and 1 serving Portland)	Newport, Toledo, Philomath, Corvallis, Albany, Salem, Sisters, Bend, McMinnville, Newberg, Tigard, Portland	**Newport**: Oregon coast (recreation) **Corvallis**: University of Oregon **Salem**: Willamette University, Oregon State Correctional Institution **Portland**: college, medical, airport.	**Newport**: Lincoln County Transit **Corvallis**: Greyhound, Corvallis Transit System, Linn-Benton Loop **Albany**: Amtrak, Albany Transit System, Linn-Benton Loop **Salem**: Greyhound, Cherriots **Bend**: Greyhound, People Mover, Porter Stage Lines, Bend Area Transit McMinnville/Newberg: Yamhill County Area Transit **Portland**: Amtrak, Greyhound, TriMet, Ride Connection	Yes with both Amtrak and Greyhound	From Newport: $23 to Salem, $29 to Portland $39 to Bend	Estimated current monthly average: 583 Annualized: 6,996	http://kokkola-bus.com/ValleyRetrieverBuslines.html (no map) One-way route miles (Albany to Newport): 66

Links to connecting agencies:

Albany Transit System: http://www.ci.albany.or.us/ecodev/ats/index.php
Basin Transit District: http://www.basintransit.com/
Bend Area Transit: http://www.bendareatransit.com/
Bend thruway stop: http://www.amtrak.com/servlet/ContentServer?pagename=Amtrak/am2Station/Station_Page&code=BED
Cherriots – Chemeketa Area Regional Transportation System (a.k.a. Salem Keizer Transit): http://www.cherriots.org/CARTS_Schedules.htm
City of Cannon Beach Shuttle: http://www.cannon-beach.net/shuttle/cbshuttle.html
Community Urban Bus Service (CUBS): http://www.cubs-bus.com/
Coos County Area Transit District: http://www.scbec.org/scbec-public-transit-rates-and-schedules.htm
Corvallis Transit System: www.ci.corvallis.or.us/cts
La Pine Dial-A-Ride: http://www.councilonaging.org/files/DAR_Brochure_La_Pine_2-14-06.pdf Lane Transit District: http://www.ltd.org/
Lincoln County Transit: http://www.co.lincoln.or.us/transit/
Malheur County Special Transportation System: http://ccf.malheurco.org/ResourceGuide/Search/details.php?Id=17
Mountain Express: http://www.ci.sandy.or.us/vertical/Sites/%7B08758F4D-2A53-4D1D-B7C5-B13B658BB891%7D/uploads/%7B08AE194D-885B-406E-9A49-67112BBA0186%7D.PDF
Redwood Coast Transit: http://www.redwoodcoasttransit.org/
Rogue Valley Transportation District: http://www.rvtd.org/
Sandy Transit: http://www.ci.sandy.or.us/index.asp?Type=B_BASIC&SEC={BF6D9F91-1204-479D-B3A5-B12572DA8DD1}
Sunset Empire Transportation District route map: http://www.ridethebus.org/routes/routemap.html

Pennsylvania Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Reading – Philadelphia Operated by Bieber Tourways	Operating	5 coaches noted in Bureau of Public Transportation report. According to Bieber, entire fleet available for this service, none specific for Reading-Philadelphia. Use 47- to 55-seat motor coaches	4 roundtrips M-F, (four originate in Reading), two roundtrips on Sat and Sun.	Reading, Kutztown, Wescosville, Allentown, Bethlehem, Coopersburg, Quakerstown, Philadelphia	**Philadelphia:** is primary destination – college, medical; **Kutztown**: Kutztown University; **Reading**: Reading Area Comm Coll, Albright Coll, Reading Hospital and Med Center.	**Philadelphia**: Greyhound Terminal that includes NJ Transit service, Amtrak (if requested), and near SEPTA, PATCO, and LUCY (loop through University City) services; **Reading**: Intercity Bus Terminal that includes Greyhound Service, and formerly Capitol Bus Company service.	Yes	Adult: $26 one-way/$49.25 round-trip between Reading and Philadelphia. Others vary depending on intermediate stops. Child: $15.60 one-way/$29.55 round-trip between Reading and Philadelphia. Commuter Books: 10 trips from $93-$122, 30 trips from $243-$313. Must be used within 30 days of purchase. Greyhound identifies Reading and Philadelphia as stations, but no service between them.	64,434 passenger trips based on Intercity Bus Stats Summary for FY 08 (July 07 – Jun 08) 5,600 passenger trips in July 2008. Approximately 60,000 in 2007.	www.biebertours.com /Result.aspx?Id=3 One-way route miles:92 (Est. from Google Maps)
Harrisburg – Reading Capitol Trailways – bought by Bieber Tourways	Operating	7 coaches	2 daily roundtrips, and additional limited stop service Mon – Fri.	Harrisburg, Hershey Med, Hershey, Palmyra, Annville, Cleona, COLT Transfer Center, Lebanon, Myerstown, Womelsdorf, Robesonia, State Hospital, Wernersville, Sinking Spring and Reading	**Harrisburg**: college, medical, airport; **Hershey**: Penn State – Hershey Medical Center; **Lebanon**: medical; **Myerstown**: Evangelical Theological, **Wernersville**: State Hospital; **Reading**: Reading Area Comm Coll, Albright Coll, Reading Hospital and Med Center.	**Harrisburg**: Harrisburg Transportation Center – Fullington Trailways, Susquehanna Trailways, Greyhound, and Amtrak train, and Capital Area Transit (local transit) nearby; **Lebanon**: County of Lebanon Transit (COLT) Transfer Center; **Reading**: Intercity Bus Terminal that includes Greyhound service, near Berks Area Reading Transportation Authority services, along Penn St.	Yes			www.capitoltrailways.com /default.html One-way route miles: 60 (Est. from Google Maps)

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Pennsylvania Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Harrisburg-Scranton Capitol Trailways – bought by Bieber Tourways	Operating			Harrisburg, Pottsville, Hazleton, Wilkes Barre, Scranton	**Harrisburg**: college, medical, airport; **Pottsville**: Pottsville Hosp. & Warren Clinic; **Hazleton**: Luzerne County Comm. Coll., Lackawanna Coll., medical; **Wilkes Barre**: Luzerne County Comm. Coll., Wilkes Univ., **Scranton**: college, medical.	**Harrisburg**: Harrisburg Transportation Center – Fullington Trailways, Susquehanna Trailways, Greyhound, and Amtrak train, and Capital Area Transit (local transit) nearby; **Hazleton**: near Hazleton Public Transit (local transit) Bus Hub; **Scranton**: Greyhound and near County of Lackawanna Transit System.	Yes. Pool service with Greyhound.	$26		www.greyhound.com One-way route miles: 142
Pottsville-Philadelphia Capitol Trailways – bought by Bieber Tourways	Operating			Pottsville, Schuylkill Haven PSU, Kutztown, Reading, Pottstown, Sanatoga, King of Prussia, Philadelphia	**Pottsville**: Pottsville Hosp. & Warren Clinic; **Schuylkill Haven** PSU; **Kutztown**: Kutztown University; **Reading**: Reading Area Comm Coll, Albright Coll, Reading Hospital and Med Center.	**Pottsville**: STS stop (local transit); Schuylkill Haven: STS stop (local transit) on PSU campus; **Philadelphia**: Greyhound Terminal that includes NJ Transit service, and near SEPTA, PATCO, and LUCY (loop through University City) services; **Reading**: Intercity Bus Terminal that includes Greyhound service, near Berks Area Reading Transportation Authority services, along Penn St.	Yes. Pool service with Greyhound.			www.capitoltrailways.com /default.html One-way route miles: 110 (Est. from Google Maps.)
State College – Harrisburg Schedule 704, 703 (Portion of Harrisburg-DuBois-Pittsburgh Route) Operated by Fullington Bus Company	Operating	47- or 55-passenger coaches	2 daily roundtrips	Harrisburg, Duncannon, Newport, Millerstown, Thompsontown, Mifflintown, Lewistown, State College	**Harrisburg**: college, medical, airport; **Mifflintown**: medical; **Lewistown**: medical; **State College**: college, medical.	**Harrisburg**: Harrisburg Transportation Center – Fullington Trailways, Susquehanna Trailways, Greyhound, and Amtrak train, and Capital Area Transit (local transit) nearby; **State College**: Bus Terminal - Penn State Campus, Greyhound Service, and nearby Centre Area Transportation Authority (local transit) service.	Yes	Vary based on stops	21,480 passenger trips based on Intercity Bus Stats Summary for FY 08 (July 07 – Jun 08) Annualized: 53,880 (for all Fullington Service.)	www.fullingtontours.com One-way route miles: 86

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Bradford-Pittsburgh Table 7158 Sch. Nos: 530, 510 Operated by: Fullington Bus Company	Operating	47- or 55-passenger coaches	1 daily roundtrip	Bradford, St. Mary's, Ridgeway, DuBois, Punxsutawney, Vandergrift, Monroeville, Pittsburgh, Indiana and Apollo	**Bradford**: University of Pittsburgh; **DuBois:** Penn State University; **Punxsutawney**: Indiana University of Pennsylvania; **Monroeville**: Community College of Alleghany County, hospital; **Pittsburgh**: college, hospital	**Pittsburgh**: Greyhound Station, near Amtrak services and Port Authority (local transit) services.	Yes	Vary based on stops	15,659 passenger trips based on Intercity Bus Stats Summary for FY 08 (July 07 – Jun 08)	www.fullingtontours.com One-way route miles: 169 (est. from Google Maps)
State College-Wilkes-Barre Table 7157 Sch. Nos: 815, 805 Operated by Fullington Bus Company	Operating	47- or 55-passenger coaches	1 daily roundtrip	State College, Bellefonte, Lock Haven, Jersey Shore, Williamsport, Hughesville, Wilkes-Barre and Red Rock	**Wilkes Barre**: Luzerne County Comm. Coll., Wilkes Univ.	**State College**: Bus Terminal - Penn State Campus, Greyhound service, and nearby Centre Area Transportation Authority (local transit) service.	Yes	Vary based on stops	7,062 passenger trips based on Intercity Bus Stats Summary for FY 08 (July 07 – Jun 08)	www.fullingtontours.com One-way route miles: 134 (est. from Google Maps)
State College-Pittsburgh Table 7139 Operated by Fullington Bus Company	Operating	47- or 55-passenger coaches	1 daily roundtrip	State College, Philipsburg, Clearfield, DuBois, Sykesville, Big Run, Punxsutawney, Indiana, Monroeville, Pittsburgh, Pittsburgh Airport, Indiana and Apollo	**State College**: college, medical; **Pittsburgh**: hospital, college, airport;	**State College**: Bus Terminal - Penn State Campus, Greyhound service, and nearby Centre Area Transportation Authority (local transit) service; **Pittsburgh**: Greyhound Station, near Amtrak services and Port Authority (local transit) services;	Yes	Vary based on stops	8,417 passenger trips based on Intercity Bus Stats Summary for FY 08 (July 07 – Jun 08)	www.fullingtontours.com One-way route miles:136 (est. from Google Maps)
DuBois-Harrisburg Table 7155 Sch. Nos.: 730, 710 Operated by Fullington Bus Company	Operating	47- or 55-passenger coaches	2 daily roundtrips	DuBois, Clearfield, Philipsburg, State College, Lewistown and Harrisburg	**State College**: college, medical; **Lewistown**: medical; **Harrisburg**: college, medical, airport;.	**State College**: Bus Terminal - Penn State Campus, Greyhound service, and nearby Centre Area Transportation Authority (local transit) service; **Harrisburg**: Harrisburg Transportation Center – Fullington Trailways, Susquehanna Trailways, Greyhound, and Amtrak train, and Capital Area Transit (local transit) nearby;	Yes	Vary based on stops	18,880 passenger trips based on Intercity Bus Stats Summary for FY 08 (July 07 – Jun 08)	www.fullingtontours.com One-way route miles: 149 (est. from Google Maps)

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Pennsylvania Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Pittsburgh - Grove City Operated by Myers Coach Lines	Operating		4 roundtrips M-F; Pittsburgh - Butler, plus additional one-way trip (M-F) Butler - Pittsburgh, plus one roundtrip M-F, Pittsburgh Grove City	Pittsburgh, Etna, Glenshaw, Bakerstown, Cooperstown, Butler, Unionville, Slippery Rock and Grove City	**Pittsburgh**: hospital, college, airport; **Butler**: college, medical; Grove City: college	**Butler**: Butler Transit Authority Terminal (local transit); **Pittsburgh:** Greyhound**,** nearAmtrak Station and Port Authority (local transit) services.	N		32,212 passenger trips based on Intercity Bus Stats Summary for FY 08 (July 07 – Jun 08)	www.myerscoachlines.com /ourservices.nxg One-way route miles:60 (est. from Google Maps)
Williamsport – Philadelphia Operated by Susquehanna Transit Company	Operating	47- or 55-passenger coaches	4 daily roundtrips	Sunbury, Shamokin, Mt. Carmel, Ashland, Shenandoah, Tamaqua, Lehighton, Allentown, Doylestown and Philadelphia	**Lock Haven**: Lock Haven University; **Lewisburg**: Bucknell University; Penn College; **Williamsport**: Lycoming College; **Bloomsburg**: Bloomsburg Hospital, Bloomsburg University; **Danville**: Geisinger Medical Center. Philadelphia:	**Williamsport**: near River Valley Transit (local transit) services; **Philadelphia**: Greyhound Terminal – for Peter Pan and Martz Trailway and NJ Transit services and near SEPTA (local transit) services.	Fares and schedules interlined with Greyhound and various other Trailway companies	$47.40	FY 09 (Jul 08 – Jun 09): 33,035 FY 08 (July 07-June 08): 33,536 FY 07: 32, 501 FY 06: 31, 676 FY 05: 31,342 FY 04: 32,092 FY 03: 33,671 FY 02: 33,683	www.susquehannabus.com/ schedules.html One-way route miles: 220 (est. from Google Maps)
Williamsport - Easton Operated by Susquehanna Transit Company	Operating	47- or 55-passenger coaches	4 daily roundtrips, plus additional weekend service	Williamsport, Allenwood, Lewisburg, Danville, Bloomsburg, Berwick, Hazleton, Lehighton and Easton	**Williamsport**: Lycoming College; **Lewisburg**: Bucknell University; **Bloomsburg**: Bloomsburg University, hospital; **Hazleton**: colleges, Keystone Job Corp; **Easton**: Lafayette College,	**Williamsport**: near River Valley Transit (local transit) services; **Hazleton**: Trailways center – Capitol Bus Company, and near Hazleton Public Transit Bus Hub; **Easton**: near Greyhound terminal, near NJ Transit Route 891 stop.	Fares and schedules interlined with Greyhound and various other Trailways companies	$33.05	FY 09 (Jul 08 – Jun 09): 37,383 FY 08 (July 07-June 08): 37,868 FY 07: 37,403 FY 06: 38,749 FY 05: 40,692 FY 04: 41,955 FY 03: 41,540 FY 02: 40,178	www.susquehannabus.com/ schedules.html One-way route miles: 134 (est. from Google Maps)
Williamsport - Harrisburg Operated by Susquehanna Transit Company	Operating	47- or 55-passenger coaches	2 daily roundtrips	Williamsport, Allenwood, Lewisburg, Shamokin Dam, Sunbury, Selinsgrove, Port Trevorton, Rte 104 Park & Ride, Liverpool, New Buffalo, Amity Hall, Harrisburg	**Harrisburg**: college, medical, airport; **Selinsgrove**: Susquehanna University; **Williamsport**: Lycoming College;	**Williamsport**: near River Valley Transit (local transit) services; **Harrisburg**: Harrisburg Transportation Center – Fullington Trailways, Capitol Trailways, Greyhound, and Amtrak train, and Capital Area Transit (local transit) nearby	Fares and schedules interlined with Greyhound and various other Trailways companies	$27.30	FY 09 (Jul 08 – Jun 09): 13,772 FY 08 (July 07-June 08): 13,600 FY 07: 12,154 FY 06: 10,980 June 2005: 711	www.susquehannabus.com/ schedules.html One-way route miles: 90 (est. from Google Maps)

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Pittsburgh – Harrisburg Table 190 Sch. Nos.: 4693, 4691, 4690, 4692 Operated by Greyhound Lines, Inc.			2 daily roundtrips	Harrisburg, Lewistown, State College, Tyrone, Altoona, Ebensburg, Johnstown, Latrobe, Greensburg, Monroeville, Pittsburgh	**Harrisburg**: college, medical, airport; **Lewistown**: medical; **State College**: college, medical; **Altoona**: Penn State College, hospital; **Ebensburg**: Comm. College, airport; **Johnstown**: college, airport; **Latrobe**: St. Vincent Univ., airport; **Greensburg**: college, hospital; **Monroeville**: Community College of Alleghany County, hospital; **Pittsburgh**: hospital, college, airport.	**Tyrone:** Amtrak train**;** **Altoona:** Amtrak train, Altoona Metro Transit, **Johnstown**: Amtrak train; **Latrobe**: Amtrak train; **Greensburg**: Amtrak train, and Westmoreland County Transit Authority service at stop; **Pittsburgh:** Greyhound**,** nearAmtrak station and Port Authority (local transit) services.	Yes	$40.25		www.greyhound.com One-way route miles: 220 (Based on GLI Website.)
Pittsburgh – Erie Table 178 Sch. Nos.: 4646, 7929, 4637 Operated by Greyhound Lines, Inc.			1 daily roundtrip, and 1 additional Erie to Pitt run	Pittsburgh, Zelienople, New Castle, Meadville, Edinboro Univ., Erie	**Pittsburgh**: hospital, college, airport; **Zelienople**: hospital, airport; **New Castle**: hospital, airport; **Meadville**: College, medical, airport; **Erie**: Mercyhurst College, Gannon Univ., hospital, airport, Army Reserve Training Ctr.	**New Castle:** near New Castle Area Transit service, **Meadville**: near Crawford Area Transportation Auth service; **Erie**: Erie Metro Transit Authority, and Amtrak train.	Yes	$29.50		www.greyhound.com One-way route miles: 132 (Based on GLI Website.)
Philadelphia – Scranton Table 166 Sch. Nos. 7955, 7959, 7956, 7958 Operated by Greyhound Lines, Inc.			2 daily roundtrips	Philadelphia, Willow Grove, Doylestown, Easton, Stroudsburg, Mt. Pocono, Scranton	**Philadelphia:** college, hospital, airport; Willow Grove: hospital, Naval Air Station; **Doylestown**: college, hospital, airport; **Easton**: Lafayette College, hospital; **Stroudsburg**: college, medical; **Mt. Pocono**: airport; **Scranton**: college, medical.	**Philadelphia**: Greyhound Terminal – for Peter Pan and Martz Trailways and NJ Transit services and near SEPTA (local transit) services; **Doylestown**: near SEPTA services, Stroudsburg: near Monroe County Transit Authority services; **Scranton**: near County of Lackawanna Transit System.	Yes	$45		www.greyhound.com One-way route miles: 126 (Based on GLI Website.)

Links to connecting agencies:

River Valley Transit (Williamsport): www.citybus.org/
Capital Area Transit (Harrisburg): www.cattransit.com/
Port Authority of Allegheny County (Pittsburgh): www.portauthority.org/paac/default.aspx
Hazleton Public Transit: www.hazletoncity.org/public/public-transit/hazleton-public-transit.html
County of Lebanon Transit – COLT (Lebanon): www.coltbus.org
City of Hazelton Public Transit: www.hazletoncity.org/public/public-transit/hazleton-public-transit.html
Schuylkill Transportation System (Schuylkill Haven): www.go-sts.com
Centre Area Transportation Authority (State College): www.catabus.com
New Jersey Transit: http://www.njtransit.com/
Southeastern Pennsylvania Transportation Authority (Philadelphia): www.septa.com
Altoona Metro Transit: http://www.amtran.org/
New Castle Area Transit: http://www.newcastletransit.org/
Crawford Area Transportation Authority: http://catabus.org/
Erie Metropolitan Transit Authority: http://www.emtaerie.com/
Monroe County Transit Authority: http://www.gomcta.com/
County of Lackawanna Transit System: http://www.coltsbus.com/schedules.htm

South Dakota Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
River Cities Public Transit --**North-South Shuttle** (same route as Sitting Bull College route in ND table) --**Vivian-Pierre** connection to Jefferson Lines (not 5311(f))		Sprinter shuttle van that transports up to 12 passengers	North-South Shuttle: 1 roundtrip Mon & Thu Vivian-Pierre: 1 roundtrip daily	North-South Shuttle : Bismarck, ND: 3750 E. Rosser Ave, Ft. Yates, ND: Standing Rock Public Trans, McLaughlin, SD: Cenex Station, Mobridge: 421 Main St., Selby: Shorty's One-Stop, Gettysburg: Gas-n-Goodies, Agar: Standard Oil station on highway, Onida: The Corner, Pierre: 1600 E. Dakota Ave. Vivian-Pierre: Vivian, Pierre	Bismarck, ND: university, regional hospital, major employer, major retail Fort Yates, ND: university Mobridge, SD: regional hospital Pierre, SD: regional hospital, major employer, major retail Tourism (National Scenic Byway, the Missouri River and the Black Hills)	Bismarck, ND – Bis-Man Transit, Greyhound, commercial airlines Fort Yates, ND – Standing Rock Public Transit, commercial airlines Pierre, SD – River Cities Transit, Jefferson Lines, commercial airlines	Vivian-Pierre: with Jefferson and Greyhound	North-South: $4 McLaughlin-Ft. Yates, $37 Bismarck to Pierre, discounts if purchases are made 7 days in advance Vivian-Pierre: not indicated	North-South Shuttle: Approx. 116 passengers per year or 10 passengers per month (per Sitting Bull College, ND) Summers and falls are very busy, probably 1/3 more ridership compared to rest of year.	http://www.sittingbull.edu/elements/pdfs/Shuttle.pdf
Ride Line Shuttle (Aberdeen – Summit) By Aberdeen Ride Line		Varies depending on needs of day from minivan to 20-pass. vehicle (fleet of 16 to choose from)	2 roundtrips Mon, Wed, Fri	Aberdeen, Groton: Duane Amoco on Hwy 12, Webster: Cenex C Store on Hwy 12 & 25, Summit Corner, on Interstate 29 & Hwy 12	Aberdeen: Northern State University, Presentation College, Avera St. Luke's Hospital	Aberdeen: Aberdeen Ride Line demand response service, commercial airline Groton: Groton Community Transit, Summit Corner: Jefferson Lines	Jefferson / Greyhound However, GLI schedule does not show Red Line services between Aberdeen and Summit; only the JL service is shown.	Per Jefferson Lines $21	2005-2006: 974 2007-2008: 1,393 Increases in summer months and around holidays	http://www.aberdeen.sd.us/ride/ride.html One-way route miles: 74 (Est. from Google Maps.)

Links to connecting agencies:

Aberdeen Line: http://www.aberdeen.sd.us/ride/ride.html
Bis-Man Transit: http://ndinfo.org/transit/profile.php?id=2 or http://bismantransit.com/ (under construction)
Jefferson Lines: http://jeffersonlines.com/
Standing Rock Public Transit: http://www.sittingbull.edu/elements/pdfs/Schedule.pdf
West River Transit: http://ndinfo.org/transit/profile.php?id=50

Texas Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Houston-Texarkana (Greyhound Lines, Inc.- Table 495)	Fully allocated costs, funds subsidize the operations of the route.	Van Hool C2045 – 57 passengers and wheelchair lifts; MCI G4500 – 55 passengers and wheelchair lifts; MCI 102DL3 / D4500 – 55 passengers; MCI 102D3 – 47 passengers; MCI MC-12 – 47 passengers.	1 daily roundtrip.	Houston, Conroe, Huntsville, Crockett, Jacksonville, Tyler, Kilgore, Longview, Marshall, Atlanta, and Texarkana, AR	Houston: colleges, medical, airport.	Several Greyhound stations in Houston with access to local transit services.	Kerrville Bus Company in Marshall, Longview, and Tyler; Kerrville Bus Co. and Aero Trailways in Houston.	$50 non-refundable, $57 refundable, entire one-way.	12,592 Annual (Feb 1, 2006 – Jan 31, 2007); 34.5 daily one-way trips.	One-way route miles: 346
Houston-Fort Worth (Greyhound Lines, Inc. – Table 497) Sch# 6482	Fully allocated costs, funds subsidize the operations of the route.	See above.	1 daily roundtrip.	Houston, Houston NW, Prairie View, Navasota, Bryan, Hearne, Waco, Ft. Worth	Houston: colleges, medical, airport; Prairie View: Prairie View A&M University; Hearne: medical; Waco: Brooks College, medical; Ft. Worth: colleges, medical.	**Houston**: Several stations with access to local transit services; **Ft. Worth**: near Amtrak services.	Kerrville Bus Co., VTC, Aero Trailways in Houston.	$38 non-refundable, $44 refundable, entire one-way	16,644 Annual (Feb 1, 2006 – Jan 31, 2007); 45.6 daily one-way trips.	One-way route miles: 283
El Paso-Lubbock (Greyhound Lines, Inc. – Table 810) Sch# 352	Fully allocated costs, funds subsidize the operations of the route.	See above.	1 daily roundtrip.	El Paso, Salt Flat, Carlsbad, Hobbs, Lovington, Brownfield, Levelland, Lubbock	**El Paso**: colleges, medical, airport; **Brownfield**: medical; **Lubbock**: Texas Tech Univ and medical.	**El Paso**: near Sun Metro downtown services, and Amtrak Station. **Lubbock**: Downtown Transit Plaza – CitiBus (local transit).	None.	$64.80 non-refundable, $81 refundable, entire one-way	16,962 Annual (Dec 1, 2006 – Nov 30, 2007); 46.5 daily one-way trips.	One-way route miles: 453
Lubbock-Abilene (Greyhound Lines, Inc. – Table 821)	Fully allocated costs, funds subsidize the operations of the route.	See above.	1 daily roundtrip.	Lubbock, Lamesa, Big Spring, Sweetwater, and Abilene.	**Lubbock**: Texas Tech Univ and medical; **Abilene**: colleges, medical; **Sweetwater**: TX State Tech College.	**Lubbock**: Downtown Transit Plaza – CitiBus (local transit).	None.	$31.20 non-refundable, $39 refundable, entire one-way	4,726 Annual (Dec 1, 2006 – Nov 30, 2007); 12.9 daily one-way trips.	One-way route miles: 123
Big Spring-Amarillo (Greyhound Lines, Inc. – Table 816)	Fully allocated costs, funds subsidize the operations of the route.	See above.	1 daily roundtrip.	Big Spring, Lamesa, Lubbock, Plainview, Amarillo	**Lubbock**: Texas Tech Univ and medical; **Amarillo**: West Texas A& M Univ, Amarillo College, medical.	**Lubbock**: Downtown Transit Plaza – CitiBus (local transit); **Amarillo**: near Amarillo City Transit services (local transit).	Kerrville Bus Co. in Big Spring.	$52 non-refundable, $60 refundable, entire one-way.	21,286 annual (Dec 1, 2006 – Nov 30, 2007); 58 daily one-way trips.	One-way route miles: 237
Lubbock-Odessa (Greyhound Lines, Inc. – Table 813)	Fully allocated costs, funds subsidize the operations of the route.	See above.	1 daily roundtrip.	Lubbock, Brownfield, Seminole, Odessa	**Lubbock**: Texas Tech Univ and medical; **Brownfield**: Brownfield Regional Medical Center; **Odessa**: Univ-Tex Permian Basin.	**Lubbock**: Downtown Transit Plaza – CitiBus (local transit).	All Aboard America! in Odessa.	$34 non-refundable, or $40 refundable entire one-way	2,554 Annual (Dec 1, 2006 – Nov 30, 2007); 7 daily one-way trips.	One-way route miles: 102

(continued on next page)

Texas Section 5311(f) Route Information (Continued).

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
San Antonio – Amarillo (San Antonio – Big Spring - Kerrville Bus Company (Greyhound Lines, Inc.-Table 481)	Fully allocated costs, funds subsidize the operations of the route.	See above.	2 daily roundtrips	San Antonio, Boerne, Comfort, Center Point, Legion Vet Hosp, Kerrville, Fredericksburg, Mason, Brady, Eden, San Angelo (Goodfellow Air Force Base), Sterling City, Big Spring	**San Antonio**: Major employers, University of Texas at San Antonio, tourist destination and location for Sam Houston military base; **San Angelo**: Goodfellow military base	San Angelo: Concho Valley Council of Governments Big Spring: Greyhound Lines, Inc.	Yes.	$72.50	750 per month Annualized: 9,000	www.iridekbc.com /routemap.pdf One-way route miles: 296 (est. from Google Maps)
Eagle Pass – Del Rio Kerrville Bus Company	Fully allocated costs, funds subsidize the operations of the route.	55-seat motor coaches. Storage for baggage and for wheel accessibility, must call 48 hours in advance.	3 daily roundtrips	Eagle Pass, Del Rio	**Eagle Pass**: Southwest Texas Junior College, **Del Rio**: Southwest Texas Junior College, Laughlin AFB, Del Rio Int'l Airport.	City of Del Rio Transit – Intermodal Facility with Amtrak, Community Council of Southwest Texas.	Greyhound, Community Council of Southwest Texas.	$17.50 non-refundable one-way fare on GLI website	215 per month Annualized: 2,580	www.iridekbc.com /routemap.pdf One-way route miles: 56 (est. from Google Maps)
Midland – Presidio (Greyhound Lines, Inc. Table 481) Operated by: All Aboard America!	Fully allocated costs, funds subsidize the operations of the route.	55-seat motor coaches. Storage for baggage and for wheelchair accessibility, must call 48 hours in advance.	2 daily roundtrips	Midland, Midland Airport, Odessa, Crane, McCamey, Ft. Stockton, Alpine, Marfa, Presidio	**Midland**: Midland College, Midland Int'l Airport, US Army Nat'l Guard; **Odessa**: Odessa College, Odessa Reg. Med. Ctr.; **Crane**: Mem. Hospital, McCamey: County Hospital; **Ft. Stockton**: Mem. Hospital, Ft. Stockton Transfer Facility, airport; **Alpine**: Sul Ross State University and Amtrak station.	**Midland**: Greyhound Lines, Inc; **Odessa**: Greyhound Lines, Inc.; **Ft. Stockton**: Kerrville Bus Co.; **Alpine**: Amtrak station.	Greyhound Lines, Inc. Kerrville Bus Co.	$6.50-$42 per one way	800 riders per month Annualized: 9,600	www.allaboardamerica.com /midland/scheduledruns _schedules.html One-way route miles: 270 (Est. from Google Maps)

Links to connecting agencies:

Greyhound Lines, Inc.: www.greyhound.com
Kerrville Bus Co.: www.iridekbc.com
Alamo Area Council of Governments: http://www.aacog.com
Community Council of Southwest Texas: http://www.ccswt.org
The District (Brazos Transit): http://www.btd.org
Concho Valley Council of Governments: http://www.cvcog.org
All Aboard America: http://www.allaboardamerica.com/index.html

Utah Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Rexburg, ID to Salt Lake City, UT **Salt Lake Express Service:** Operated by Rocky Mountain Trails		Mercedes Vans	9 roundtrips Mon-Sat; 8 roundtrips Sun	**Rexburg**, ID and **Ogden**, and **Salt Lake City**- airport and downtown.	**Rexbur**g: Brigham Young University-Idaho, medical; **Ogden**: Stevens-Henegar College; **Salt Lake City**: downtown, international airport, and medical.	Salt Lake City: Utah Transit Authority (UTA) services at the downtown (near Temple Square) stop.	No	$39.50 entire one-way.		One-way route miles: 239 (est. from Google Maps)
Logan to Salt Lake City **Salt Lake Express Service:** Operated by Rocky Mountain Trails			3 daily roundtrips	**Logan, Brigham City**, **Ogden, Salt Lake City** – airport and downtown.	**Logan** – transit center, Utah State University; **Ogden**: Stevens-Henegar College; **Salt Lake City**: downtown, international airport, and medical.	**Logan**: Cache Valley Transit District Transit Center – local transit and Greyhound; **Brigham**: there is a Greyhound stop, but do not know where the SLC Express stop is; **Salt Lake City**: Utah Transit Authority (UTA) services at the downtown (near Temple Square) stop.	No	$20 entire one-way.		One-way route miles: 85 (est. from Google Maps)
Provo to Salt Lake City **Salt Lake Express Service:** Operated by Rocky Mountain Trails			3 daily roundtrips	**Provo, Orem, Sandy**, and **Salt Lake City** Airport	**Provo**: Brigham Young University, medical; **Orem**: Utah Valley State College.	**Provo**: Utah Transit Authority (UTA) stop on BYU campus; **Sandy**: near UTA service at Civic Center; **Salt Lake City**: UTA services at the downtown (near Temple Square) stop.	No	$20 entire one-way.		One-way route miles: 60 (est. from Google Maps)

Links to connecting agencies:

Salt Lake Express: https://secure.bluedepot.com/trailways/index.cfm
Utah Transit Authority: http://www.rideuta.com/
Cache Valley Transit District: http://www.cvtdbus.org/schedulesandmaps/index.php

Virginia Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Roanoke - Blacksburg **The Smart Way Bus** Operated by Valley Metro	FY 08 – $207,635 ops funding (allocated), only reimbursed for $96,000 to date.	GLAVAL, Body-on chasis, 29-passenger, over the road coach, luggage rack, over-head compartments, power ports for laptops, wi-fi; wheelchair accessible; Fleet: 5 vehicles, as many as 3 on the road at one time.	13 roundtrips per day – Mon – Fri; 9 roundtrips on Sat.	Roanoke; Two Park & Ride Lots; Blacksburg (2); stop in Christiansburg.	Roanoke: downtown, higher education center, regional airport. Blacksburg: shopping, Virginia Tech University, corporate research center, downtown.	Roanoke – Downtown stop connects with other Valley Metro system services (transfer ticket accepted) and Greyhound Services. Blacksburg – downtown stops allow for connection to Blacksburg Transit services (50 cent fare). Christiansburg (shopping) – Two-Town Trolley	No.	$3 one-way trip or $100 monthly pass	FY 05 (July 04-June 05): 23,821 FY 06 (July 05 – June 06): 36,369 FY 07 (July 06 – June 07): 40,095 FY 08 (July 07 – June 08): 52,911 FY 09 (July 08 – June 09): 63,894	http://www.smartwaybus.com/schedule.htm Total one-way rout miles: 37

Links to connecting agencies:

Valley Metro: http://www.valleymetro.com/
Blacksburg Transit: http://www.btransit.org/cms.php/
Blacksburg Transit – Two Town Trolley: http://www.btransit.org/cms.php/routes/ttt-cburg/
Greyhound Lines, Inc.: http://www.greyhound.com

Washington Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Ellensburg – Omak **Travel Washington Apple Line** operated by Northwestern Stage Line, Inc.	WSDOT contracts with operator (effective Nov. 2007)	MCA 47-pass. coach (will be replaced with 28-pass., w/c lift, bike rack, storage)	1 roundtrip daily	Omak, Okanogan, Malott, Brewster, Pateros*, Chelan Falls*, Orondo, Wenatchee, Ellensburg *Advance reservation required	**Ellensburg**: Central Washington University, Yakima Valley College, Kittitas Valley Community Hospital	**Omak and Okanogan**: Okanogan County Senior Citizens Association Chelan Falls and Orondo: Chelan-Douglas Public Transportation Benefit Area (LINK); **Wenatchee**: Northwestern Trailways, Amtrak, LINK; **Ellensburg**: Greyhound, Kittitas County Coordinated Transportation, Kittitas County Action Council	Greyhound, Northwestern Trailways	Examples: Omak to Ellensburg: $30 one-way/ $57 roundtrip Omak to Wenatchee: $20 one-way/ $38 roundtrip	CY 2007 : 5,868* Average monthly boardings: 2004: 340 2005: 442 2006: 475 2007: 489 *based on monthly avg boardings	http://www.appleline.us/, http://66.193.141.11/ScheduleService/tabid/55/Default.aspx One-way route miles: 166
Port Angeles – Seattle **Travel Washington Dungeness Line** operated by Olympic Bus Lines	WSDOT contracts with operator (effective July 2008)	3 – 25-pass. 1 – 14-pass. (PT feeder) wheelchair access, bike racks, rear and overhead storage on all 4	2 roundtrips daily	Port Angeles, Sequim, Port Townsend, Discovery Bay, Kingston*, Edmonds*, Seattle: Greyhound Station/hospitals near downtown*/King Street Station*, SeaTac airport *Advanced reservation required	**Port Angeles**: tourism, Olympic National Forest **Port Townsend**: tourism **Seattle**: regional medical facilities, education, recreation	**Port Angeles**: Clallam Transit, ferries to Victoria, BC: Victoria Express and M.V. Coho; **Sequim**: Clallam Transit; **Port Townsend**: Jefferson Transit; **Kingston**: Washington State Ferry, Kitsap Transit; **Edmonds**: Washington State Ferry, Amtrak, Community Transit; **Seattle**: Greyhound, Amtrak, Northwestern Trailways, King County Metro Transit, Sound Transit; **SeaTac airport**: commercial airlines	Olympic Bus Lines sells Greyhound tickets and vice-versa (separate ticket for each operator)	Examples: Port Angeles to SeaTac: $49 one-way/ $79 roundtrip Seattle to Kingston: $28 one-way/$56 roundtrip	CY 2006: 12,972* Average monthly boardings: 2004: 924 2005: 974 2006: 1,081 *based on monthly average boardings	http://www.olympicbuslines.com/ One-way route miles: 123
Walla Walla - Pasco **Travel Washington Grape Line** operated by Airporter Shuttle/Bellair Charters	WSDOT contracts with operator (effective July 2008)	18-pass., wheelchair-accessible buses with bicycle racks	3 roundtrips daily	Walla Walla Airport Walla Walla Transit Center College Place Touchet Chevron Station Wallula Post Office Burbank Shell Sun Mart Pasco Intermodal Station Pasco Transit Center Pasco Airport	**Walla Walla Airport**: WW Community College; **Walla Walla Transit Center**: VA Medical Center, St. Mary Medical Center, Whitman College, Washington State Penitentiary; **College Place**: Walla Walla University, Walmart; **Wallula Post Office**: Several major employers including Boise-Cascade, Railex Burbank Shell Sun Mart; **Pasco Intermodal Station**: Lourdes Medical Center; **Pasco Transit Center**: regional medical and shopping; Pasco Airport: Columbia Basin College	**Walla Walla Airport**: Horizon Airlines, Valley Transit; **Walla Walla Transit Center**: Valley Transit, Milton-Freewater bus, Columbia County Public Transportation; **College Place**: Valley Transit **Pasco Intermodal Station**: Greyhound, Amtrak, Estrella Blanca; **Pasco Transit Center**: Ben Franklin Transit; **Pasco Airport**: Four commercial airlines	Greyhound	One-way fares range from $3 to $6.50	CY 2006 : 5,000 *estimate from first six months of service.	http://www.grapeline.us/ One-way route miles: 50

Links to connecting agencies:

Ben Franklin Transit: http://www.bft.org/
Chelan-Douglas Public Transportation Benefit Area (LINK): http://www.linktransit.com/
Clallam Transit: http://www.clallamtransit.com/
Community Transit: http://www.commtrans.org/
Jefferson Transit: http://www.jeffersontransit.com/
King County Metro Transit: http://transit.metrokc.gov/
Kitsap Transit: http://www.kitsaptransit.org/
M.V. Coho: http://www.cohoferry.com/
Sound Transit: http://www.soundtransit.org/
Valley Transit: http://www.valleytransit.com/
Victoria Express: http://www.victoriaexpress.com/
Washington State Ferries: http://www.wsdot.wa.gov/Ferries/

West Virginia Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Clarksburg, VA – Pittsburgh, PA **Grey Line** Operated by Mountain Line Transit Authority	FY 09 – $202,963 ops funding.		1 daily roundtrip	Clarksburg, Morgantown, East Fairmont, Meadowbrook Mall, Waynesburg, Pittsburgh.	**Morgantown**: medical, University of West Virginia; **Clarksburg**: Meadowbrook Mall; **Pittsburgh**: airport, medical.	**Pittsburgh**: Greyhound, Airport; **Waynesburg**: Airport; **Morgantown** Depot – local Mountain Line Transit, Fairmont-Marion County Transit, Buckwheat Express - Preston County.	No	Zone fare: $3 to $30, advance reservation is suggested.	FY 08 (Jul-June): 6,709	http://www.busride.org/ One-way route miles: 150 (est. from Google Maps)

Link to connecting agencies:

Greyhound Lines, Inc.: www.greyhound.com
Fairmont – Marion County Transit: www.fmcta.com/index.php
Preston County – Buckwheat Express: www.busride.org/Kingwood.htm

Wisconsin Section 5311(f) Route Information

Route Name	Section 5311(f) funding status	Vehicle description	Frequency	Stops along route	Major trip generators	Connectivity	Interlining?	Fares	Ridership	Route map and other information online
Minneapolis – La Crosse Route 901, 902 By Jefferson Lines			1 daily roundtrip	Minneapolis, U M Coffman Union, U M St. Paul, St. Paul, Minn-St.Paul Airport, Rochester, Winona, Winona State Univ, La Crosse	**Minneapolis**: college, medical, airport; **Rochester:** Mayo Clinic; **La Crosse**: college, medical	**Minneapolis**: Greyhound Bus Terminal **Rochester**: near City of Rochester Transit (Local Transit) services; **La Crosse**: La Crosse Bus Depot near Amtrak Rail Station, and near La Crosse Municipal Transit Utility (local transit) services.	Yes	$35 one-way	2007: **10,854** Ridership by runs: 901 = 5,491 902 = 5,363	http://www.jeffersonlines.com/ One-way route miles: 180 (Est. from Google Maps)
Minneapolis – Milwaukee Route 915, 916 By Jefferson Lines			1 daily roundtrip	Minneapolis: Greyhound Terminal, Univ. of Minn; St. Paul (Amtrak), St. Paul; Hudson , WI, Menomonie, Eau Claire, Eau Claire Transit, Chippewa Falls, Stanley, Abbotsford, Wausau Transit, Wausau/Rothschild, Wittenburg, Shawano, Green Bay, Manitowoc, Sheboygan, Milwaukee	**Minneapolis**: college, medical, airport; **St. Paul**: college, medical; Menomonie: college; **Eau Claire**: college, medical; **Green Bay**: college, medical, airport; **Milwaukee**: college, medical, airport	**Minneapolis**: Greyhound Bus Terminal; **St. Paul**: Amtrak Rail Station; **Eau Claire**: Eau Claire Transit stop (local transit); **Wausau**: Wausau Transit Center (local transit); **Green Bay**: Greyhound Bus Terminal, and near Green Bay Metro Ride (local transit services); **Sheboygan**: Sheboygan Transit (local transit) Transfer Center; **Milwaukee**: Intermodal station – Amtrak train, and Coach USA, MegaBus and Greyhound.	Yes	$53 one-way		http://www.jeffersonlines.com/ One-way route miles: 387

Link to connecting agencies:

City of Rochester, Dept. of Public Works: www.rochesterbus.com/
La Crosse Municipal Transit Utility: www.cityoflacrosse.org/index.aspx?nid=19
Eau Claire Transit: www.eauclairewi.gov/transit-home
City of Wausau, Metro Ride: www.ci.wausau.wi.us/Departments/MetroRide/BusRouteMapsSchedules.aspx
Green Bay Metro Transit: www.ci.green-bay.wi.us/transit/index.html
Sheboygan Transit: www.sheboygantransit.com/
Milwaukee County Transit System: www.ridemcts.com/

APPENDIX E

Instructions for Use of the Toolkit CD for Estimating Demand of Rural Intercity Bus Services

Minimum System Requirements, E-2
Opening the Toolkit, E-2
- For Excel 2000 and 2003, E-2
- For Excel 2007, E-4
- For Excel 2010, E-8

Using the Toolkit, E-11
- Main Page, E-11
- Inputs Page, E-11
- Output Page, E-12
- Manual Adjustment Page, E-12

Minimum System Requirements

One of the following versions of Microsoft Excel for Windows:
- 2000
- 2003
- 2007
- 2010

The toolkit will not work on Mac versions of Excel.
Macros need to be enabled (instructions on enabling macros are provided below).

Opening the Toolkit

The toolkit was developed in Excel and contains macros. For this toolkit to work properly, the macros need to be allowed to run. Opening the workbook and enabling the macros will be slightly different depending on which version of Excel is being used. To enable the macros and open the toolkit, the user should follow the following instructions for the appropriate version of Excel.

For Excel 2000 and 2003

1. Open the file labeled "Toolkit" that is located on the CD.

2. Upon opening the toolkit a Security Warning dialog box will appear. Click "Enable Macros." See Figure E-1.

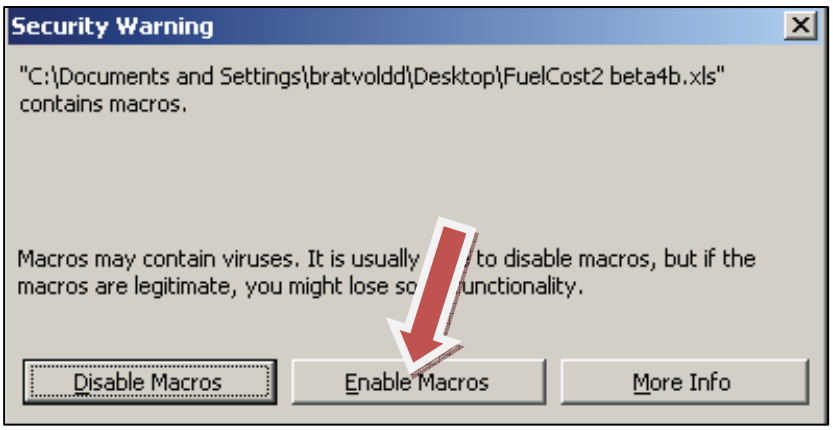

Figure E-1.

3. The toolkit should now open and be ready for use. For instructions on using the toolkit, refer to the section of this document entitled "Using the Toolkit." However, if it does not open, you will need to continue with the next steps.

Adjust Macro Security Level

4. If you get the dialog box shown in Figure E-2 or a warning indicating the security level is set too high, click "OK" and continue with the next steps to adjust the macro security level.

Figure E-2.

5. Close the toolkit and select "No" so as to not save any changes to the toolkit. Do not close Excel.

6. With the toolkit closed and Excel still open, click on "Tools," then "Macro," then "Security," as can be seen in Figure E-3.

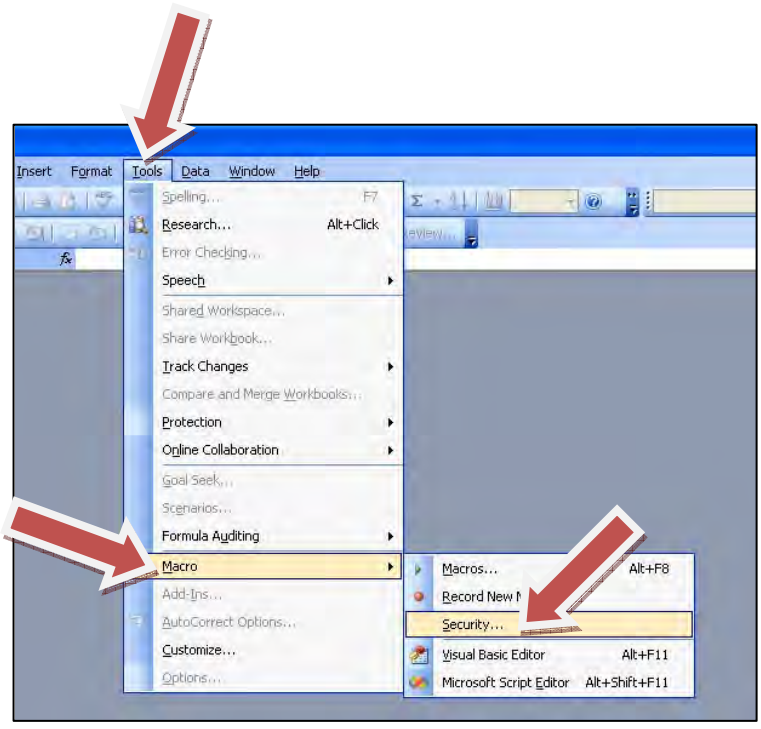

Figure E-3.

7. Then click "Medium," then "OK." See Figure E-4.

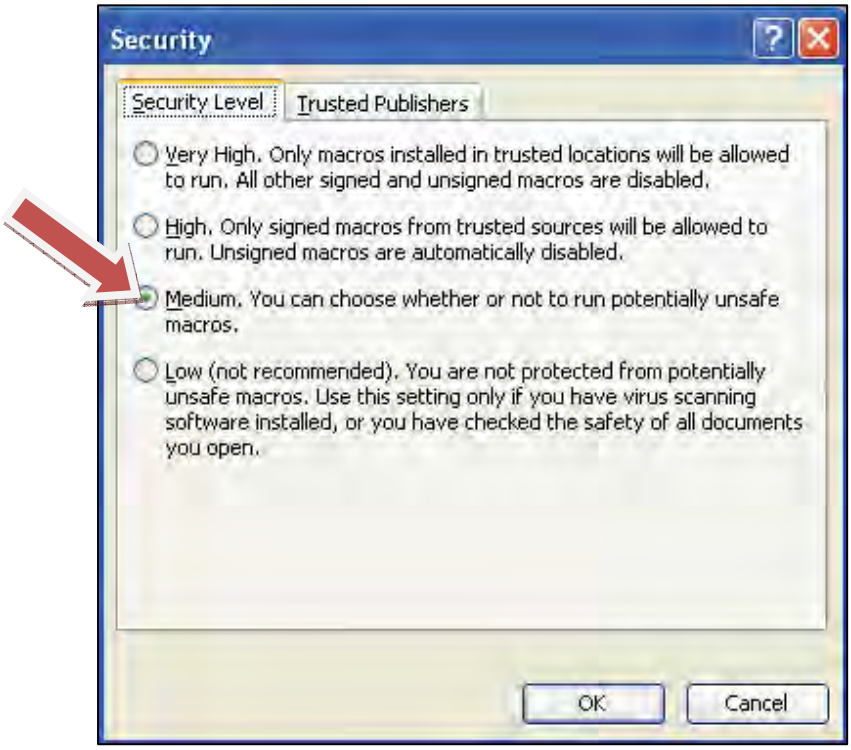

Figure E-4.

8. Now go back to Step 1 to open the toolkit.

For Excel 2007

1. Open the file labeled "Toolkit" that is located on the CD.

2. Click on "Options" in the pop-up Security Warning, as shown in Figure E-5.

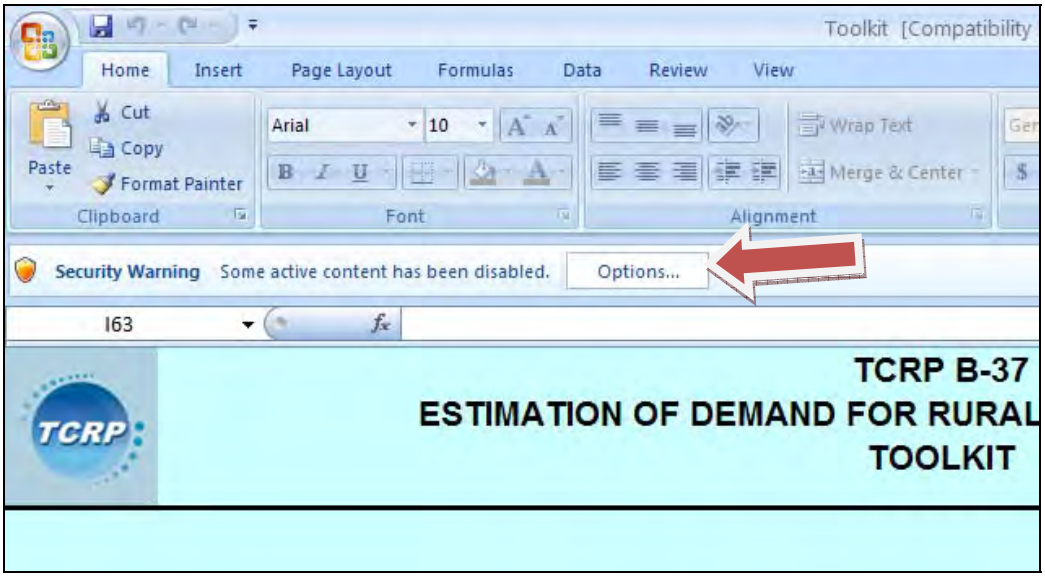

Figure E-5.

3. Click on "Enable this content."See Figure E-6.

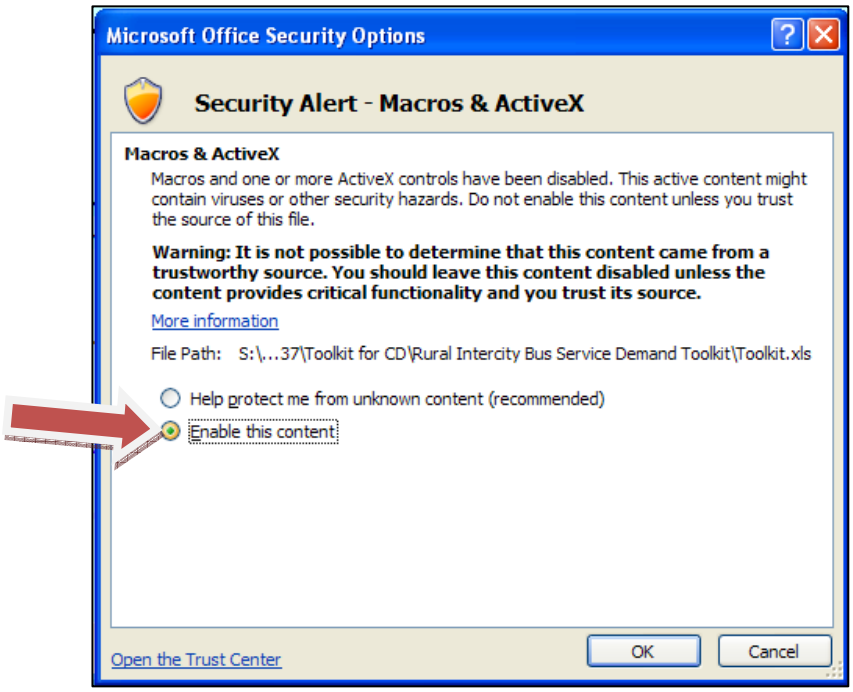

Figure E-6.

4. Click "OK."

5. The toolkit is now ready for use. For instructions on using the toolkit, refer to the section of this document entitled "Using the Toolkit."

Adjust Macro Security Level

6. If you get the dialog box shown in Figure E-7 or a warning indicating the security level is set too high, click "OK" and continue with the next steps to adjust the macro security level.

Figure E-7.

7. Close the toolkit without saving any changes. Do not close Excel.

8. In Excel, click the Office symbol on the top left corner then click "Excel Options," as shown in Figure E-8.

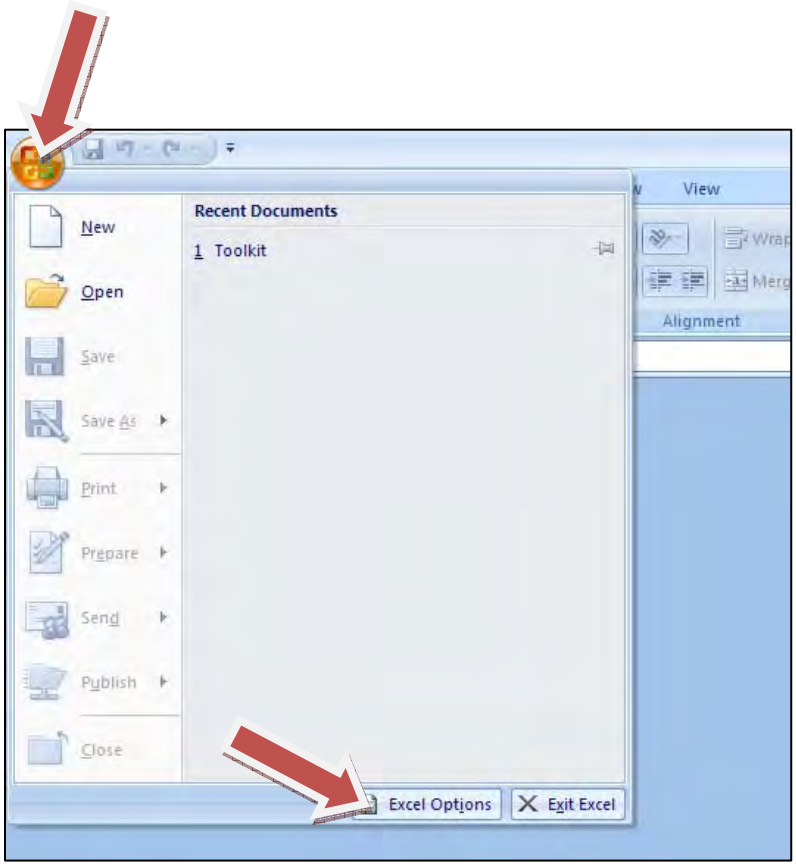

Figure E-8.

9. Click "Trust Center," then click "Trust Center Settings." See Figure E-9.

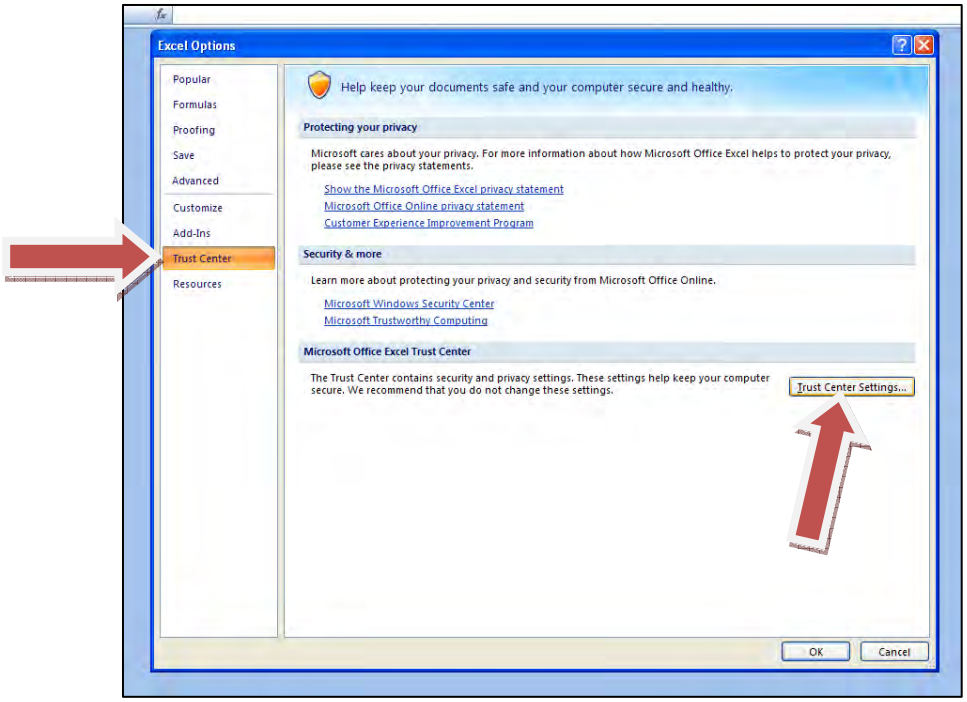

Figure E-9.

10. Click "Macro Settings" and make sure "Disable all macros with notification" is checked. See Figure E-10.

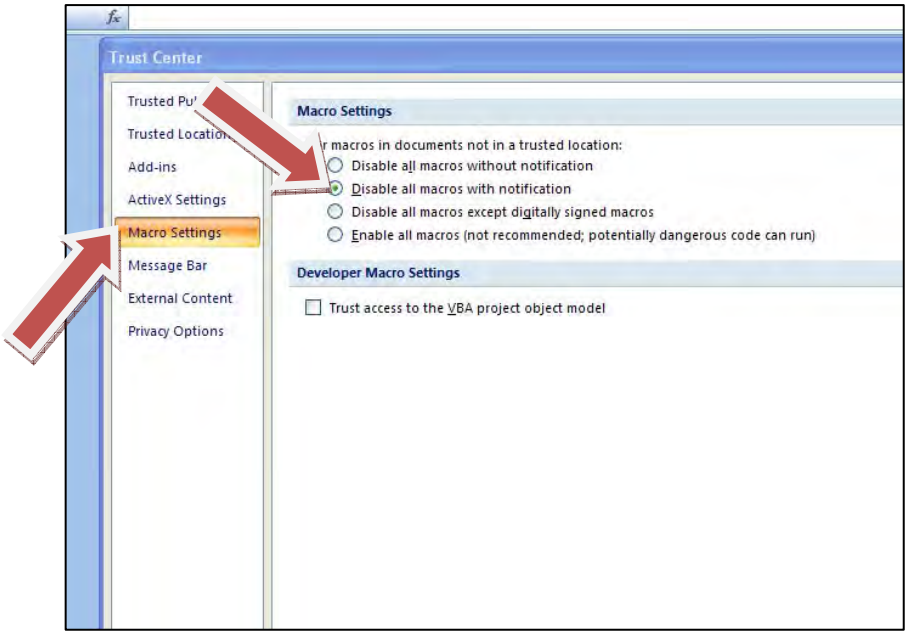

Figure E-10.

11. Click "OK."

12. Go back to Step 1 to open the toolkit.

For Excel 2010

1. Open the file labeled "Toolkit" that is located on the CD.

2. Click on "Enable Content" in the pop-up Security Warning, as shown in Figure E-11.

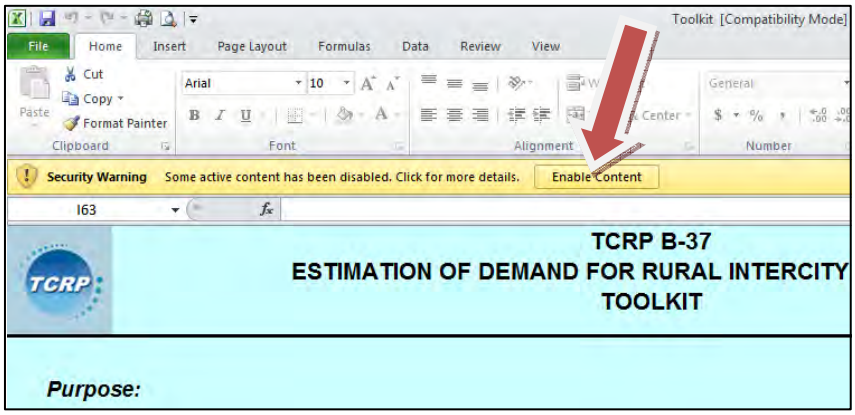

Figure E-11.

3. Click "Yes." See Figure E-12.

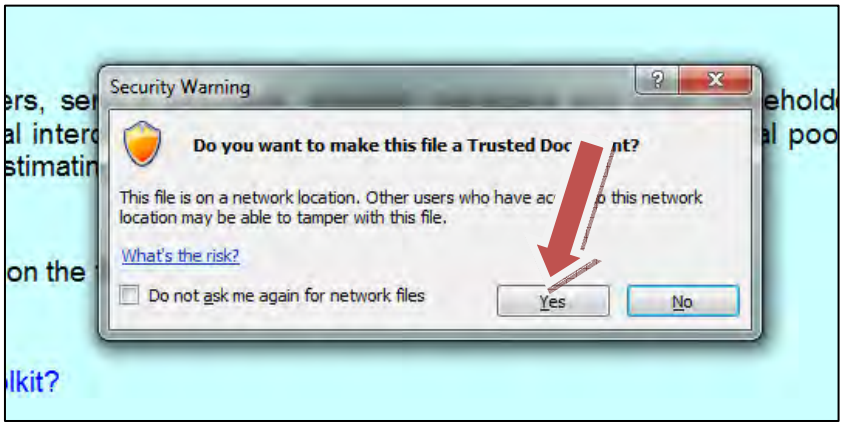

Figure E-12.

4. The toolkit is now ready for use. For instructions on using the toolkit, refer to the section of this document entitled "Using the Toolkit."

Adjust Macro Security Level

5. If you get the dialog box in Figure E-13 when beginning to use the toolkit, then the macro security setting needs to be adjusted. Click "OK" to close the dialog box.

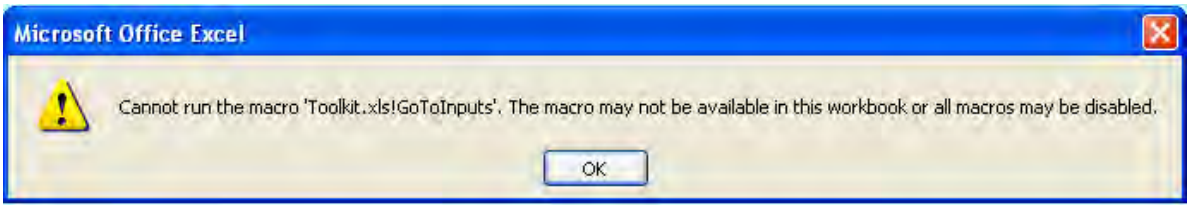

Figure E-13.

6. Close the toolkit without saving any changes to the toolkit. Do not close Excel.

7. Click "File," then "Options," as shown in Figure E-14.

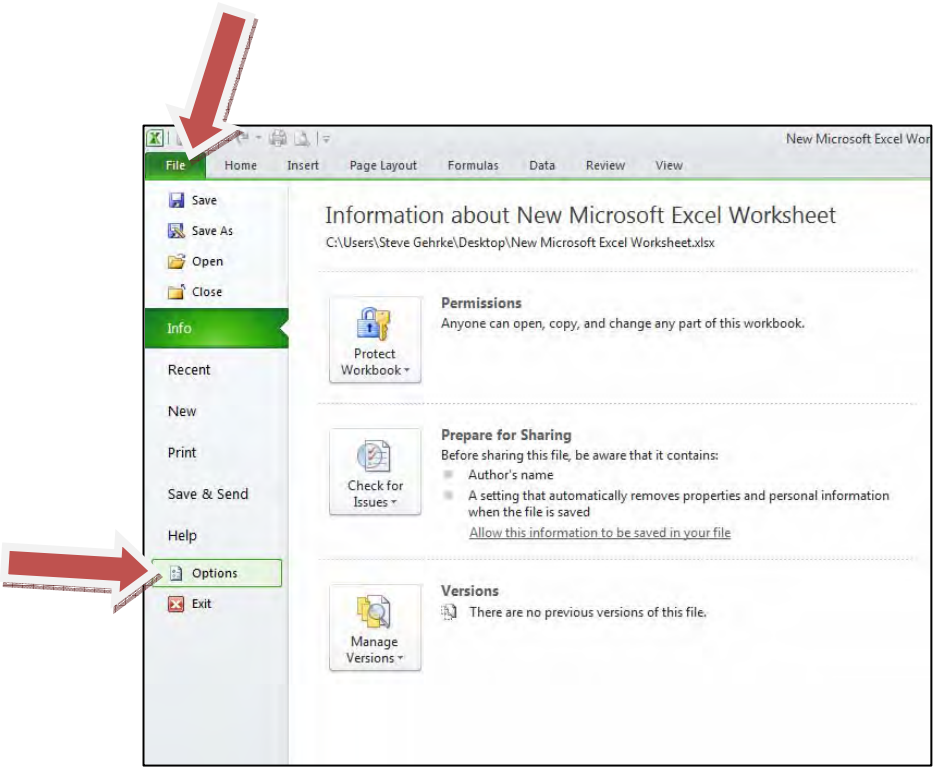

Figure E-14.

8. Click "Trust Center," then "Trust Center Settings." See Figure E-15.

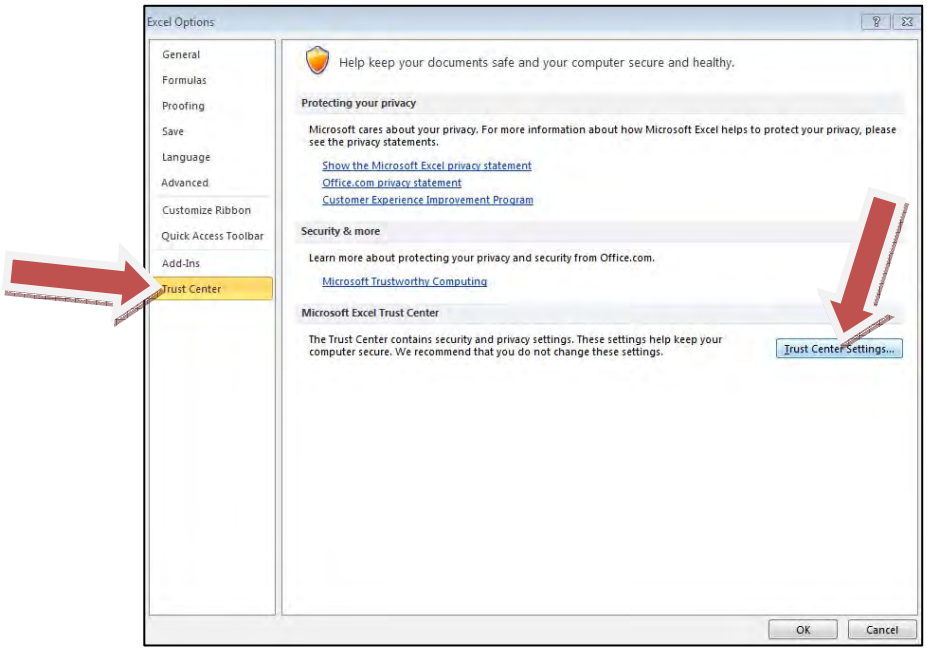

Figure E-15.

9. Click "Macro Settings" and make sure the "Disable all macros with notification" is checked. See Figure E-16.

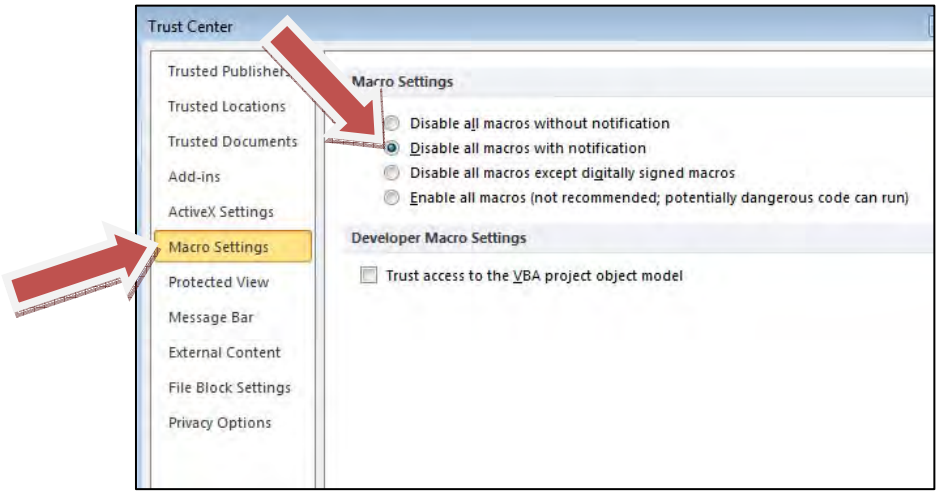

Figure E-16.

10. Click "OK."

11. Go back to Step 1 to open the toolkit.

Using the Toolkit

The Rural Intercity Bus Service Demand Model was developed in Microsoft Excel and does not require much Excel experience. The toolkit has four pages:

Main Page
Inputs Page
Output Page
Manual Adjustment Page

The following sections provide brief descriptions of each page and how to navigate between the pages.

Main Page

This is the page that will display each time the toolkit is opened. The main page provides a brief description of the purpose of the toolkit with hyperlinks (text that is highlighted in blue can be clicked on to go to the related information) to provide information on how the toolkit was developed, the applicability of the toolkit, and steps in applying the toolkit. From this page, the Inputs page is reached by clicking on the "Input Worksheet" button.

Inputs Page

This page consists of drop-down menus to select the state and the locations proposed for service on the route for which demand is to be estimated. The page also consists of check boxes and a box for entering the route length to further define the proposed intercity bus service. Additional information on each of these inputs is provided through hyperlinks (text highlighted in blue) on this page that when clicked on will provide information on each of the respective input variables. Enter the variables as follows:

1. Select your state in the drop-down menu.
2. If an airport or correctional facility will be served along the route, check the respective box.
3. If the service will be operated by a national intercity bus carrier, check the "National Intercity Bus Carrier" box.
4. Fill in the estimated one-way length (in miles) of the route in the "Route Length" box.

5. On the drop-down menu, select the locations along the proposed route that would receive service.
6. To generate the results and navigate to the Output page, click on the "Click Here for Results" button.

To reset all the fields click on the "Click Here to Reset Fields" button.

Output Page

Based on the inputs that were provided on the Inputs page, this page provides the results of the two different demand models developed for use in the toolkit—the regression and the trip rate model. Also provided on the Output page is information about comparable routes (from the database used to develop the models) that have similar operating characteristics to the route proposed by the user. To change some of the inputs, click on the "Back to Inputs" button to navigate back to the Inputs page. To make manual adjustments to the trip rate model, click on the "Adjustment Worksheet" button.

Manual Adjustment Page

This page allows you to make manual adjustments to the results of the trip rate model by changing the estimated demand at individual stops along the proposed route, as described in the hyperlinked text. You can manually key in the adjusted demand in the boxes that are provided for each stop under the Manually Adjusted Trip Rate Demand column. If no adjustment is necessary for a particular stop location, the value will default to the original estimated trip rate demand. To navigate back to the Inputs page, click on the "Back to Inputs" button. To navigate back to the Output page, click on the "Back to Results" button. Navigating out of the Manual Adjustment page will reset all of the values that were manually keyed in.

Abbreviations and acronyms used without definitions in TRB publications:

AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI–NA	Airports Council International–North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	Air Transport Association
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
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
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
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