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SD2017-06

Final Report

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16. Abstract This study focused on funding strategies for transit agencies in South Dakota, with two primary focuses – 1) identifying traditional and non-traditional funding sources and 2) developing a fare strategy framework for transit agencies – no matter the size or location of the agency. The background literature review and three transit surveys provided baseline data for the fare strategy framework and for the identification of funding sources used by transit agencies. The literature review identified funding strategies for public transit agencies dating back prior to the 1980s. Today, transit agencies continue to have the challenge of funding public transit and staying abreast of new funding sources. In addition, the fine line for transit agencies of setting fare structures that are equitable and realistic for a community continue to be a challenge.			
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Acronym	Definition
DOT	Department of Transportation
FHWA	Federal Highway Administration
MPO	Metropolitan Planning Organization
SD	South Dakota
SDDOT	South Dakota Department of Transportation
TCRP	Transit Cooperative Research Project
TRB	Transportation Research Board

1.0 EXECUTIVE SUMMARY

1.1 Introduction

For many years transit agencies have been funded primarily by federal, state, and local funds. Increasing expenses for operating and capital costs have forced the transit agencies to look at existing funding streams and to develop alternative funding strategies. There is no 'One Size Fits All' approach for funding strategies for public transportation. Each community has different dynamics to build an efficient transportation network, some of which have more emphasis on public transportation than others. This study has two different foci for South Dakota transit agencies.

- IDENTIFY UP-TO-DATE TRADITIONAL AND NON-TRADITIONAL TRANSIT FUNDING SOURCES. A funding guide was developed from recent research and tangible data from other peer transit agencies to provide a tool for transit agencies within the state for use with existing or planned future service.
- DEVELOP FARE STRATEGY FRAMEWORK. Many transit agencies have existing fare structures that have been in place for many years. Other transit agencies were forced to raise transit fares when fuel prices skyrocketed in 2008-2009. This study provides the SDDOT with a tool for all transit agencies across the state to review existing fare structures and to have a planned strategy for implementing fare changes in the future, if appropriate. The project provides a process any agency can follow, with example fare structures used in South Dakota and surrounding states.

1.2 Problem Description

Determining new and innovative funding strategies for rural and urban transit agencies continues to be a challenge for public transit agencies and for state departments of transportation (DOTs) charged with making public transit available to populations living in rural and/or remote areas within communities. In addition, many rural areas are experiencing decreasing populations as residents move to urban areas or regional centers for jobs and services. However, local and state governments recognize that providing rural and elderly residents transportation options allows them to stay in their communities and in their homes longer. These options also provide a higher quality of life and reduce the amount of public funding needed if they had to move to nursing homes or assisted living facilities.

Other public transit challenges include the following:

- An increase in elderly population dispersed over large, sparsely populated areas.
- An increase in fixed and lower income residents.
- Continued regionalization of medical services, where patients must travel longer distances to see specialists or even to receive routine care, such as dental treatment. These factors force rural transit agencies to provide longer trips due to the distance of services and passengers living in remote areas.

In addition to identifying different funding sources, the report includes research regarding existing fare structure for South Dakota transit agencies and other peer transit agencies. These data helped determine trends and appropriate fare strategies for future fare adjustments and the impact on

transit agencies. Understanding these factors was instrumental in the recommended funding strategies for an equitable fare structure suitable for individual circumstances and customer base.

1.3 Research Work

To achieve the project goals of the two different study paths – 1) developing the fare strategies and 2) identifying the transit agency funding resources, several steps were completed. The study began with a literature review of relevant studies to identify best practices and recommended resources for transit funding and for transit fare strategies. Three surveys were developed and administered based upon data gathered from the literature review. The survey data were analyzed and compared with South Dakota transit agencies and averages/trends among the responses. From these data, transit funding resources were identified and used to develop the funding guide tool.

Three case study candidates were selected and analyzed to determine if the fare strategy framework process was realistic and to apply the process to different fare scenarios. A review of the three case studies was prepared and can be used by different-sized transit agencies across the state for applicability.

1.4 Summary/Conclusions

Based on the literature review of recent studies for multiple transit projects, the following general findings were developed.

- Agencies have turned to the farebox for more traditional commuter-based services; however, for baseline services, farebox structure changes are approached cautiously due to heavy elasticity results on the passenger base.
- Using dedicated funding sources at the state, local, and jurisdictional levels for a stable source of revenue is a primary method of funding baseline services.
- For enhanced services or projects, external sources of funding may include impact fees, tax-increment financing districts, transportation development districts, state infrastructure bonds, revolving loans, leasing partnerships, public private partnerships, toll concession agreements, cigarette tax, vehicle leasing/rental fees, parking fees/fines, advertising, etc.
- Transit agencies have found alternatives to federal operating funding and have reduced costs or postponed projects when funding is unavailable.
- Some states provide funding for human service agency trips to help transit agencies or the transit agencies subcontractors pay the fully allocated rate of the agency trips.
- The 2019 Funding Guide was prepared based upon data collected throughout the study process. The Guide is a living document and should be updated annually with new grant programs that may be available.

The three peer transit agency reviews provided a useful tool to understand baseline data for similar transit agencies. The following conclusions are based on the results of the three transit agency surveys.

- The average farebox recovery ratio for South Dakota agencies was 12 percent, with a low of 5 percent at Siouxland Regional Transit System to a high of 21 percent for Rosebud Sioux

Tribe Transportation and for Rapid Transit System. The peer agencies averaged 8 percent for their farebox recovery ratio, with a low of 1 percent at OATS, Inc. and a high of 21 percent in Mankato, MN.

  - The average farebox recovery ratio across the nation is 10 percent and the peer survey agency's farebox recovery was 8 percent, as mentioned above. Therefore, South Dakota transit agencies having an average of 12 percent are making significant efforts to collect local fare revenue to cover operating costs.
  - Having a goal of increased farebox recovery ratio is a good goal for a transit agency. However, if one agency is currently collecting 10 percent or more, it is suggested the agency approach fare structure changes cautiously for local services, due to local ridership impacts. For commuter services or out-of-town services, a higher farebox recovery goal is more common due to the increased operating costs.

- A wide variety of fare types exist for South Dakota transit agencies. The most common base fare is $2.00 for General Public and Suggested Donation for Elderly riders, followed by $1.00 for General Public, then $2.50 for General Public and $1.00 Reduced Fare.

  - The surrounding peer agencies have a lower average base fare of $1.30 than the average South Dakota base fare of $2.07. The Student Fare is similar to South Dakota, averaging $1 per rider. Also, each of the peer agencies provide free service to children under age five years. The reduced fare for the peer agencies is also slightly lower than South Dakota agencies of $1, with an average of $0.70 per rider.

  - The conclusion from this statistic is South Dakota transit agencies have wisely increased fare revenues over the past decade to keep up with increased operating and capital costs. However, knowing this and using peer comparison data, South Dakota transit agencies will want to cautiously increase fare infrastructure for local fares due to the ridership impacts. Transit agencies in South Dakota have a high transit-dependent ridership, with either limited mobility options or many with fixed incomes. Therefore, increasing local transit fares will have a significant impact to primary transit markets.

- Over 75 percent of South Dakota transit agencies have partnerships with local, regional, and state organizations.
  - Partnerships are one of the most common methods of cost sharing for the peer transit agencies. Understanding the true costs for transit service is the first step. Once an agency knows the true costs of service, they are able to share that information with partner agencies and develop a contract covering the appropriate amount of service. Many rural transit agencies are able to match dollar for dollar for specific services.
- Over 70 percent of the South Dakota transit agencies reported having a fare policy in place. However, after follow-up with several agencies, the fare policy was commonly understood as knowing their farebox recovery rate.
  - The conclusion for transit agency fare policies is for the agency to continue to review farebox recovery data annually. The agency should review goals and set a policy that

is appropriate to their services. If an agency is planning to modify their fare infrastructure, it is strongly recommended to develop a fare policy goal to guide the modifications for the agency. For example, River City Public Transit had a goal with its recent fare structure changes to increase revenues to meet budget shortfalls. The agency anticipated ridership decreases but needed to increase revenues. The results from the first quarter showed increased revenues, which meets the agency goal. The agency also had a ridership decline, which was expected.

- The Fare Policy/Framework Process identifies a series of fundamental steps to consider when a transit agency implements or changes a transit fare. The framework sets the direction for the agency and provides guidance to consider.
    - The conclusion of the Fare Policy/Framework Process from the three case study candidates is that the framework is helpful to the agency to provide thoroughness in the change process, in addition to justification for the change, and support for communicating with the general public, elected officials, and transit boards. The nature of the Policy Framework is to develop a fare structure that balances affordability for transit customers with the need to generate sufficient fare revenue to help maintain and expand transit operations.
- The case study analysis provided an opportunity to demonstrate fare strategies and different policies identified within the literature review, best practices, and with other peer transit agencies. Three case studies were conducted representing different size operations and location of transit agencies in South Dakota.
    - The elasticity model used for the three case studies was the Simpson-Curtin rule – for every 3% fare increase, ridership will be reduced by 1%. This methodology is a general rule of thumb used by many transit planning agencies across the nation for short-term projections. For communities with travel demand models, more exact future estimates would be available for ridership and revenue projections.
    - Transit ridership response to fare changes varies considerably based on individual circumstances; however, using an average method shows there is sensitivity in the elasticity model.
    - In the case of River Cities Public Transit, first quarter ridership data were available after the fare changes were made. The Simpson-Curtin estimate was higher than the actual ridership numbers, which is great news for RCPT. As actual calculations are available, ridership projections should be updated to determine the overall impact to the agency, both for the short-term impacts and the long-term impacts.
- The case study candidates reported the applicability of the Framework Process as a good review of steps and proper flow of information for fare structure modifications. The process was also appropriate for all size of agencies.

1.5 Recommendations

This project has multiple objectives that, combined, provide a valuable tool for South Dakota transit agencies to review potential funding sources and to also provide a policy framework for transit agencies to utilize when planning to modify fare structures. Based on the findings of this study, the research team offers the following recommendations.

1.5.1 Recommendation 1

The 2019 Funding Guide should be distributed to transit agencies across the state of South Dakota, in addition to having it as a resource on the web and available for download. SD Transit agencies should review the Funding Guide for existing funding sources, look for other eligible funding programs, and discuss if funding is applicable for existing or future planned services. If eligible, the agency should apply for the funding program to assist with capital and operating costs. A checklist is provided within the Funding Guide. All SD transit agencies should incorporate this list into the annual planning and budgeting process.

1.5.2 Recommendation 2

The SDDOT should look for opportunities to present the Fare Policy Framework/Process at national conferences for the sharing of data and case study results. The data collected within this research for funding resources and for fare strategies are valuable tools and information for other transit agencies across the country to learn from and also implement at their agencies. Example conferences include Transportation Cooperative Research Board Annual meeting and National Rural Transit Assistance Program.

1.5.3 Recommendation 3

The Fare Policy Framework recommends the following action for South Dakota transit agencies.

- For agencies who have a farebox recovery ratio between 5-10%, review base fares, when fares were last changed, and determine if it is appropriate in the community to adjust fares. Some communities support a lower base fare to ensure service is available and have a policy in place to support that service. In other communities, it may be time to revisit fares, in which the Fare Policy Framework would be a good tool to begin the process. Other agencies may have a high level of contracted service, which may affect directly a lower farebox recovery ratio.
- For agencies who have not reviewed their fare structure in over seven years, it is recommended the agency use the Fare Policy Framework to begin the process of re-developing their fare structure.
- For transit agencies who have partner contracts in place for service, it is recommended for agencies to negotiate the contract annually or every two years. When the contract is negotiated, the true costs of providing the service should be used to base the contract amount.

The Fare Policy Framework was developed to guide SD transit agencies in the process of fare structure modification. During the survey process, agency performance data were identified, including farebox recovery ratio, base fare type, operating costs, etc. In addition, agencies were also asked about fare policies in place, partnerships, contracting costs, when fares were last changed and the process.

1.5.4 Recommendation 4

The SDDOT should continue to provide technical assistance to the transit agencies in the state regarding fare policy infrastructure changes. The above recommendations will be difficult for some transit agencies to comprehend and complete without assistance. The focus of this recommendation

is for SDDOT to provide assistance with existing staff or have technical assistance available for the agencies, as needed. In addition, not all agencies will be interested. However, all the agencies should become familiar with the process for the appropriate time when that agency needs to make a modification.

1.5.5 Recommendation 5

The SDDOT should continue to support the transit agencies in coordination efforts for human services transportation, particularly Medicaid coordination.

Over 75 percent of the SD transit agencies reported being a Medicaid provider. The SDDOT should invite human service agency representatives to the Transit Program Meetings and have a specific topic discussion on coordination of services, funding potential, challenges, etc. The SD transit agencies interested in advancing coordination would be invited to have additional meetings to address challenges.

2.0 PROBLEM DESCRIPTION

For over 40 years, rural transit agencies have been supported primarily by federal, state, and local funds (including fare revenues). The increasing expenses for operating and capital costs have forced local transit agencies to look at existing funding streams and to develop alternative funding strategies.

Operating and capital funding for transit agencies comes from several sources. Federal agencies, including the Federal Transit Administration, provide competitive grants, but amounts can be uncertain. State government programs provide funding, which may be targeted toward specific demographic groups. Some municipalities provide funding to local transit agencies, but many rural communities are not large enough to provide sufficient match for federal grants. Contracts with other groups, such as churches, youth programs, or assisted living homes may add to the revenue stream, but they are not available to all agencies. Finding funding sources can be challenging, requiring broad knowledge of potential funding organizations, points of contact, and application processes.

Fares make up the rest of a transit agency's funding. Setting fares that are equitable, affordable, and appropriate to the services provided can be difficult due to varying ridership demographics, various ride types provided, and large coverage areas. Urban transit must also provide complementary paratransit service to accompany fixed route service.

The transit agencies in South Dakota providing fixed route and on-demand services in urban, rural, and tribal locations have expressed a need for guidance to help them develop funding strategies and identify potential funding sources. Transit agencies provide important services to the communities they serve. Many passengers are on fixed incomes. Guidance in establishing adequate, but affordable and equitable fares, allows transit agencies to continue to provide service and stay financially solvent.

3.0 RESEARCH OBJECTIVES

This project has multiple objectives that, combined, provide a valuable tool for South Dakota transit agencies to review potential funding sources within their community. This project also provides funding strategy guidance for local transit agencies across the state.

3.1 OBJECTIVE 1: Examine how transit agencies in South Dakota and surrounding states currently finance operations.

Three survey instruments were developed to collect data from transit agencies in South Dakota, peer transit agencies and neighboring State Department of Transportation transit division units. A literature review of rural and small urban funding strategies was completed and provided baseline information for developing the survey. The survey questionnaires asked respondents about federal capital and operating grants, source of locally generated match revenue, presence and structure of funding partnerships with private and public entities, fare structure, fare structure policies, and resulting revenue generation. These data provided information regarding how transit agencies in South Dakota currently fund transit operations, compared to similar agencies in neighboring states.

3.2 OBJECTIVE 2: Compile a list of potential funding sources available to transit agencies and methods to ensure the list stays up to date.

The literature review and survey results were used to compile a list of potential funding sources available to South Dakota transit agencies. The SDDOT will identify the best mechanism at the state level to maintain the accuracy of the list, how often it should be updated, and where it should be kept for best access for all transit agencies.

3.3 OBJECTIVE 3: Develop guidance for structuring fares based on best practices, demographics, types of service, operational costs, other funding sources, etc.

Guidance was developed for establishing fare structures, based on the following information:

- Survey results
- Literature review
- Past experience at other transit agencies
- Industry best practices

Candidate processes and guidance for establishing transit fares for South Dakota transit providers were developed. The strategies were based on industry best practices identified in the literature review and experiences from other transit providers. The candidate processes conform with mandatory FTA and Title VI regulations regarding equitable fare analysis. A technical memorandum was prepared detailing the results and analysis of the survey and presented candidate processes for establishing transit fares for South Dakota agencies. The memo reflected discussions with the technical panel and indicated the transit fare policy strategy most suitable for potential application by South Dakota transit providers.

4.0 TASK DESCRIPTIONS

4.1 TASK 1) Meet with project's technical panel to review project scope and work plan.

The project team and technical panel met on April 5, 2018, at SDDOT to review critical success factors of the project, clarify goals, and define a work plan for the transit study. The work plan identified the schedule of meetings, the deliverables, and the communication plan. During the meeting, the project team also discussed survey efforts and appropriate questions for the transit agencies and peer community transit agencies and state Department of Transportation, transit divisions.

4.2 TASK 2) Perform an in-depth literature review relating to funding strategies, classification of service, and methods for setting fares for fixed route and on-demand services.

A literature review was conducted to identify funding strategies appropriate to rural and urban settings. Funding strategies were analyzed based on the type of transit service (demand response, fixed route, regional services, etc.). The local project team coordinated with the Technical Panel to discuss literature review for the surrounding states for both rural and urban areas and the best method for outreach to providers for the survey efforts.

The literature review identified existing studies and guidance from the Federal Transit Administration (FTA), Transit Cooperative Research Program (TCRP), Transportation Research Board (TRB) published research; relevant studies and reports originating from university-based Transportation Centers; and independent research. Each of the reports provides SDDOT a range of current practices, both from a practical perspective being used by current transit agencies and also from incorporating results of innovative research and best practices.

4.3 TASK 3) Based on results of Task 2, develop a survey instrument for transit agencies in South Dakota and surrounding states to determine the current strategies used to generate funding and set fares based on ridership demographics, types of services, etc.

Three survey instruments were developed that included questions to garner effective fare strategy information from peer communities. A survey introduction was provided as background and purpose of the survey. Questions were based on expected availability of information, suitability for both agency-level and state DOT-level staff members, and applicability to the types of transit agencies and services provided in South Dakota. The SDDOT provided initial outreach to the peers and the local project team followed up to the agencies for maximizing survey participation.

The intent of the South Dakota transit survey was to collect and present information pertaining to each transit agency today and past trends regarding transit funding revenues and fare strategies at the agency. The local project team determined if agencies developed fare strategies over time or if they have informal decisions with slight changes or increases. Baseline agency data included ridership, annual revenue hours, miles, number of peak vehicles, etc. Other survey questions included: existing fare structure; how it was developed; when were last changes; what previous fare changes were implemented; results of the last modifications of fares – what were customer impacts

and benefits, ridership and revenue impacts, agency administration or operational impacts, and past experience

4.4 TASK 4) Provide a technical memorandum detailing the results of Task 1 through Task 3.

Technical Memorandum 1, approved on September 6, 2018, was the result of the literature review and survey instrument.

4.5 TASK 5) Conduct and analyze the survey of transit agencies in South Dakota and surrounding states.

The local project team coordinated with the technical panel to identify a list of peer transit agencies in the surrounding states, in addition to those in South Dakota. The survey was administered to all South Dakota transit agencies and a list of candidate transit agencies in the surrounding states was compiled and presented to the technical panel for approval. The list identified potential transit agencies to interview with information, such as operating budget per capita, service area size and population, transit modes, funding sources, fare structure data, and ridership per capita. These characteristics were evaluated against a range of representative South Dakota transit agencies to determine the final selection of surrounding state peer agencies.

In addition, a review of other state Department of Transportation Transit Division staff members was completed. These data provided the South Dakota DOT methods and actions taken by other state DOT's to address the need for transit agency funding strategies. Survey results from transit agencies in South Dakota and from surrounding states, as well as from other state DOTs, were analyzed to identify common funding practices. Innovative ideas, fare structure and policy best practices potentially applicable to South Dakota are documented.

4.6 TASK 6) Propose candidate processes, including flow charts, for establishing transit fares that could feasibly be applied by transit providers in South Dakota.

Candidate processes for establishing transit fares for South Dakota transit providers were developed. The strategies were based on industry best practices identified in the literature review and experiences from other transit providers. The candidate processes conform with mandatory FTA and Title VI regulations regarding equitable fare analysis.

4.7 TASK 7) Provide a technical memorandum detailing the results of Task 5 & Task 6.

A technical memorandum was prepared detailing the results and analysis of the survey and presented candidate processes for establishing transit fares for South Dakota agencies. The memo reflected discussions with the technical panel and indicated the transit fare policy strategy most suitable for potential application by South Dakota transit providers.

4.8 TASK 8) Perform case studies with select transit agencies in South Dakota to demonstrate the fare structure concepts and evaluate their feasibility, difficulty, and applicability.

The case study analysis provided the opportunity to demonstrate fare strategies and policies identified in the literature review, best practices, and work with South Dakota local agencies. Three case studies were reviewed for this project and summarized in Technical Memorandum 3, which was approved by the Technical Panel in June 2019.

- Case Study 1: Rural transit agency with nine or fewer vehicles – Vermillion Transit
- Case Study 2: Rural transit agency with 10 or more vehicles – River Cities Public Transit
- Case Study 3: Urban transit agency – Sioux Area Metro

4.9 TASK 9) Provide a technical memorandum detailing the results of Task 8.

Technical Memorandum 3 described case study methodology and the concept fare scenarios developed for each case study. The report included the feasibility of implementing a new fare structure strategy, the challenges, and the applicability to the local community.

4.10 TASK 10) Develop guidance for establishing funding strategies and setting fare structures within South Dakota based on input from the panel.

Guidance was prepared for transit agencies in South Dakota to establish funding strategies based upon work completed in the previous Tasks 1-9. Technical Memorandum 3 discusses the fare structure guidance and in particular, Task 6 includes a discussion of Fare Policy Framework and provides realistic steps for transit agencies to consider during the process of changing or modifying fares.

The funding guidance and potential funding strategies was developed from the literature review conducted in Task 2, the survey of transit agencies and surrounding states in Task 5 and be influenced by the candidate processes identified in Task 6. Funding sources identified through the survey and the literature review encompassing surrounding states was analyzed for their applicability to the transit environment in South Dakota, including applicable state or local laws such as constraints on specific tax revenue sources; transit environment, and administrative capability of South Dakota transit agencies and relevant stakeholders. The funding sources reviewed included federal and state sources, including those that flow through the SDDOT or MPOs, or those that might be administered directly to transit agencies.

4.11 TASK 11) Prepare a final report and executive summary documenting the literature review, research methodology, findings, conclusions, and recommendations.

This final report and executive summary is a compilation of the products of Task 4, Task 7, and Task 9, which provides a concise and thorough documentation of the literature review, methodology, findings, conclusions, and recommendations. Appropriate material, such as the survey instruments and individual results of each respondent, are included as an appendix to this document. This material can also be provided in electronic form, for future analysis.

4.12 TASK 12) Make an executive presentation to the SDDOT Research Review Board at the conclusion of the project.

An executive summary final presentation was conducted at the SDDOT Research Review Board on August 14, 2019.

5.0 RESULTS OF LITERATURE REVIEW

A literature review was conducted to identify funding strategies appropriate to rural and urban settings. Funding strategies were analyzed based on the type of transit service (demand response, fixed route, regional services, etc.). The local project team coordinated with the Technical Panel to discuss literature review for the surrounding states for both rural and urban areas and the best method for outreach to providers for the survey efforts.

The literature review identified existing studies and guidance from the Federal Transit Administration (FTA), Transit Cooperative Research Program (TCRP), Transportation Research Board (TRB) published research; relevant studies and reports originating from university-based Transportation Centers; and independent research. Each of the reports provides SDDOT a range of current practices, both from a practical perspective being used by current transit agencies and also from incorporating results of innovative research and best practices. The following information identifies funding strategies appropriate to rural and urban settings in the state.

5.1.1 Previous Research Findings

Research on funding strategies for public transit agencies dates back prior to the 1980s, with the *Transportation Research Board (TRB) Special Report 213—Research for Public Transit: New Directions*[1] and the *Transit Cooperative Research Project (TCRP) Project H-7, Funding and Strategies for Public Transportation*[2]. These reports addressed using existing funding revenues, performance of transit systems, and identifying new sources of funding for operating and capital expenses. Case studies documented the non-traditional financing techniques used to improve financial conditions at agencies. More recent research reports regarding innovative financing and revenue sources for transit agencies are summarized below.

- **TCRP Project A-1: Fare Policies, Structures, and Technologies[3] and Report 94 Update.[4]**

Every transit agency must address fare policy, structure, and technology, and while each of these areas has typically been evaluated separately, it is important to understand the interrelationships. Policy generally guides the direction for structure, but technology decisions can also affect decisions regarding structure--as well as policy. The report provides guidance for making decisions related to fare policy and structures.

[1] https://www.nap.edu/catalog/11363/research-for-public-transit-new-directions-special-report-213

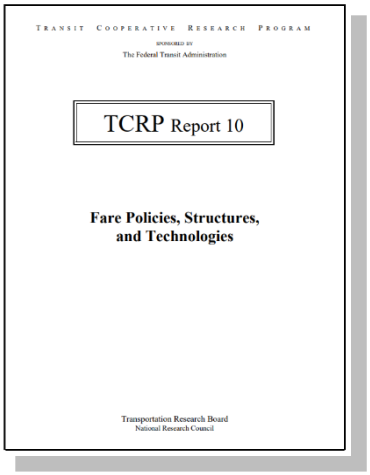
[2] http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_31-1-a.pdf

[3] http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=980

[4] http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_94.pdf

Guidelines were developed for transit agencies to evaluate and identify appropriate policies, structures, and technologies. Many issues are considered in making fare-related decisions, such as the impact on customers, operations management, technology impact, and effective and equitable fare integration. The updated Report 94 includes further detail on the impact of emerging technologies, pricing strategies, and payment options for agencies with extensive fare collection systems. Overall, transit agency base fare levels are increasing across the United States. Communities want simple fare structures that can be used for multiple connections. These expectations provide opportunity and challenges for fare technology partnerships.

TCRP Report 10: Transit Fare Decision-Making Guidelines[5]



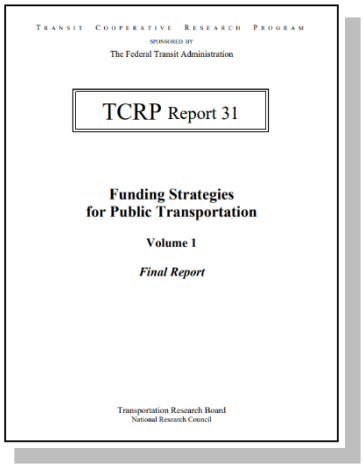
Report 10 discusses issues to be considered in making fare-related decisions, experiences of transit agencies in selecting various approaches, the advantages and disadvantages, and emerging developments impacting fare decisions. The report includes a toolkit with guidelines to assist policy makers and transit managers in making fare-related decisions.

Because of fiscal constraints, transit agencies are looking for ways to improve revenue control and prompting consideration of new ways to create partnerships. Fare policies and goals have been swayed in the past two decades by developments in technology, including electronic (or automated) fare collection, which allows a broader range of fare structures and instruments and a wider distribution network. These fundamental changes in pricing structure—made possible by electronic technologies—have had considerable influence on fare policy decisions. Older fare collection equipment has limitations on the range and structural complexity of fare options that a transit agency can offer.

The study identifies five fundamental parameters related to fare decisions: fare policy, fare strategy, fare structure, fare payment technology, and fare collection system. Transit agency must make decisions about each of these parameters, which are typically evaluated separately. However, they are interrelated, and each decision ultimately affects decisions of the other parameter. Policy generally sets the direction for the strategy and specific structure, but technology choices also can affect the structure selected. Thus, it is useful to understand the options available for each parameter when making fare-related choices.

[5] http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_10-a.pdf

- **TCRP Report 31: Funding Strategies for Public Transportation – Volume 1**[6]

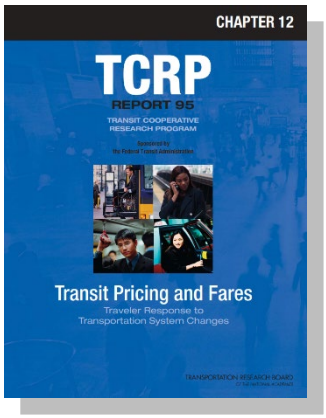


Report 31 addresses the current state of funding for public transportation in the United States, current funding environment, and specific strategies used to identify new sources of funding. The report is presented in two parts—a final report and a casebook. Volume 1 provides a national perspective on public transportation funding while the latter presents case-level information on innovative methods for generating revenue for public transportation capital and operating costs.

The report examines and summarizes trends in public transportation revenue, expenditures, and funding. An assessment of the current state of funding from 1989 to 1994 for operating funds for public transportation is presented, along with the performance of transit. The report identifies strategies to identify new sources of funding for operating and capital expenses for transit agencies. Between 1989 and 1994, total operating and capital funding levels for public transportation kept pace with inflation and overall service levels increased. This occurred despite a virtual freeze in federal operating assistance at about $800 million during a period with 18.8 percent inflation. Many transit agencies in the United States turned to alternatives to federal operating funding and reduced costs. Agencies turned to farebox revenues and to dedicated funding sources at the state, local, and jurisdictional levels.

Volume 2 of the report includes 17 case studies of financing techniques used successfully by U.S. transit systems to improve their financial conditions during this time. The cases, which address both capital and operating needs, are presented in two main categories: funds generated through external funding sources and transit-agency-generated funds. The case studies of funds generated through external sources include examples of dedicated local taxes, transit impact fees, creative use of federal funds, state infrastructure banks, and revolving loan funds.

- **TCRP Report 95: Chapter 12, Transit Pricing and Fares**[7]



Chapter 12 for Report 95 addresses transit ridership response to fare changes, as applied to urban area bus and rail transit services. The changes in general fare level and changes in fare structure, including relationships among fare categories and free transit are discussed within the report. The most common objective of transit pricing and fare changes is to increase revenues in response to actual or forecast increases in operating costs. Such changes usually involve fare increases for most transit users, with the goal of minimizing ridership loss usually involved in fare increases.

Several transit initiatives are described in the report, such as fare-free programs, fare reduction programs/partnerships with major employers or colleges which focus on localized traffic mitigation, parking needs reduction, air quality, and accessibility objectives.

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[6] http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_31-1-a.pdf

[7] http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c12.pdf

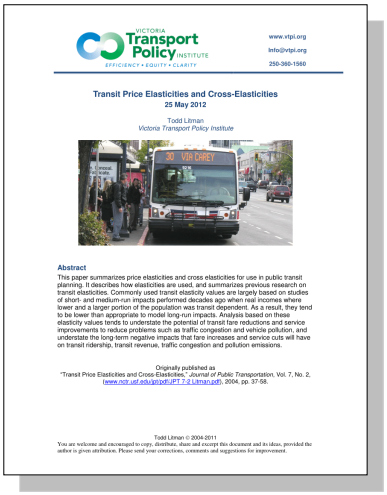
Some transit systems use transit pricing to increase transit ridership, or shift ridership to the periods of the day or days of the week when service is underutilized, such as midday or evening periods or weekends.

Fare changes are also made to improve fare equity among users, such as fare levels set to reflect the costs of providing individual services, such as higher fares for expensive, peak period express services and lower fares for all-day local services. Or fare levels may be set to reflect the level of service received by users, such as higher fares for fast, long-distance services and lower fares for slow, local services. Most transit systems consider fare equity when transit pricing and fare changes are made, but few transit systems make changes solely for reasons of fare equity.

The effects of transit pricing and fare changes traditionally are assessed using elasticities to describe the response of ridership. This approach is useful to compare changes from the starting fare level to the ending fare level. The "before-and-after" analyses require fare level data before and after a transit pricing and fare change, the number of existing riders subjected to the change, and the response of riders to the change.

- **Transit Price Elasticities and Cross-Elasticities, Victoria Transport Policy Institute**[8]

This report summarizes price elasticities and cross elasticities for use in public transit planning. It describes how elasticities are used and summarizes previous research on transit elasticities. Commonly used transit elasticity values are largely based on studies completed decades ago, when average household incomes were lower, and a larger portion of the population was transit dependent. The older studies tend to provide results that are understated or lower for transit ridership, transit revenue, traffic congestion, and pollution emissions.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Transit Price Elasticities and Cross-Elasticities
25 May 2012

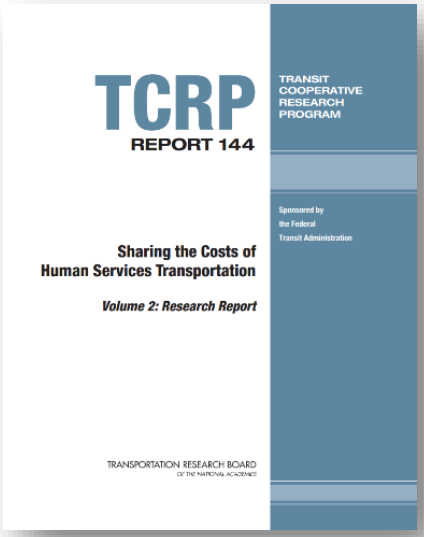
Todd Litman
Victoria Transport Policy Institute

Abstract
This paper summarizes price elasticities and cross elasticities for use in public transit planning. It describes how elasticities are used, and summarizes previous research on transit elasticities. Commonly used transit elasticity values are largely based on studies of short- and medium-run impacts performed decades ago when real incomes where lower and a larger portion of the population was transit dependent. As a result, they tend to be lower than appropriate to model long-run impacts. Analysis based on these elasticity values tends to understate the potential of transit fare reductions and service improvements to reduce problems such as traffic congestion and vehicle pollution, and understate the long-term negative impacts that fare increases and service cuts will have on transit ridership, transit revenue, traffic congestion and pollution emissions.

Originally published as
"Transit Price Elasticities and Cross-Elasticities," *Journal of Public Transportation*, Vol. 7, No. 2, (www.nctr.usf.edu/jpt/pdf/JPT 7-2 Litman.pdf), 2004, pp. 37-58.

[8] http://www.nctr.usf.edu/jpt/pdf/JPT%207-2%20Litman.pdf

- **TCRP Report 144 – Sharing the Costs of Human Services Transportation**[9]



TCRP Report 144 provides a comprehensive analysis of issues and effective solutions for identifying and sharing the cost of providing transportation services for access to community-based human services programs. It examines current practices and offers strategies for collecting necessary data, addressing administrative and policy-related issues, and establishing cost allocation procedures. Building on this inclusive process, the report develops a Cost Sharing Model that facilitates local coordination and service delivery.

5.1.2 Summary

A general summary of the findings for the multiple research projects indicates the following:

- Transit agencies have found alternatives to federal operating funding and have reduced costs or postponed projects when funding is unavailable.
- Agencies have turned to the farebox for more traditional commuter-based services; however, for baseline services, farebox structure changes are approached cautiously due to heavy elasticity results on the passenger base.
- Using dedicated funding sources at the state, local, and jurisdictional levels for a stable source of revenue is a primary method of funding baseline services.
- For enhanced services or projects, external sources of funding may include impact fees, tax-increment financing districts, transportation development districts, state infrastructure bonds, revolving loans, leasing partnerships, public private partnerships, toll concession agreements, cigarette tax, vehicle leasing/rental fees, parking fees/fines, advertising, etc.
- Some states provide funding for human service agency trips to help transit agencies or the transit agencies subcontractors pay the fully allocated rate of the agency trips.

[9] http://www.trb.org/Main/Blurbs/165015.aspx

6.0 SURVEY METHODOLOGY

The intent of the South Dakota transit surveys was to collect and present information pertaining to each transit agency today and past trends regarding transit funding revenues and fare strategies at the agency. The survey results helped determine which agencies have developed fare strategies over time or have informal decisions with slight changes or increases.

The survey methodology used data collected from the literature review and guidance from the Technical Panel for developing appropriate survey questions for South Dakota transit agencies and other peer communities. The literature review identified most common fare strategy practices for fixed route and demand response transit agencies. The goal of the survey was to learn from other agency's best practices and lessons learned in the development of future fare strategies.

The survey questions were developed based on expected availability of information, suitability for both agency-level and state DOT-level staff members, and applicability to the types of transit agencies and services provided in South Dakota. A survey introduction set the stage for each of the transit agencies and included a brief synopsis of the objectives of the study. The introduction and surveys were sent by SDDOT with follow-up by the project team. The Appendices document includes the survey introductions sent via email from the SDDOT with a link to the online surveys.

The surrounding state peer communities include:

1. Cheyenne, WY
2. Billings, MT
3. Fargo, ND
4. Mankato, MN
5. Casper, WY
6. Outback Express, Stratton, CO
7. Finney County, KS
8. RYDE, Kearney, NE
9. OATS, Inc – MO rural provider
10. Valley County, MT (Glasgow)

The surrounding state DOTs include:

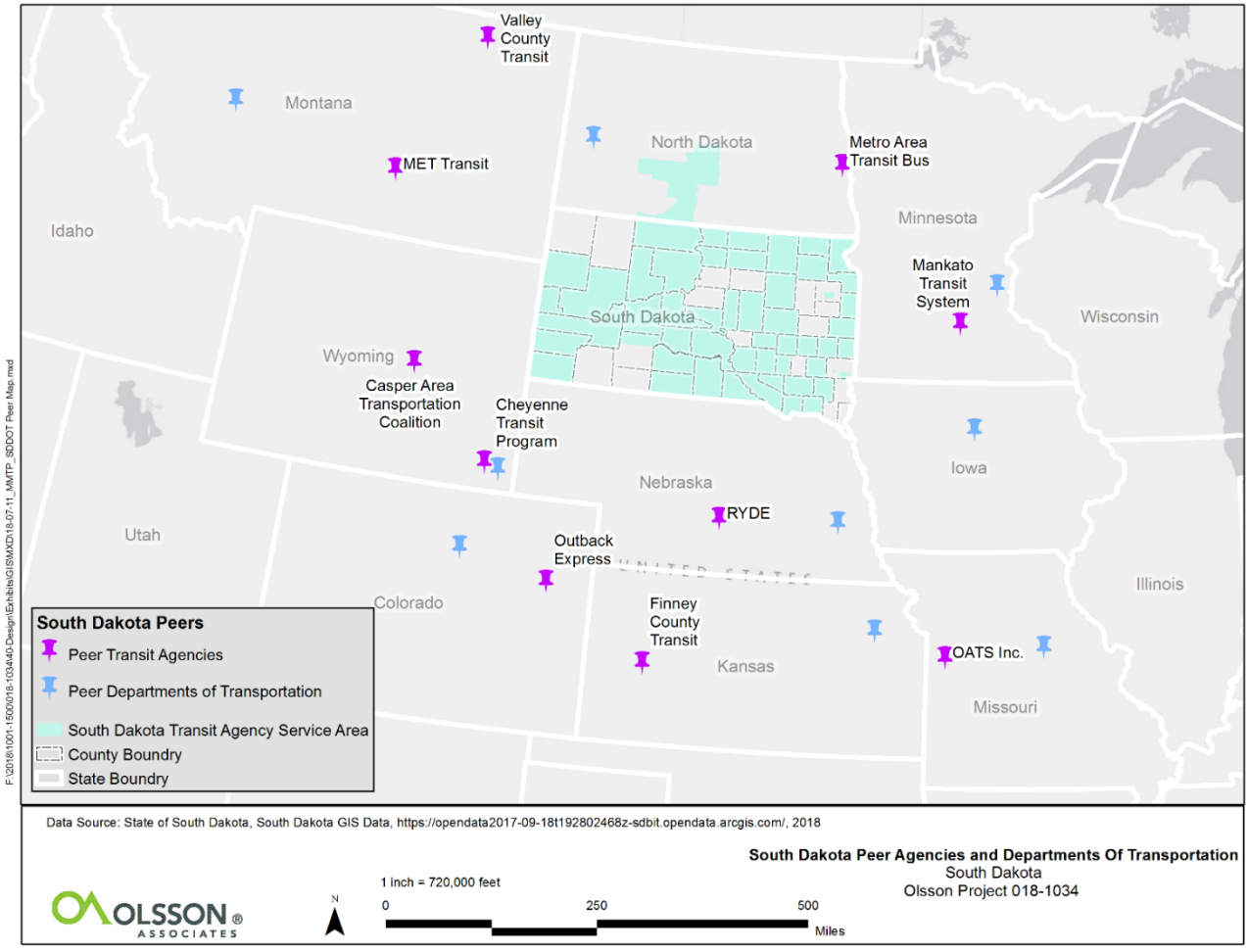
1. NE DOT
2. ND DOT
3. WY DOT
4. IA DOT
5. MN DOT
6. MO DOT
7. CO DOT
8. KS DOT
9. MT DOT

6.1 Survey Data Collection

The survey questions were developed based on expected availability of information, suitability for both agency-level and state DOT-level staff members, and applicability to the types of transit agencies and services provided in South Dakota. SDDOT sent each of the surveys to the appropriate audience for all three surveys, with follow-up phone calls and emails by the consultant project team. Figure 1 shows the peer locations and surrounding DOTs who were sent the survey.

The surveys were distributed via email from the SDDOT Research Department on July 31, 2018. Responses were received through September 14, 2018. Follow-up emails and phone calls were made to all agencies during the weeks of August 13 and 27, 2018. Two surveys were completed over the phone with project team members.

Figure 1: Peer Survey Communities and DOTs



6.1.1 Surrounding State Peer Agencies

Ten surrounding state peer communities received the survey, with four of the agencies responding to the questionnaire. Table 1 shows the responding agencies.

Table 1: Surrounding State Peer Agency Responses

	Peer	Agency Response
1	Billings, MT	Yes
2	Casper, WY	Yes
3	OATS, Inc. – MO rural provider	Yes
4	Valley County, MT	Yes
5	Cheyenne, WY	No
6	Fargo, ND	No
7	Mankato, MN	No
8	Outback Express, Stratton, CO	No
9	Finney County, KS	No
10	RYDE, Kearney, NE	No

6.1.2 Surrounding State Department of Transportation – Transit Division

Nine surrounding state DOTs received the short transit survey, with five responses returned. Table 2 shows the DOT survey recipients and their response.

Table 2: Surrounding State DOT Survey Recipients

	Surrounding State DOT	Agency Response
1	Iowa DOT	Yes
2	Minnesota DOT	Yes
3	Montana DOT	Yes
4	Nebraska DOT	Yes
5	Kansas DOT	Yes
6	North Dakota DOT	No
7	Wyoming DOT	No
8	Missouri DOT	No
9	Colorado DOT	No

6.1.3 South Dakota Transit Agencies

All South Dakota transit agencies received the transit survey for the study, with 21 of the agencies completing the survey. This equates to over 90 percent of the transit agencies providing data for this research report. Detailed responses from each agency are discussed in the following section.

6.2 SURVEY INSTRUMENTS

6.2.1 Survey Instruments

Three surveys were developed for the three different audiences providing feedback for the study efforts. The intent of the South Dakota transit survey is to collect and present information pertaining to each transit agency today and past trends regarding transit funding revenues and fare strategies at the agency.

Baseline agency data include ridership, annual revenue hours, miles, number of peak vehicles, etc. Other survey questions include:

- existing fare structure
- how it was developed
- when were the last changes
- what previous fare changes were implemented
- results of the last modifications of fares
    - what were customer impacts and benefits
    - ridership and revenue impacts
    - agency administration or operational impacts
    - past experience

6.2.1.1 South Dakota Transit Agency Survey

The following online link shows the survey for the South Dakota transit agencies. The survey questions are shown in Table 3.

https://www.surveymonkey.com/r/LWQN87H

Table 3: South Dakota Transit Agency Survey Questions

1	What is your transit agency baseline fare structure, including all passes, tickets, etc? Ex: General Fare - $1.00; Students - .75 cents; Reduced Fare* - $.50 cents; Children 5 years and under** - free; Route Deviations = General Public - $2.00; Reduced Fare* - $1.00; Bus passes = Elderly & Disabled | $15 unlimited rides for one month; General Public | $30 unlimited rides for one month; Students | $25 unlimited rides for one month
2	What is the usage of each type of pass? (by week, month, or year) Ex: agency averages 200 trips per day: General Fare - $1.00; 75 trips - 38% of total one-way trips; Students - .75 cents; 10 trips - 5%; Reduced Fare* - $.50 cents; - 28 trips - 14%; Children 5 years and under** - free - 5 trips - 3%; Route Deviations = General Public - $2.00; - 2 trips - 1% of total daily one-way trips; Reduced Fare* - $1.00 - 5 trips - 3%; Bus passes = Elderly & Disabled | $15 unlimited rides for one month - 35 trips - 18%; General Public | $30 unlimited rides for one month - 30 trips - 15%; Students | $25 unlimited rides for one month - 10 trips - 5%
3	What is the history of funding at your agency? Identify line item revenues. Example: Total Admin/Operating = $716,900; Local (city) - $268,480; Local (county) - $6,125; State - $26,125; Fed 5307 - $323,920; Fed 5311 - $12,250; Fed 5311 (f) - $80,000 Total Capital = $275,750; Local - city - $45,150; State DOT - $10,000; Fed 5307 - $76,600; Fed 5311(f) - $40,000; Fed 5339 - $104,000
4	What partnerships do you have today that affect your passenger fares? For example: do you partner with any colleges, hospitals, human service agencies, taxis, etc.
5	How was the cost for each partnership developed? (ex: Cost per hour, cost per trip, discounted base rate, etc.)
6	When was the last time the cost estimates were analyzed for any partnerships?
7	In the past decade, human service coordination has increased across the country. Has your transit agency coordinated with any local or regional human service divisions? If so, what was the service and how was it contracted - with DHS or individual participants? What DHS funding was used to support the service?
8	Is your agency a Medicaid transportation provider?
9	Do you have a fare policy in place?
10	How were the existing baseline fares developed? Who makes the final decision for adopted baseline fares?
11	When were the last fare changes made? What was the impetus for the change?
12	What was the process to change the fare? Did your agency complete a fare revenue assessment to determine impact to the agency? Prior to this change, what was the previous fare change?
13	Does your agency have fareboxes or what is used for money collection? How does the driver record ridership/fares?
14	Do you have smart cards OR does your agency have future plans to invest? What approximate year?
15	What is the process at your agency for collecting fares, recording riders, turn-in of fares, accounting for money, deposits, etc.
16	Does your agency offer transfers? What is that cost? (Ex: transfers are free or transfers = $0.25)
17	Do you believe your fare structure is simple for community residents to understand? Or is it complex?
18	Do you believe your community thinks transit is expensive to ride the bus (their perception)?
19	Where do you sell tickets, passes, kiosk machine, online, etc.? How is the ticket/pass recorded at point of sale? (ex: clip board, tablet, etc.)
20	Do you have special events or promotions for your agency with free rides, such as 'Try Transit Week' or Earth Day? Approximately how many one-way trips are provided at these events for your agency?
21	Do you believe the fares at your transit agency need to be changed?

6.2.1.2 Peer Community Transit Agency Survey

The following online link shows the survey for the peer surrounding state transit agencies. The survey questions are also shown in Table 4.

- Peer community transit agencies
  https://www.surveymonkey.com/r/JY9WMCX

Table 4: Peer Community Transit Agency Survey Questions

1	Please provide Transit Agency Name and contact information
2	What is your transit agency baseline fare structure, including all passes, tickets, etc? Ex: General Fare - $1.00; Students - .75 cents; Reduced Fare* - $.50 cents; Children 5 years and under** - free; Route Deviations = General Public - $2.00; Reduced Fare* - $1.00; Bus passes = Elderly & Disabled | $15 unlimited rides for one month; General Public | $30 unlimited rides for one month; Students | $25 unlimited rides for one month
3	What is the usage of each type of pass? (by week, month, or year) Ex: agency averages 200 trips per day: General Fare - $1.00; 75 trips - 38% of total one-way trips; Students - .75 cents; 10 trips - 5%; Reduced Fare* - $.50 cents; - 28 trips - 14%; Children 5 years and under** - free - 5 trips - 3%; Route Deviations = General Public - $2.00; - 2 trips - 1% of total daily one-way trips; Reduced Fare* - $1.00 - 5 trips - 3%; Bus passes = Elderly & Disabled | $15 unlimited rides for one month - 35 trips - 18%; General Public | $30 unlimited rides for one month - 30 trips - 15%; Students | $25 unlimited rides for one month - 10 trips - 5%
4	What is the history of funding at your agency? Identify line item revenues. Example: Total Admin/Operating = $716,900; Local (city) - $268,480; Local (county) - $6,125; State - $26,125; Fed 5307 - $323,920; Fed 5311 - $12,250; Fed 5311 (f) - $80,000 Total Capital = $275,750; Local - city - $45,150; State DOT - $10,000; Fed 5307 - $76,600; Fed 5311(f) - $40,000; Fed 5339 - $104,000
5	What partnerships do you have today that affect your passenger fares? For example: do you partner with any colleges, hospitals, human service agencies, taxis, etc.
6	How was the cost for each partnership developed? (ex: Cost per hour, cost per trip, discounted base rate, etc.)
7	When was the last time the cost estimates were analyzed for any partnerships?
8	In the past decade, human service coordination has increased across the country. Has your transit agency coordinated with any local or regional human service divisions? If so, what was the service and how was it contracted - with DHS or individual participants? What DHS funding was used to support the service?
9	Is your agency a Medicaid transportation provider?
10	Do you have a fare policy in place?
11	How were the existing baseline fares developed? Who makes the final decision for adopted baseline fares?
12	When were the last fare changes made? What was the impetus for the change?
13	What was the process to change the fare? Did your agency complete a fare revenue assessment to determine impact to the agency? Prior to this change, what was the previous fare change?
14	Does your agency have fareboxes or what is used for money collection? How does the driver record ridership/fares?
15	Do you have smart cards OR does your agency have future plans to invest? What approximate year?
16	What is the process at your agency for collecting fares, recording riders, turn-in of fares, accounting for money, deposits, etc.
17	Does your agency offer transfers? What is that cost? (Ex: transfers are free or transfers = $0.25)
18	Do you believe your fare structure is simple for community residents to understand? Or is it complex?
19	Do you believe your community thinks transit is expensive to ride the bus (their perception)?
20	Where do you sell tickets, passes, kiosk machine, online, etc.? How is the ticket/pass recorded at point of sale? (ex: clip board, tablet, etc.)
21	Do you have special events or promotions for your agency with free rides, such as 'Try Transit Week' or Earth Day? Approximately how many one-way trips are provided at these events for your agency?
22	Do you believe the fares at your transit agency need to be changed?

6.2.1.3 Surrounding State Department of Transportation Survey

The following online link shows the survey for the surrounding State Department of Transportation, Transit Divisions. The survey questions are shown in Table 5.

- Surrounding State Department of Transportation, transit divisions
  https://www.surveymonkey.com/r/X6J5G7R

Table 5: State DOT, Transit Division Survey Questions

1	Please provide State DOT Transit Division Name and contact information.
2	Does your DOT require transit agencies across the state to have a minimum baseline fare?
3	Does the DOT require transit agencies across the state to have a minimum farebox recovery ratio? What is process if an agency is below that minimum?
4	How many 5310 transit agencies are in the state?
5	How many 5311 transit agencies are in the state?
6	Does the state have a fare policy in place for the 5310 and/or 5311 agencies to adopt? If so, what is that policy?
7	Approximately how many of the transit agencies in your state coordinate with Department of Human Services transportation?
8	What type of DHS funding has been available for transit agencies in your state?
9	Does your Transit Division have staff that sit on a Statewide Human Services Transportation Committee? If so, please provide details of the goal of that committee and how the Committee has helped increase coordination efforts across the state.

6.3 SETTING THE STAGE

6.3.1 Overall Statistics

Peer transit agency reviews provide a useful tool to understand baseline data for similar transit agencies across the state. Table 6 provides summary statistics for the South Dakota transit agencies. The table also shows averages for the state and for the surrounding state peer transit agencies. While analyzing and calculating the averages for the peer agencies, it became clear that OATS Inc., the rural transit provider for the state of Missouri, was a much larger operation than the other peer transit agencies. Therefore, the data for OATS is available in the table; however, the OATS data were not included in the calculations for peer averages due to the skewed results.

- South Dakota has a wide range of public transit services available, from demand response service with 1 peak vehicle to fixed route service in Rapid City and Sioux Falls, with 30-45 peak vehicles. These data provide a snapshot of South Dakota transit agencies and provide a gauge for the average system size in the state. The statewide average is 16 peak vehicles. The average for the 9 peer communities was slightly higher with 21 peak vehicles.
- Annual ridership for South Dakota transit agencies ranged from approximately 800 annual one-way trips to approximately 950,000 trips, with an average ridership of approximately 125,800 each year. The peer average was higher with an average of approximately 403,000 annual one-way trips, with a low of 36,300 to a high of 1.5M annual one-way trips.

- South Dakota agencies averaged $1.1M for annual operating budget, with a low of $45,500 for Hartford Transit and a high of $8.0M for Sioux Falls. The peer transit agencies averaged $2.4M annual operating budget, with a low of $265,500 for Outback Express in Colorado to a high of S7.0M in Fargo, ND.
- The average farebox recovery ratio for South Dakota agencies was 12 percent, with a low of 5 percent at Siouxland Regional Transit System to a high of 21 percent for Rosebud Sioux Tribe Transportation and for Rapid Transit System. The peer agencies averaged 8 percent for their farebox recovery ratio, with a low of 1 percent at OATS, Inc. and a high of 21 percent in Mankato, MN.
- Average annual revenue hours for South Dakota transit agencies was approximately 23,000, with the high being 110,800 annual revenue hours and the low at 765 hours. The surrounding state peer agencies had an average of 37,400 annual revenue hours, with a high of 14M annual hours from OATS, Inc. and a low of 4,718 annual hours.
- The annual operating cost per revenue hour averaged $47.76 for the South Dakota transit agencies, with a high of $130.70 cost per hour to a low of $30.64. The peer transit agencies had a higher average operating cost per hour of $59.79, with a high of $94.86 in Billings, MT and a low of $35.83.

Table 6: Peer Agency Statistics

AgencyName	Annual Ridership	Peak Vehicles	Annual Revenue Hours	Annual Revenue Miles	Operating Budget	Fare Revenue	Farebox Recovery	Oper Cost/Trip	Operating Cost/Hr
Aberdeen Ride Line	77,870	16	15,680	175,655	$ 649,440	$ 75,974	12%	$ 8.34	$ 41.42
Arrow Public Transit	30,110	7	6,145	88,886	$ 297,546	$ 23,893	8%	$ 9.88	$ 48.42
Brandon City Transit	14,348	3	3,538	25,536	$ 146,837	$ 19,474	13%	$ 10.23	$ 41.50
Brookings Area Transit Authority	146,312	22	32,146	440,420	$ 1,189,597	$ 167,638	14%	$ 8.13	$ 37.01
Community Transit, Inc.	79,672	18	18,689	214,965	$ 572,710	$ 78,908	14%	$ 7.19	$ 30.64
Dell Rapids Transit	4,326	1	1,483	6,758	$ 52,962	$ 5,781	11%	$ 12.24	$ 35.71
East Dakota Transit, Inc.	18,403	2	3,613	25,600	$ 173,892	$ 30,968	18%	$ 9.45	$ 48.13
Groton Community Transit, Inc.	9,905	3	2,325	13,264	$ 86,580	$ 6,689	8%	$ 8.74	$ 37.24
Hartford Transit	779	1	765	5,469	$ 45,446	$ 4,623	10%	$ 58.34	$ 59.41
Inter-Lakes Community Action Partnership, Inc.	8,185	3	2,741	12,951	$ 111,452	$ 9,649	9%	$ 13.62	$ 40.66
Palace Transit	86,778	9	15,536	160,009	$ 805,056	$ 77,073	10%	$ 9.28	$ 51.82
People's Transit	101,322	19	21,784	268,673	$ 846,773	$ 105,875	13%	$ 8.36	$ 38.87
Prairie Hills Transit	91,176	30	32,208	493,658	1,306,132	$ 65,526	5%	$ 14.33	$ 40.55
Rapid Transit System	382,340	20	41,903	561,124	$ 2,096,273	$ 434,466	21%	$ 5.48	$ 50.03
River Cities Public Transit	367,987	58	71,780	1,072,018	$ 3,506,457	$ 411,907	12%	$ 9.53	$ 48.85
Rosebud Sioux Tribe Transportation	70,077	8	11,459	249,137	$ 576,754	$ 118,673	21%	$ 8.23	$ 50.33
Rural Office of Community Services	109,296	30	32,546	403,464	$ 1,080,105	$ 142,248	13%	$ 9.88	$ 33.19
Sioux Area Metro	950,851	42	110,847	1,323,018	$ 8,032,621	$ 755,499	9%	$ 8.45	$ 72.47
Siouxland Regional Transit System	187,982	35	74,039	856,358	$ 2,993,026	$ 163,836	5%	$ 15.92	$ 40.42
Spink County Public Transit	19,165	3	1,864	19,546	$ 107,023	$ 15,817	15%	$ 5.58	$ 57.42
Standing Rock Public Transportation	14,609	11	7,200	200,704	$ 941,006	$ 56,522	6%	$ 64.41	$ 130.70
Vermillion Public Transit	73,635	5	9,427	93,354	$ 416,535	$ 34,168	8%	$ 5.66	$ 44.19
Watertown Area Transit	57,466	9	14,951	206,844	$ 459,083	$ 62,225	14%	$ 7.99	$ 30.71
Yankton Transit	116,318	17	18,493	205,957	$ 674,272	$ 123,806	18%	$ 5.80	$ 36.46
SD 2016 NTD Averages	***125,788***	***16***	***22,965***	***296,807***	***$ 1,131,982***	***$ 124,635***	***12%***	***$ 13.54***	***$ 47.76***
Low	779	1	765	5,469	$ 45,446	$ 4,623	5%	$ 5.48	$ 30.64
High	950,851	58	110,847	1,323,018	$ 8,032,621	$ 755,499	21%	$ 64.41	$ 130.70
Peer Agencies									
Valley County Transit	55,813	8	14,565	117,794	$ 608,754	$ 37,936	6%	$ 10.91	$ 41.80
MET Transit	566,207	31	51,005	719,512	$ 4,838,217	$ 463,824	10%	$ 8.54	$ 94.86
Casper Area Transportation Coalition	213,202	14	43,549	516,919	$ 2,240,145	$ 125,482	6%	$ 10.51	$ 51.44
Cheyenne Transit Program	258,247	14	36,827	450,402	$ 1,469,349	$ 135,987	9%	$ 5.69	$ 39.90
Outback Express	36,282	10	4,718	68,869	$ 265,438	$ 6,335	2%	$ 7.32	$ 56.26
Finney County Transit	82,413	17	17,612	241,986	$ 1,121,399	$ 39,483	4%	$ 13.61	$ 63.67
RYDE	112,983	40	36,226	386,570	$ 1,452,153	$ 98,849	7%	$ 12.85	$ 40.09
Mankato Transit System	756,965	17	28,492	343,263	$ 2,368,557	$ 496,271	21%	$ 3.13	$ 83.13
Metro Area Transit	1,538,424	35	103,627	1,278,428	$ 6,937,256	$ 769,383	11%	$ 4.51	$ 66.94
2016 NTD Averages - Peer	***402,282***	***21***	***37,402***	***458,194***	***$ 2,366,808***	***$ 241,506***	***8%***	***$ 8.56***	***$ 59.79***
Low	36,282	8	4,718	68,869	$ 265,438	$ 6,335	1%	$ 3.13	$ 35.83
High	1,538,424	685	751,881	14,007,423	$ 26,937,928	$ 769,383	21%	$ 17.95	$ 94.86
OATS Inc.	1,500,339	685	751,881	14,007,423	$ 26,937,928	$ 314,844	1%	$ 17.95	$ 35.83

**OATS was removed from Peer Averages due to service data not similar to SD transit agencies.*

The following charts, Figure 2 through 17, provide illustrations of the above operating statistics with comparisons among the transit agencies.

Figure 2: Annual Ridership

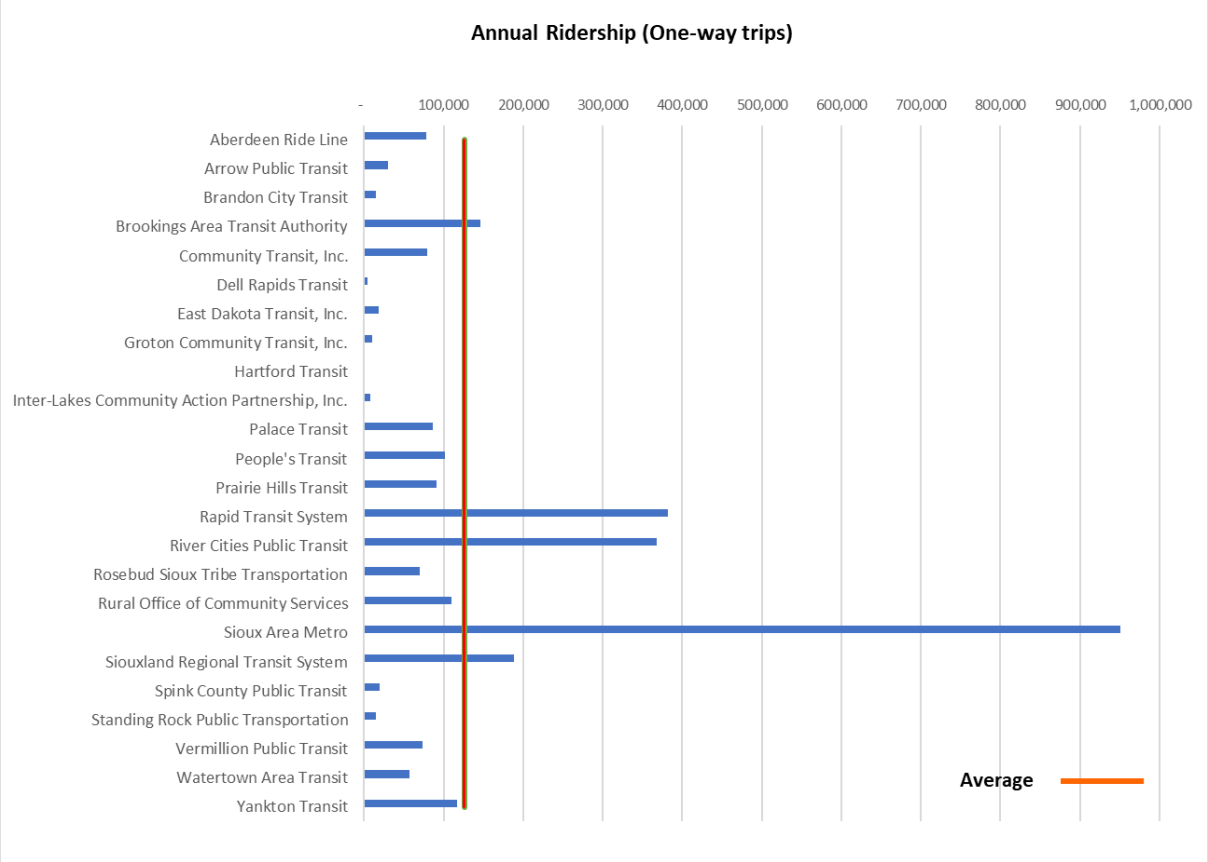


Figure 3: Peer City Annual Ridership

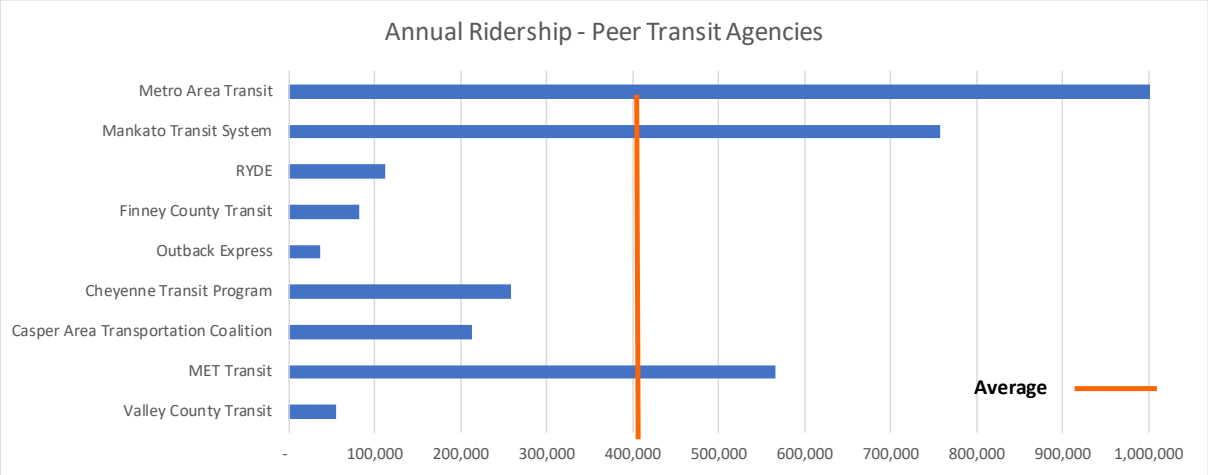


Figure 4: Peak Vehicles

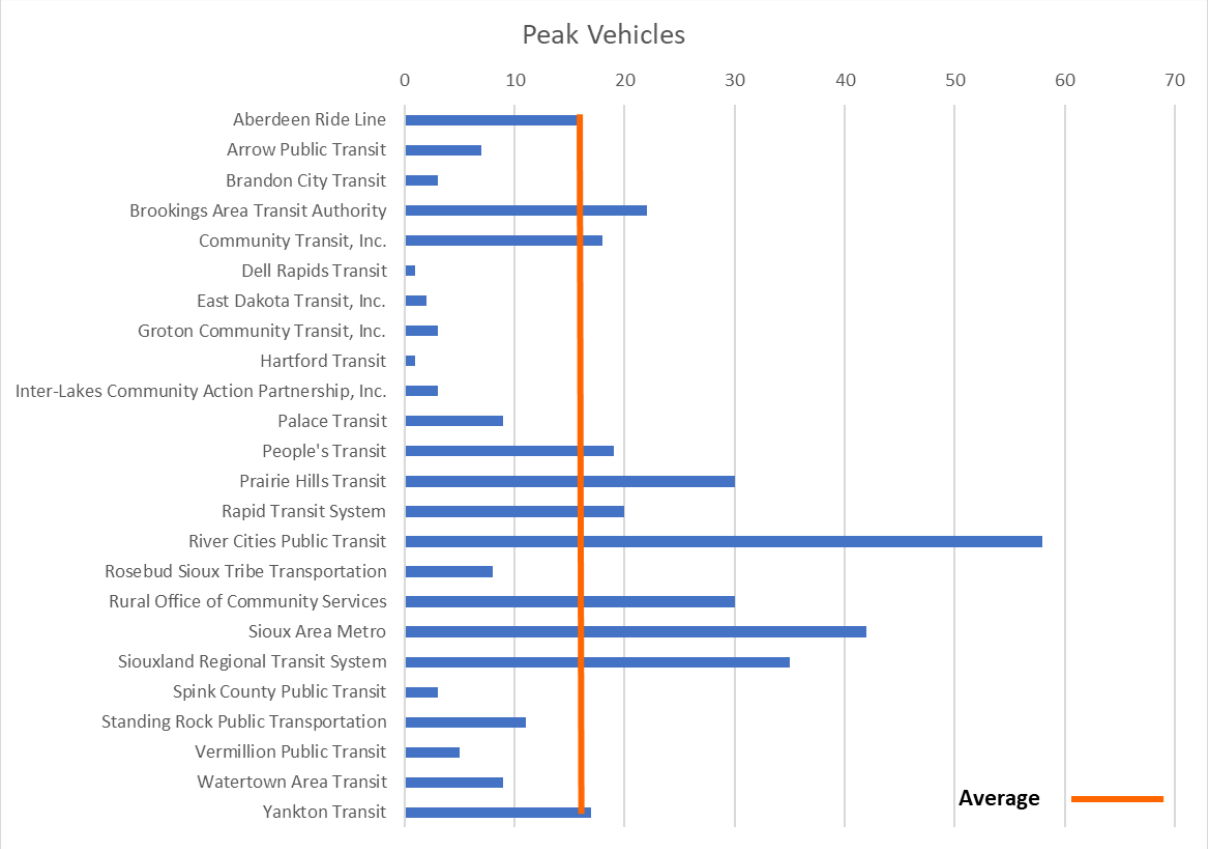


Figure 5: Peer City Peak Vehicles

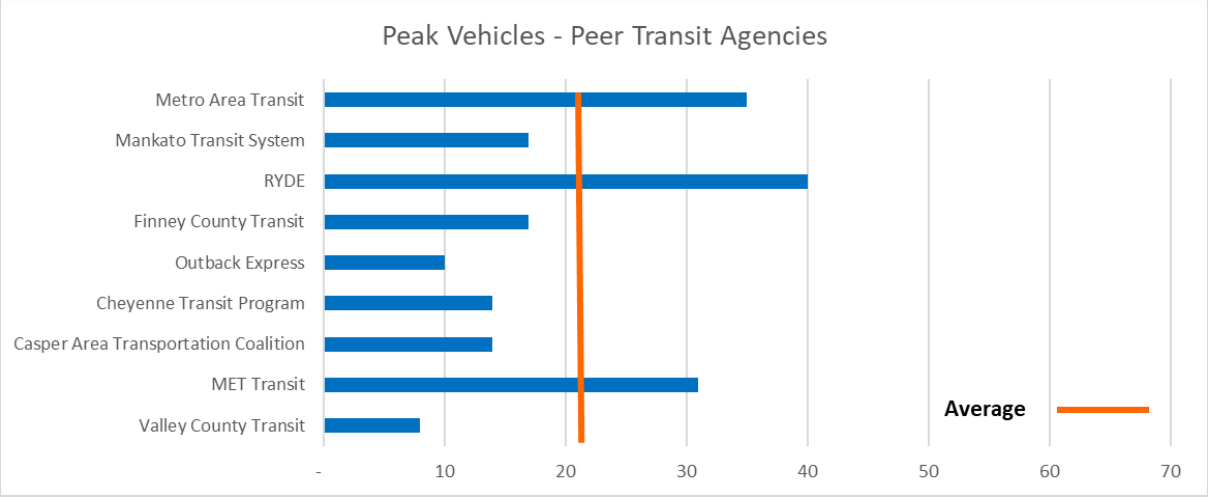


Figure 6: Annual Revenue Hours

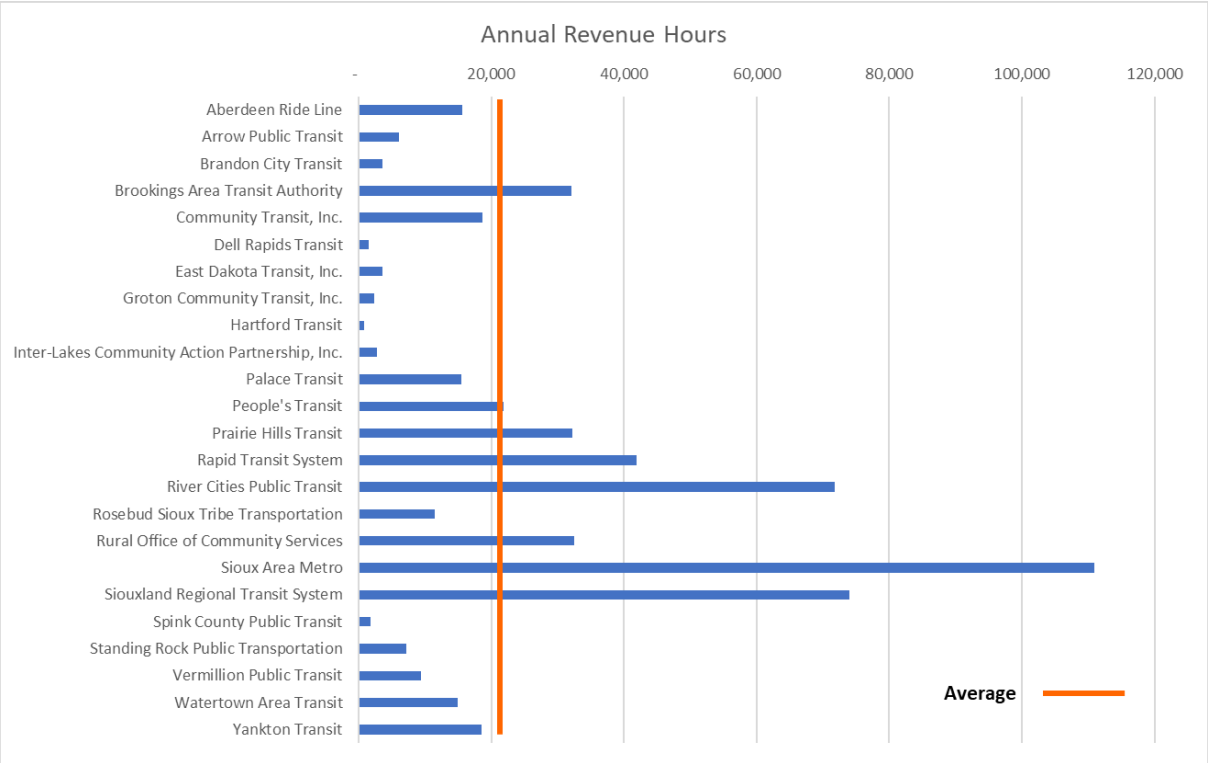


Figure 7: Peer City Annual Revenue Hours

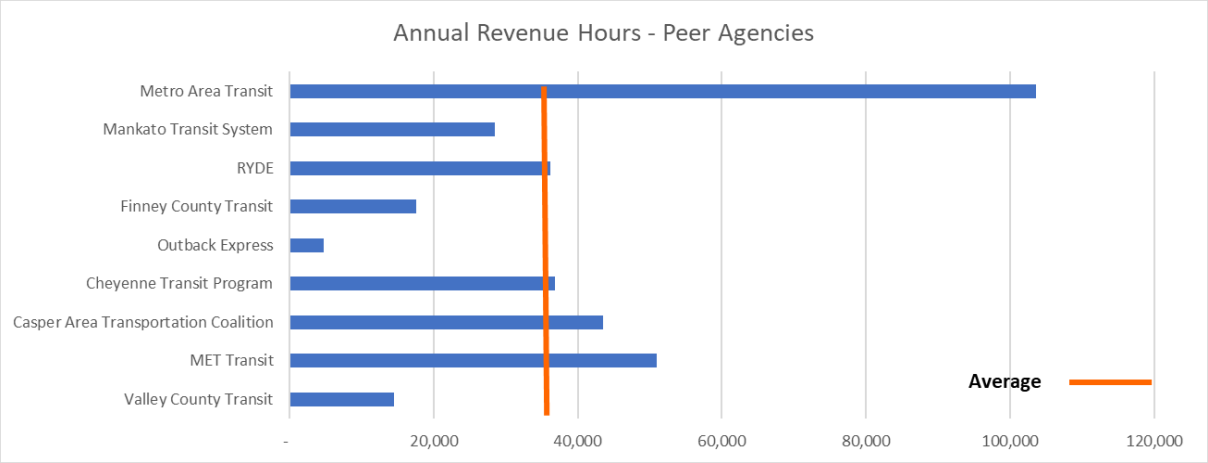


Figure 8: Passengers/Revenue Hour

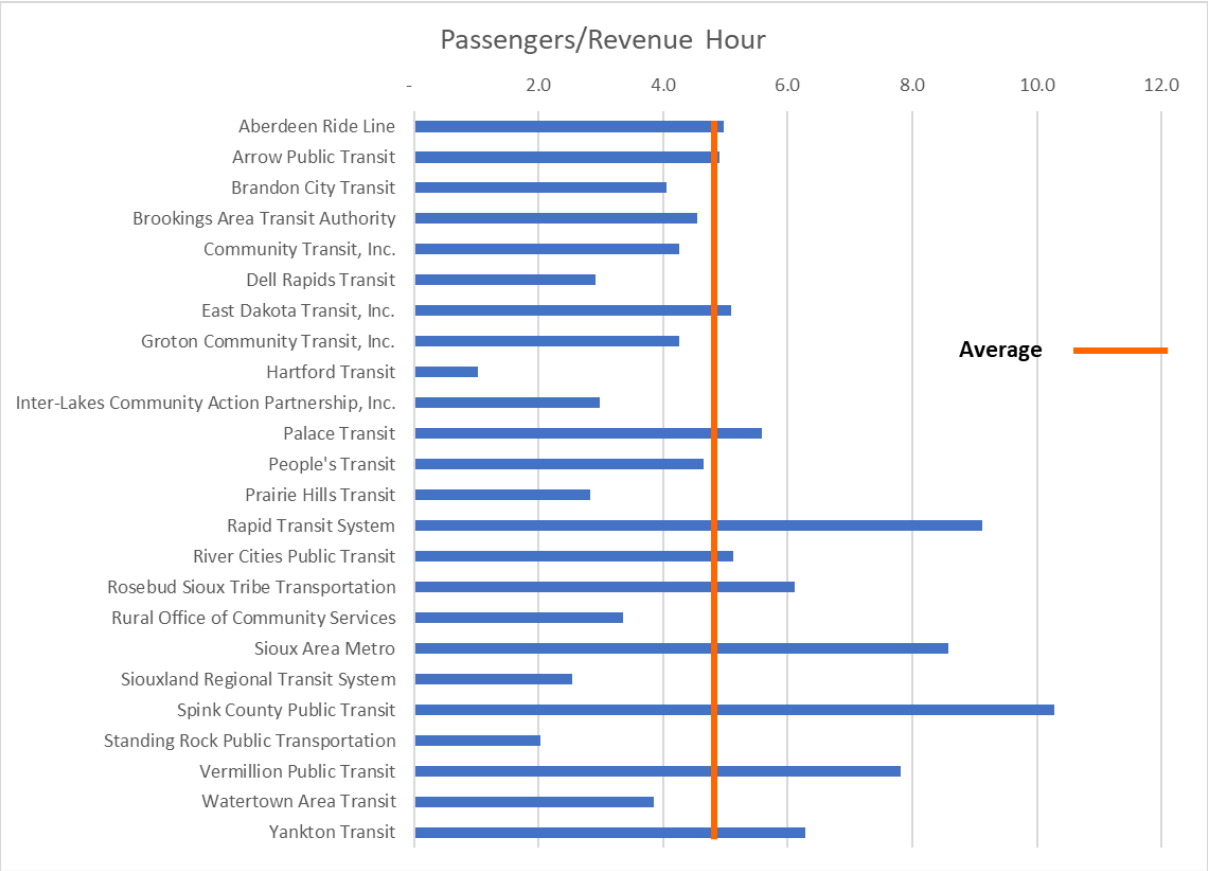


Figure 9: Peer City Passengers/Revenue Hour

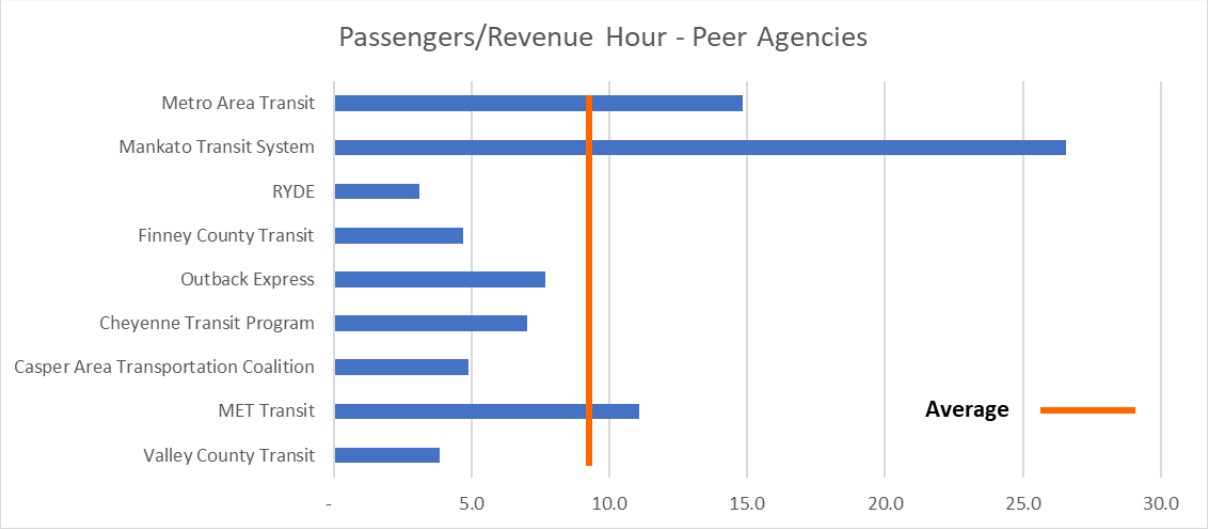


Figure 10: Annual Operating Expenses

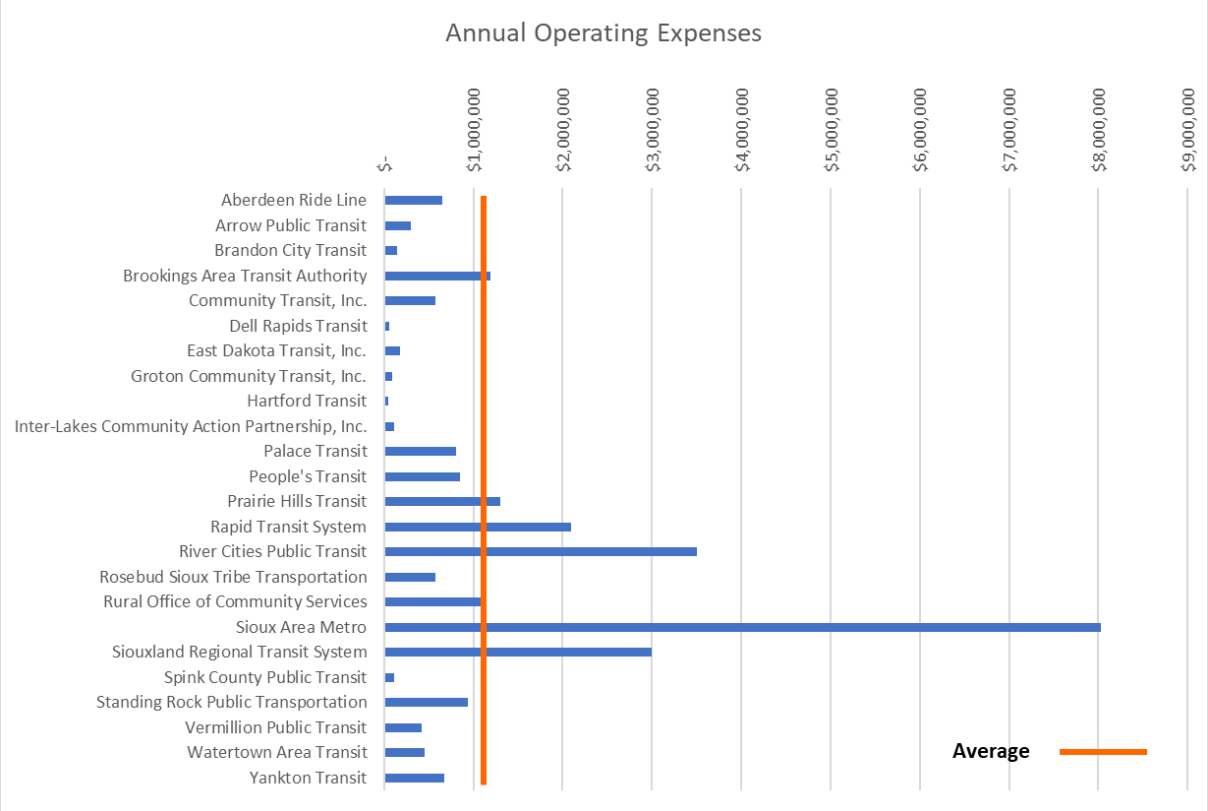


Figure 11: Peer City Operating Budget

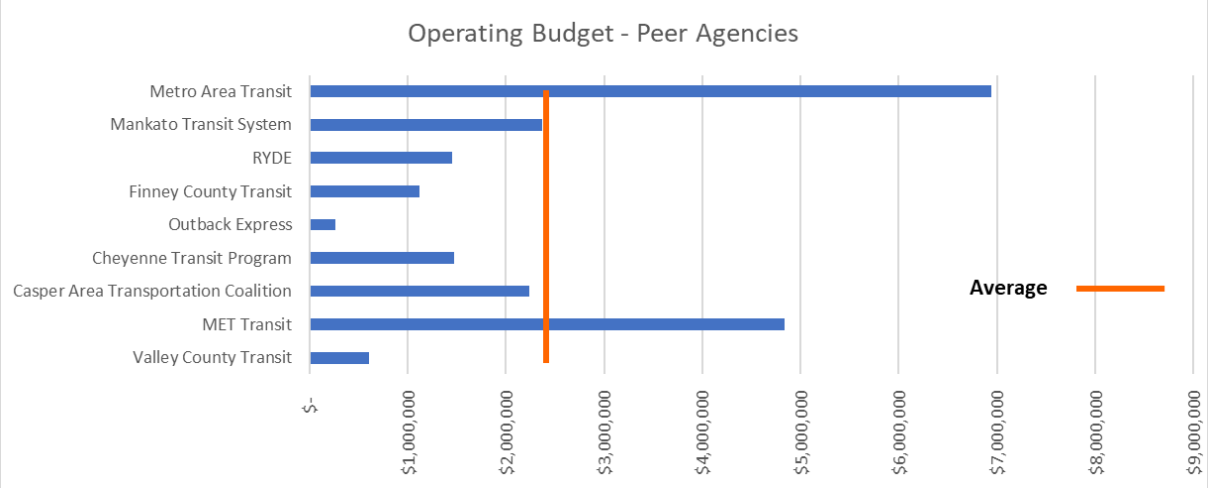


Figure 12: Operating Cost/Revenue Hour

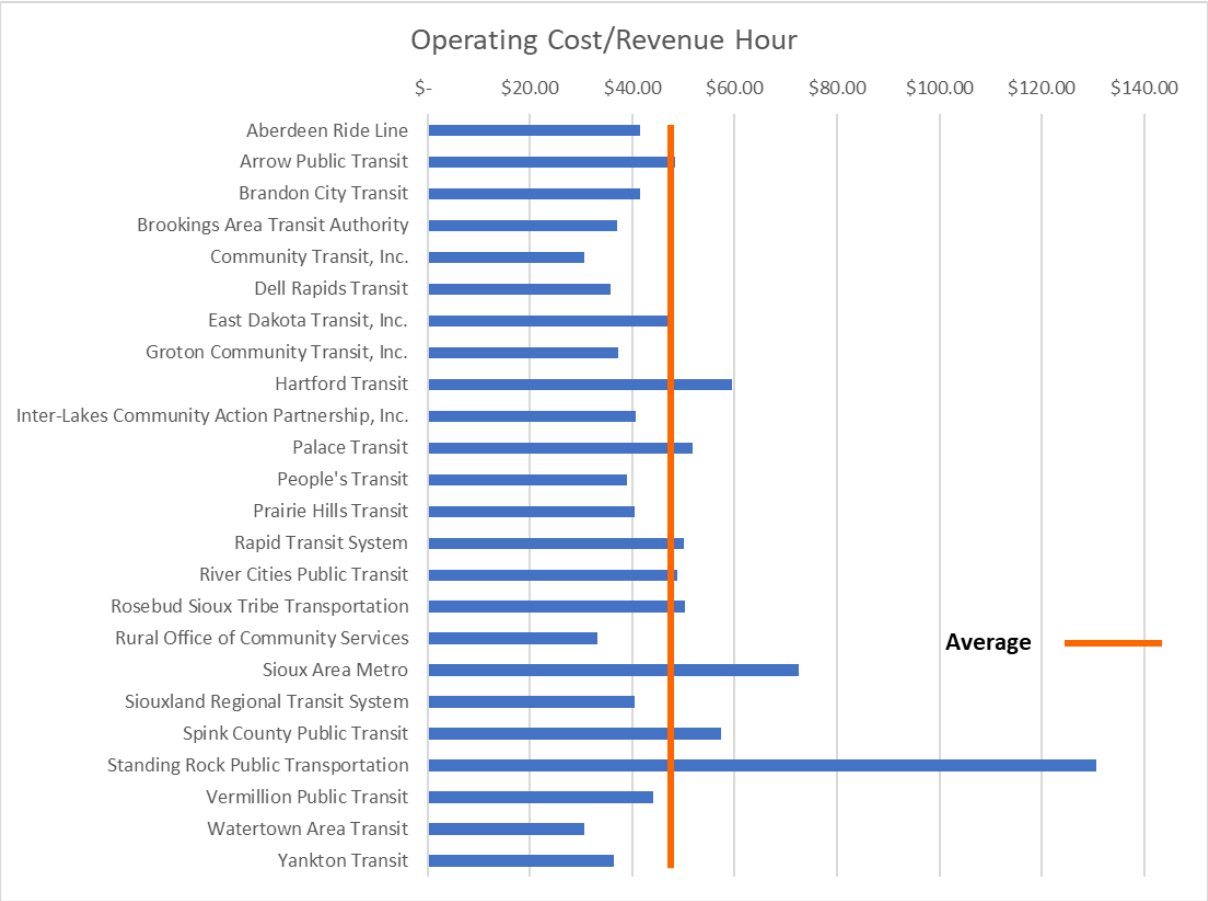


Figure 13: Peer City Operating Cost/Revenue Hour

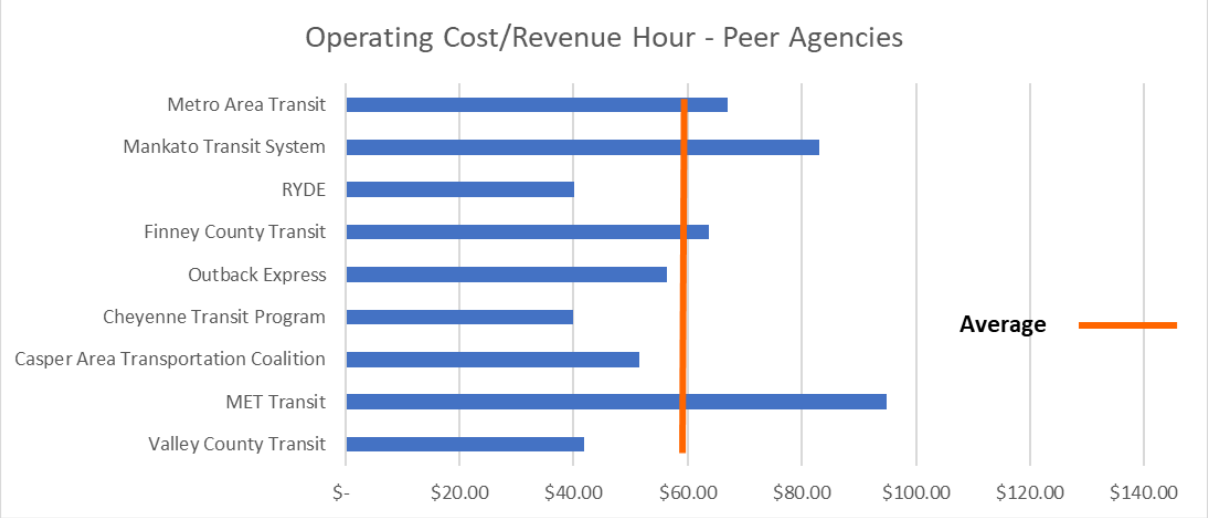


Figure 14: Operating Cost/Passenger Trip

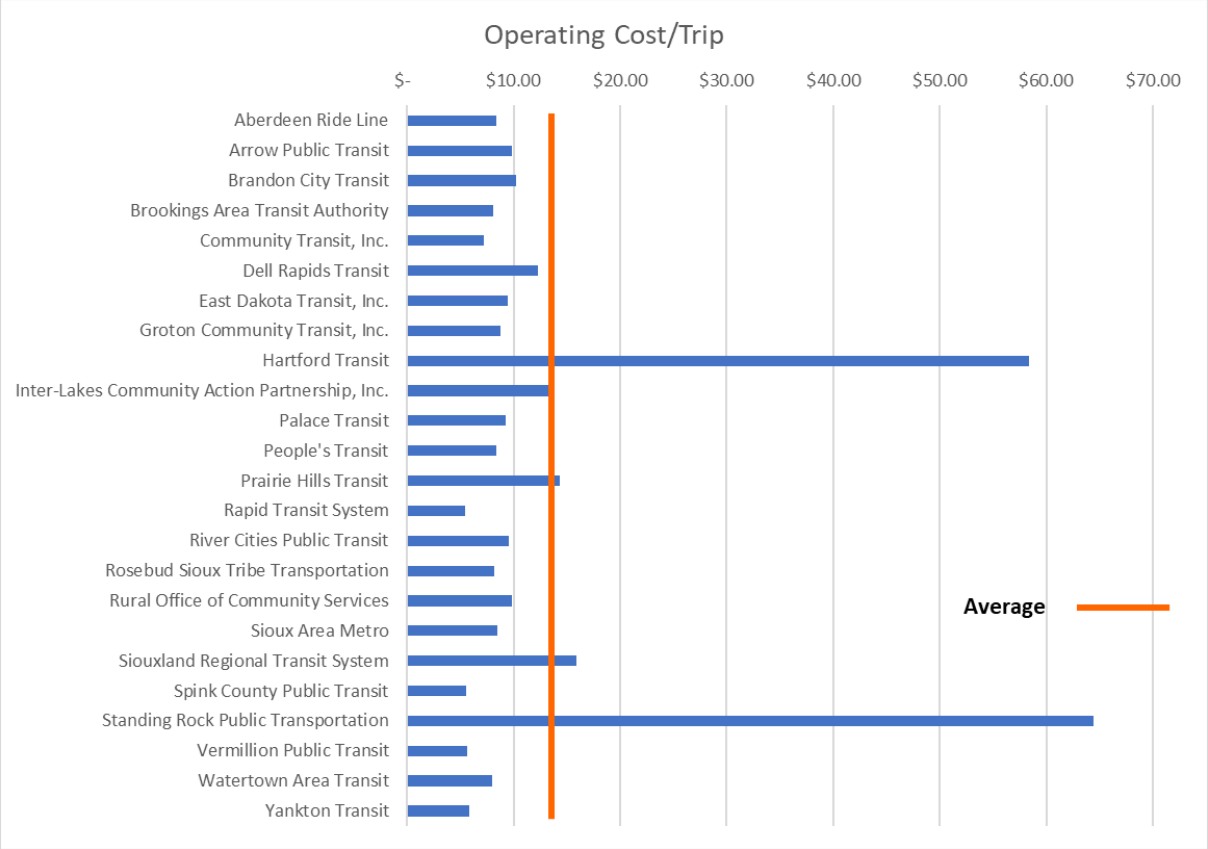


Figure 15: Peer City Operating Cost/Passenger Trip

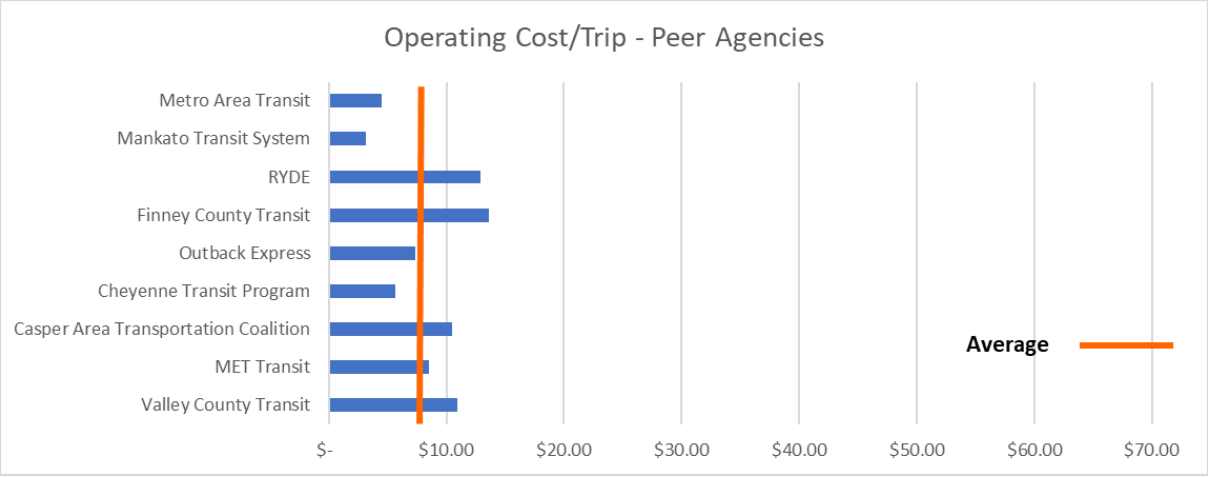


Figure 16: Farebox Recovery Ratio

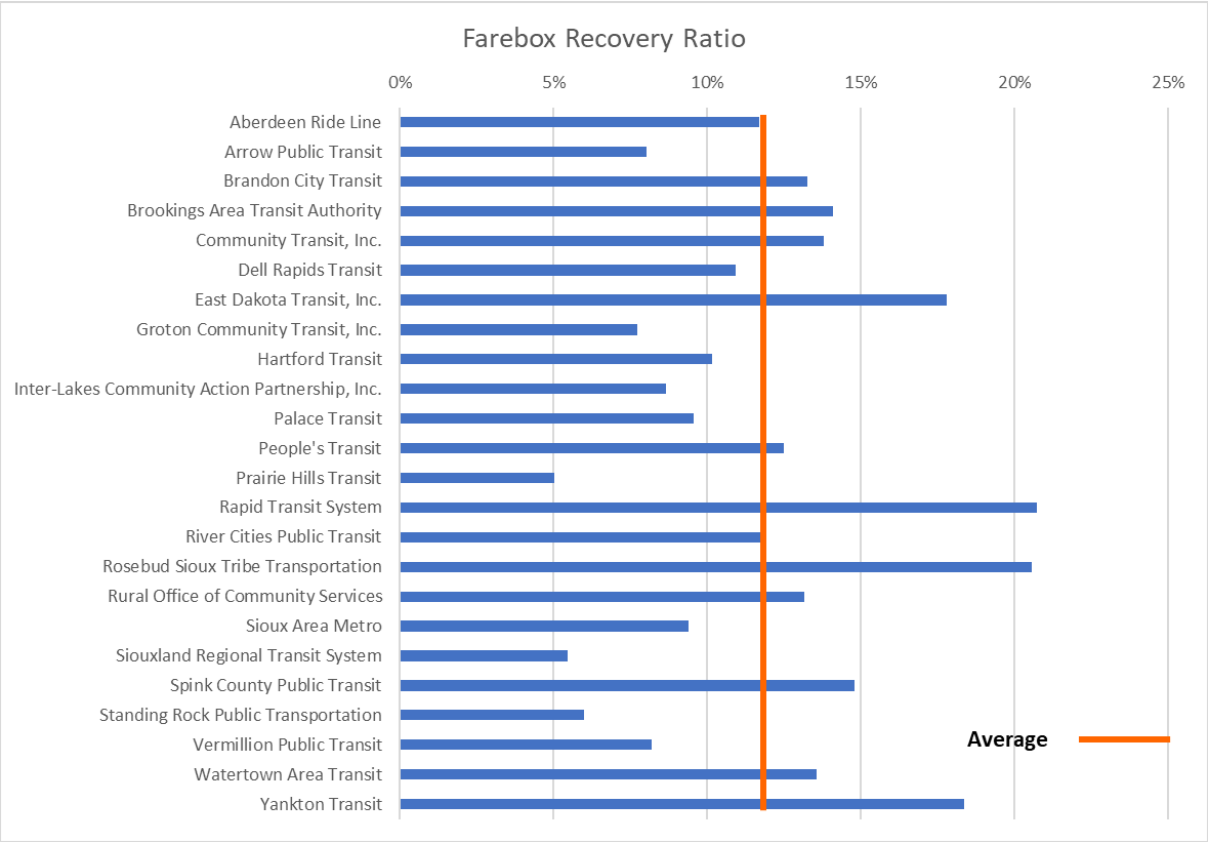
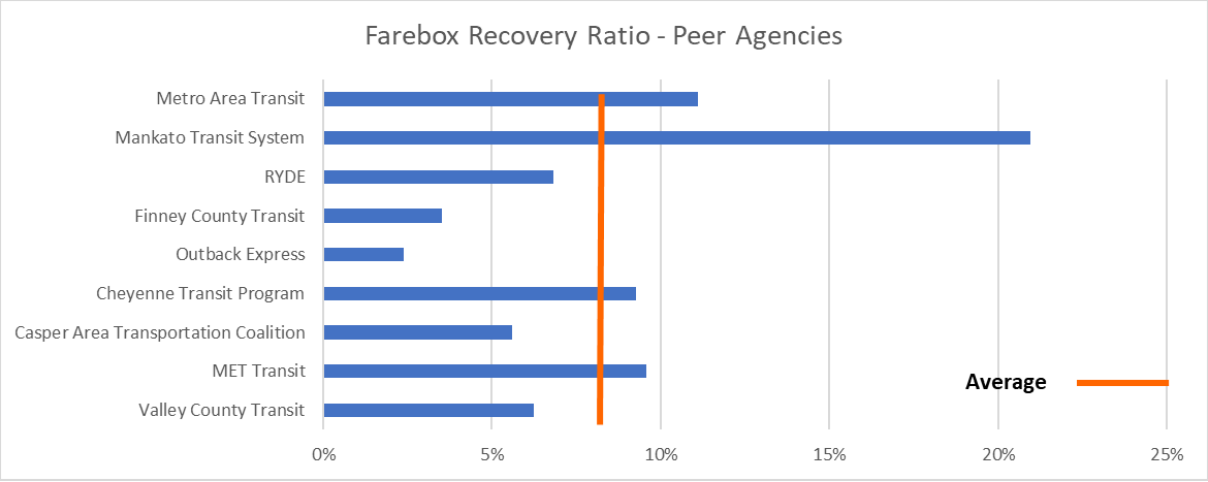


Figure 17: Peer City Farebox Recovery Ratio



6.4 SURVEY RESPONSES

6.4.1 SD Transit Agency Responses

Twenty-one South Dakota transit agencies completed the online survey for this study. The following chapter provides summary responses and provides useful data for transit agencies to consider when developing or modifying their own fare structure.

6.4.2 Peer Agencies

Four transit agencies responded to the peer agency survey and are discussed below.

6.4.2.1 Billing, MT – MET Transit – Billings Metropolitan Area Population – 170,458

- MET Transit operates 15 fixed routes and paratransit service to the City of Billings Monday-Saturday. MET serves approximately 3,000 passengers a day, including school tripper routes. MET Transit has a fleet of 40 vehicles - 25 for fixed-route and 15 used for Paratransit. MET has real-time passenger bus tracking available for all fixed route buses.
  - 17 Gillig 35 ft (11 m) Standard Diesel High-Floor Buses
  - 2 Gillig 35 ft (11 m) Standard Diesel Low-Floor Buses
  - 6 Ford-Latrines Heavy Duty buses
- MET has an operating budget just under $5M, provides 567,000 annual one-way trips, and operates 51,000 annual revenue hours.

Bus Fares

MET Transit One-Way Fares		Unlimited Ride Monthly Passes	
Description	**Fees**	**Description**	**Fees**
Adults (age 19-61 yrs)	$1.75	Regular pass (age 19-61 yrs)	$28.00 / month
Youth (ages 6-18 yrs)	$1.50	Youth (age 6-18 yrs) and Student pass (must show valid student ID)	$21.00 / month
Senior citizens (age 62 yrs and up) and Disabled citizens **	$.85	Senior citizens (age 62 yrs and up) Disabled citizens pass *	$12.00 / month
Pre-school (under 6 yrs.)	Free	Single day pass	$4.00 / day
Transfers	Free	10-ride punch ticket	$17.50

* Proof of eligibility includes Medicare card or other proof.

6.4.2.2 Casper, WY – CATC – City Population 57,814

- The Casper Area Transportation Coalition (CATC) operates six local transit routes, called 'The Bus' and door-to-door demand response service (called CATC) within Casper, Evansville, and Mills. CATC has 37 employees, 18 vehicles, and an operating budget of $2.2M. The agency provides approximately 213,000 annual trips, with 43,500 annual revenue hours. Service operates Monday through Friday, 630a to 630p, with limited service on Saturday from 730a to 330p. Route deviations are available upon request.

The Bus

General Fare - $1.00
Students - .75 cents
Reduced Fare* - .50 cents
Children 5 years and under** - free

The Bus Route Deviations

General Public - $2.00
Reduced Fare* - $1.00

The Bus One Month Pass

CATC Bus
Elderly & Disabled | $15 unlimited rides for one month
General Public | $30 unlimited rides for one month
Students | $25 unlimited rides for one month

6.4.2.3 Rural MO transit provider – OATS, Inc. – MO Statewide 501(c)3 corporation – State Population - 6M

- OATS, Inc. is a not-for-profit 501(c)3 corporation providing transportation for rural general public, senior citizens, and persons with disabilities in 87 Missouri counties. OATS employees more than 750 people statewide. The company is headquartered in Columbia MO, with regional offices in Bridgeton, Columbia, Harrisonville, Macon, St. Joseph, Sedalia, Springfield and Union, MO.

- OATS buses traveled 14 million miles last year and provided 1.5 million one-way

trips, with a $27M operating budget. OATS operates county, city, and intercity express route service to residents and visitors in Missouri. Fares vary depending upon the type of service and the location.

6.4.2.4 Valley County, MT – Valley County Transit – Population 7,369

- Valley County Transit (VCT) provides demand response door-to-door service. VCT also provides transportation on a contract basis to various agencies throughout Valley County. VCT provides service seven days per week, 24 hours per day. All rides are reserved 24-hours in advance.

6.4.3 Peer Representation for Multiple Size Agencies

The goal of the peer survey was to understand the transit agencies in South Dakota and learn from other agencies best practices and lessons learned in the development of future fare strategies. Survey questions were developed based on expected availability of information, suitability for agency-level staff members, and applicability to the types of transit agencies and services provided in South Dakota. The results of the peer study include representation from four different sizes of transit agencies, from different regions, and from different organizational management structures. Table 7 shows peer information.

Table 7: Peer Characteristics

Location	Population	Services	Management	Ridership	Operating Budget	Farebox Ratio
Billings, MT; MET Transit	174,000	FR, DR, Tripper Routes	City	566,207	$4.8M	10%
Casper, WY CATC	57,814	FR, DR, Route Deviation	City	213,202	$2.2M	6%
Rural Missouri OATS, Inc.	6.1M - state	FR, DR, Express Service	Non-profit	1.5M	$27M	1%
Valley County, MT VCT	7,369	Demand Response	County	55,813	$609,000	6%
SD Statewide Average	n/a	All	All	125,788	$1.1M	12%

Note: FR = Fixed Route; DR = Demand Response

Small to medium urban area systems in South Dakota, such as in Sioux Falls, Rapid City, Aberdeen, Brookings, and others relate to many peer characteristics in Billings, MT and in Casper, WY. The rural providers in the state will identify with Valley County Transit in Glasgow, MT. Finally, the South Dakota transit agencies with multiple transit services in different locations may relate to OATS, Inc. in Missouri, who operates numerous types of services. Table 8 presents additional service performance measures of the peer agencies.

Table 8: Peer Service Performance Measures

Location	Annual Revenue Hours	Annual Revenue Miles	Operating Cost/Rev Hour	Pass Trip/ Revenue Hour	Operating Cost/Pass Trip
Billings, MT; MET Transit	51,005	719,512	$94.86	11.1	$8.54
Casper, WY CATC	43,549	516,919	$51.44	4.9	$10.51
Rural Missouri OATS, Inc.	751,881	14M	$35.83	2.0	$17.95
Valley County, MT VCT	14,565	117,794	$41.80	3.8	$10.91
SD Statewide Avg	22,965	296,807	$47.76	4.9	$13.54

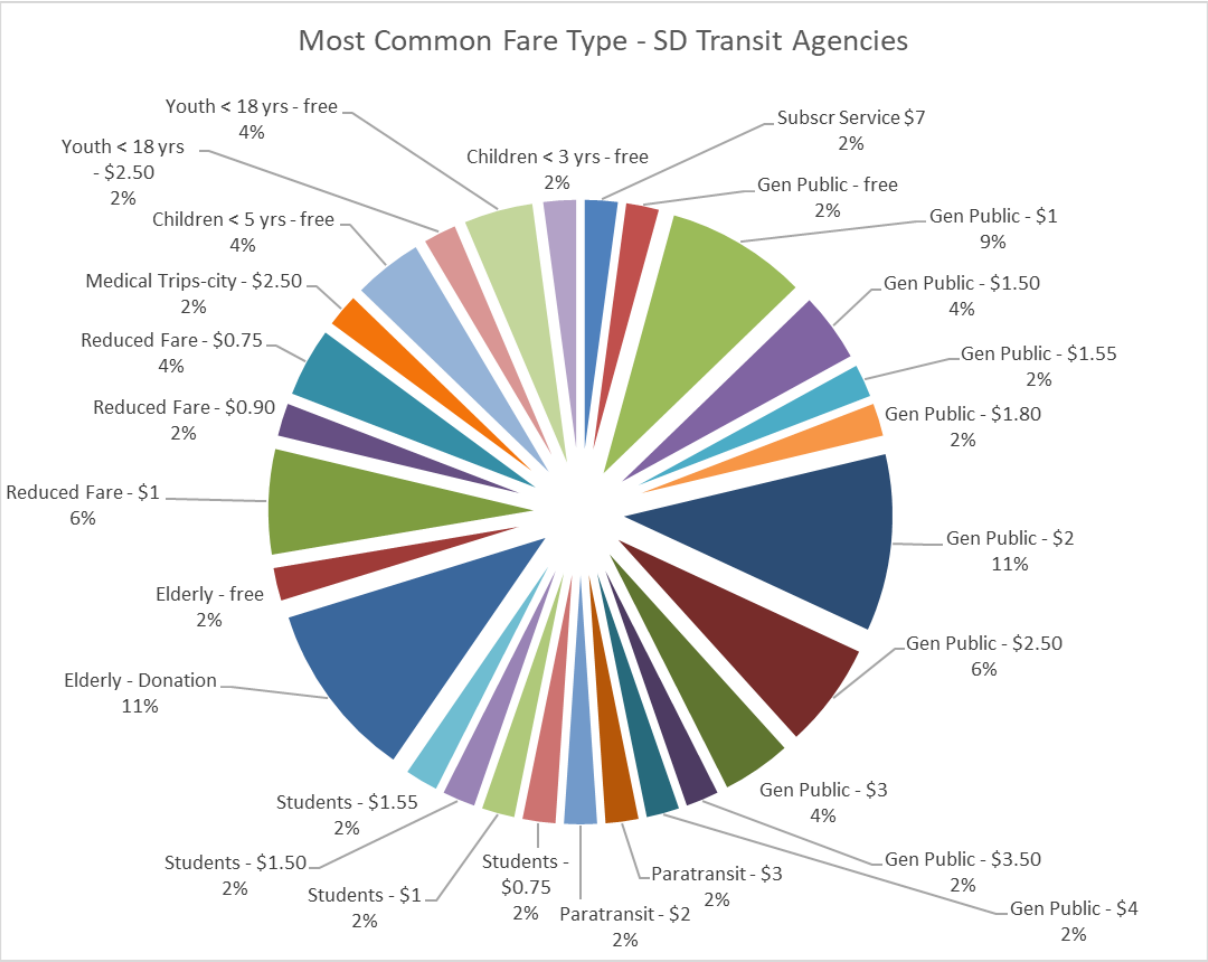
6.4.3.1 What is the baseline fare structure?

A wide variety of fare types exist across the state, as shown in Figure 18. The most common base fare is $2.00 for General Public and Suggested Donation for Elderly riders, followed by $1.00 for General Public, then $2.50 for General Public and $1.00 Reduced Fare. One agency offers free service and two agencies offer free transit for youth under age 18 years. The base fare for all 21 responses ranged from free at one agency to $4.00 per one-way trip at another agency.

Three agencies have general public monthly bus passes with $30, $35, and $48 fares. Four agencies have 10-ride or punch cards, ranging from $9.00 to $10.50. Two agencies have 20-ride ticket or tokens with the cost of $31 and $50. Two agencies offer All Day passes at $3 and $4 per rider.

The surrounding peer agencies have a lower average base fare of $1.30 than the average South Dakota base fare of $2.07. The Student Fare is similar to South Dakota, averaging $1 per rider. Also, each of the peer agencies provide free service to children under age five years. The reduced fare for the peer agencies is also slightly lower than South Dakota agencies of $1, with an average of $0.70 per rider.

Figure 18: Most Common Fare Type



6.4.3.2 Does your agency have partnerships?

The survey requested information regarding partnerships between transit services and outside organizations. Sixteen agencies had partnerships in place, shown in Figure 19, and two agencies responded no partnerships at their agency. Figure 20 shows the most common partners with transit agencies across the state. The Department of Health and Human Services (DHHS) and medical facilities were most common. Each of the surrounding state peer agencies have partnerships with organizations – the same as identified for South Dakota.

Figure 19: Partnerships with Public Transit

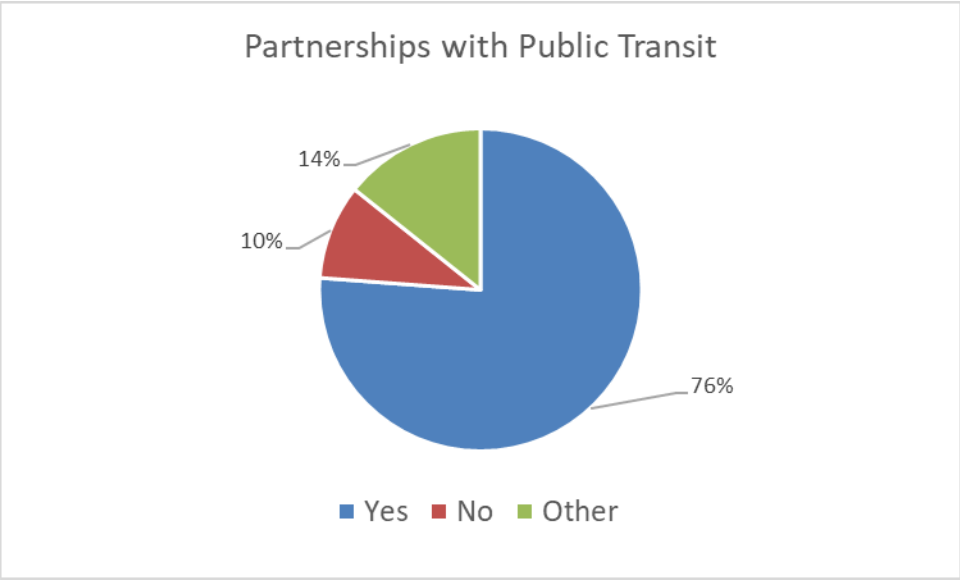
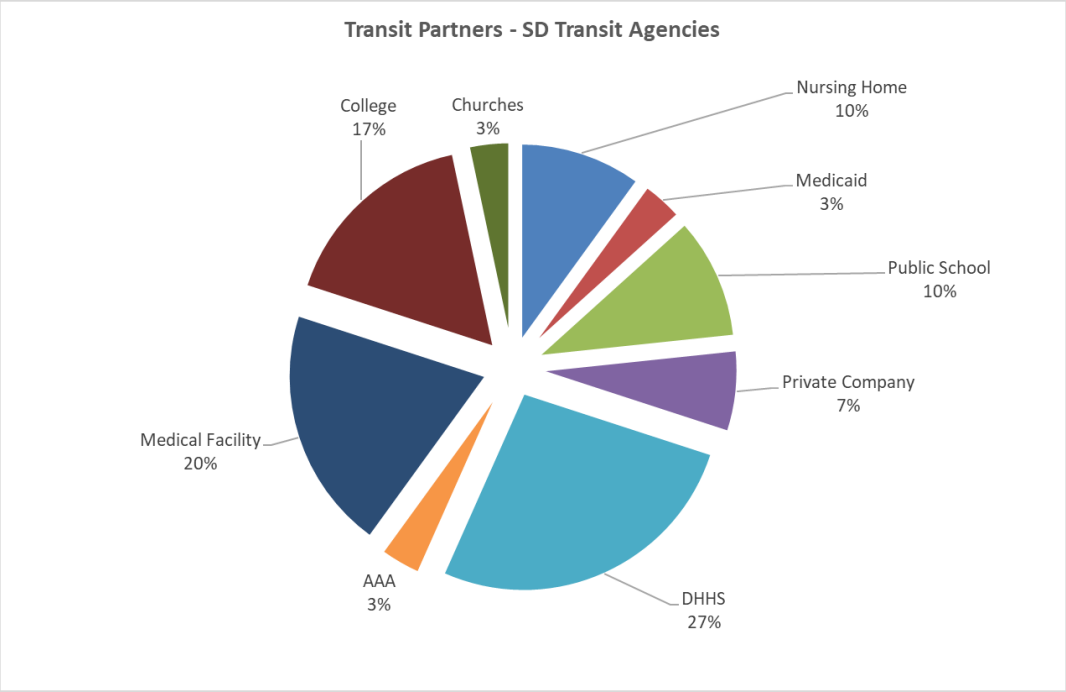


Figure 20: Transit Partners



Transit agencies were asked how the cost for transit service was determined with their partners. The most common answer was cost per trip and cost per hour of service, as shown in Figure 21. The majority of agencies (75%) responded that partnership contract costs were negotiated annually, as shown in Figure 22. The remaining agencies stated contract costs were negotiated between one and five years ago or have not changed since they were at the agency.

Figure 21: How was Cost Determined?

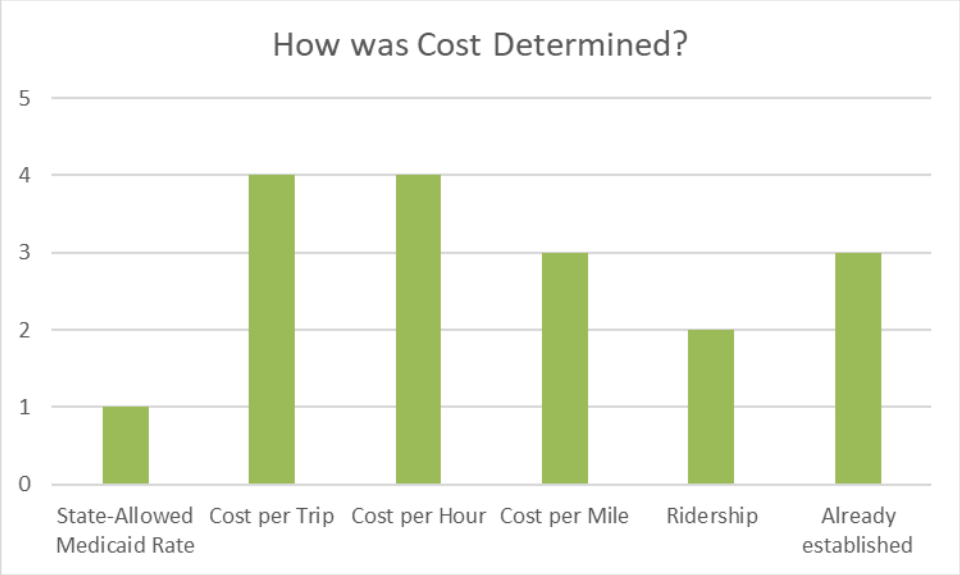
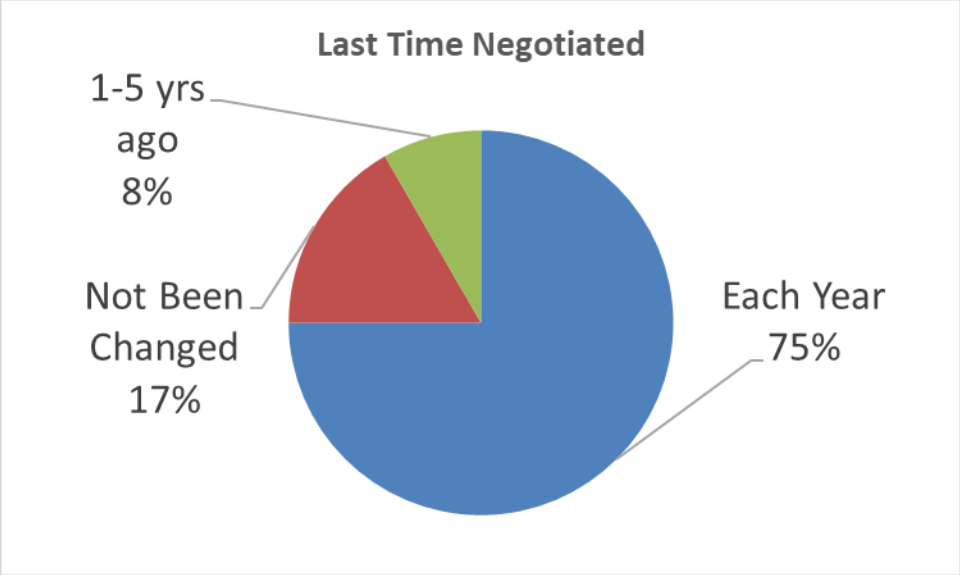


Figure 22: Last Time Contract Negotiated



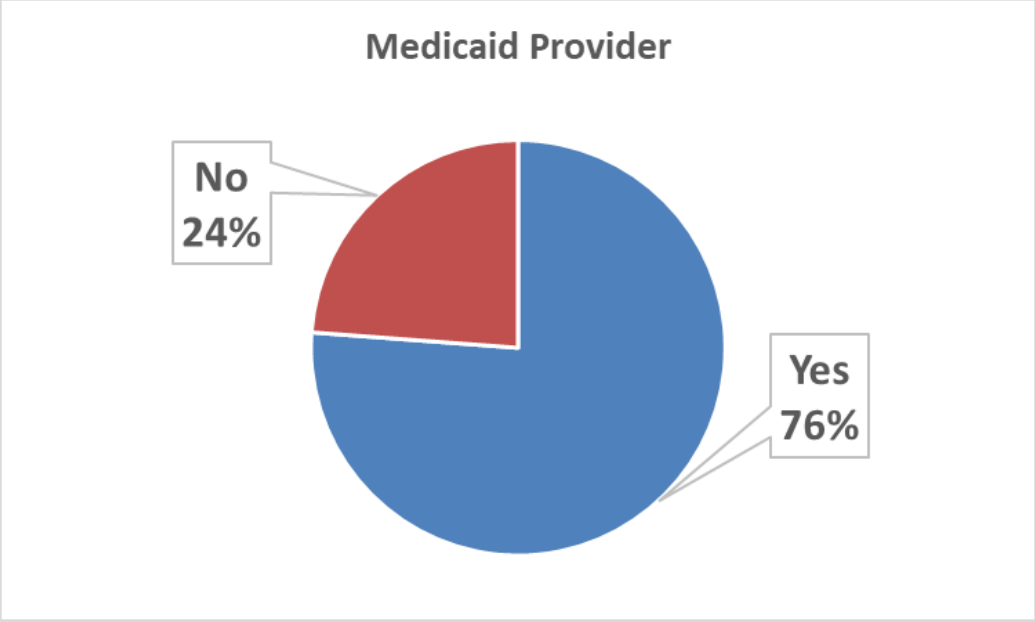
The surrounding state peer agencies determined contract rates by using base fare, discounted base fare and cost per hour, depending what type of service being requested. The agencies responded the contracts were typically negotiated annually and as part of the annual budgeting process.

Of the 21 South Dakota transit agency responses, 7 agencies facilitate human services coordination. The summary below provides additional information on the partnerships.

- DHHS schedule rides for their participants. Transit agency has contract with specific costs and trip parameters.
- Transit agency provides service for Medicaid participants, but do not bill Medicaid.
- Transit agency has contract with local medical facility, providing four trips per day. In addition, the agency receives Title IIIB funding for elderly transportation.
- Partnership with United Way on behalf of several human service agencies, which provides a portion of local match for transit agency.
- Partnership with local human service agency serving developmental disability clients for medical trips.
- Partnership with local training facility, where transit agency direct bills the organization.
- Two agencies coordinate with human service facilities, but not contract.

Sixteen (76%) of the transit agencies responding to the survey were Medicaid providers, as shown in Figure 23.

Figure 23: Medicaid Provider

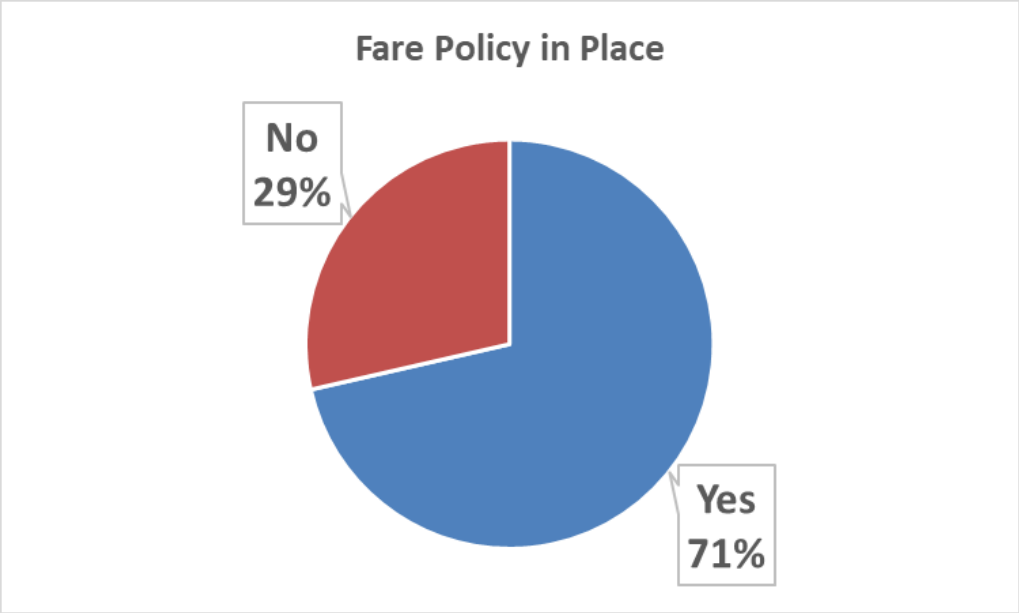


The surrounding state peer agencies coordinate with the local DHHS offices, just as many of the South Dakota providers. The peer agencies typically have reservations made for their clients through the Medicaid broker for specific trip types. For MET in Billings, MT, many clients use the fixed route service and have passes provided by their local DHHS office or program they are associated with, such as job training, low income eligibility, etc. Similar to South Dakota, three of the four peer agencies are Medicaid providers; CATC is not a provider.

6.4.3.3 Agency Fare Policies

Transit agencies were asked if they have an existing fare policy in place today. Figure 24 shows the response that 15 agencies (71%) reported having a policy in place today, with 6 agencies (29%) not having a policy. The surrounding state peer agencies reported three of the four agencies with fare policies. OATS, Inc., the Missouri statewide provider, did not report a fare policy. However, this is also the agency that has donations, unless specifically contracted in other locations.

Figure 24: Fare Policy in Place



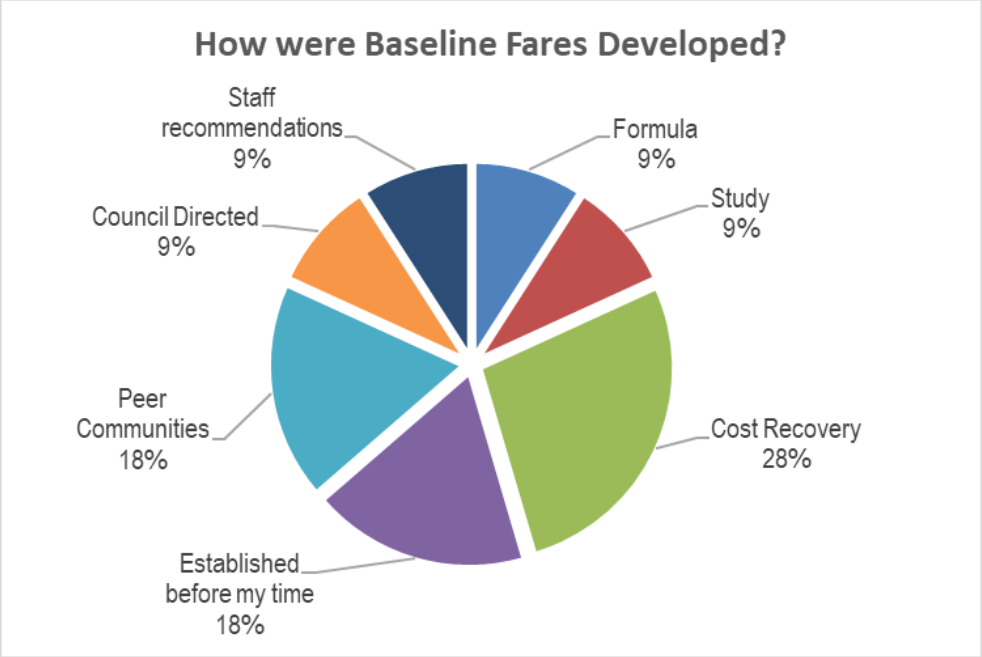
The survey also asked transit agencies how their existing fare structure was developed. Figure 25 shows the most common responses from the agencies, with cost recovery as the most common method (28%) for determining fare rates, followed by peer review of other similar transit agencies (18%) and fare structure was established before my time at the agency (18%). All responding agencies stated the fare structure had final approval from the governing Board, Council, or Commissioners.

The surrounding peer agencies reported the baseline fare structure were established by similar methods as South Dakota:

- Transit Development Plan (study)
- Board directive based upon affordability
- Transit staff recommendations, public review and comment, then City Council approval

Contract baseline fares and rates were developed based upon hourly costs and trip costs for the peer agencies.

Figure 25: How were Baseline Fares Developed?



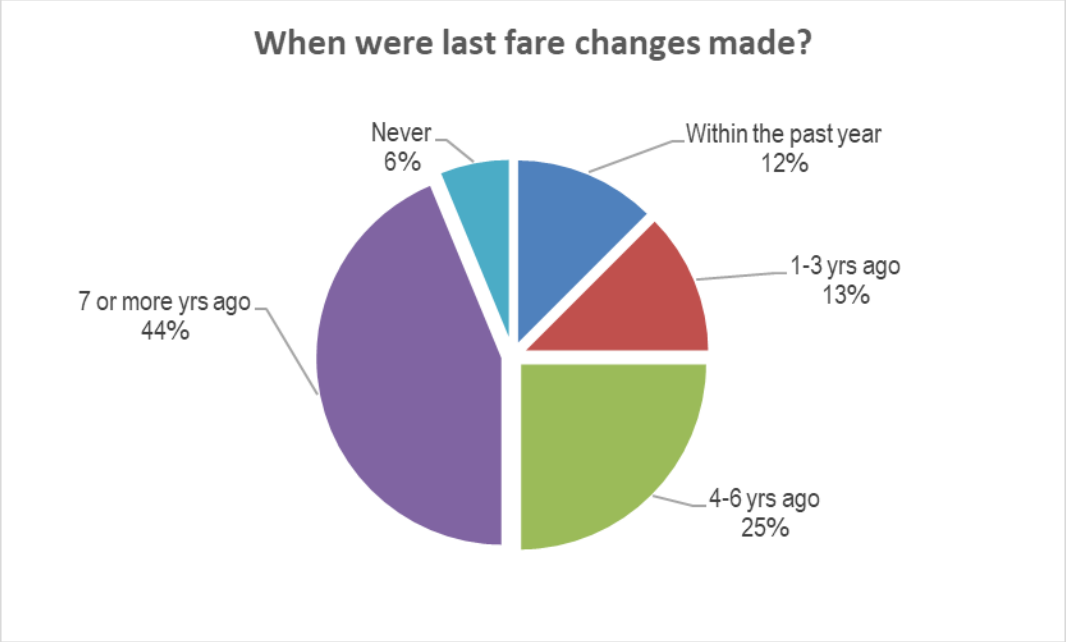
Transit agencies were asked when the last fare changes were made at their agency. Figure 26 shows the summary responses, with more than seven years ago as the most common response (44%). When the economy crashed in 2007 and 2008, fuel costs across the country spiked, in which many transit agencies increased fares to assist with increased revenues. This nationwide trend is also reflected in South Dakota, as shown with these data.

Two agencies changed fares in the past year, and one agency has never changed their fare structure. In addition, agency comments are listed below regarding the fare changes.

- One agency reported increasing fares four years ago due to SDDOT fare recovery requirements.
- One agency reported increasing fares in 2007, but reduced fares the following year due to a significant drop in ridership.
- Several agencies reported increasing fares due to financial shortfalls.

The surrounding peer transit agencies had fare changes within the past four years – 2014, 2015, and 2016. One agency, CATC, has not changed fares since 2005, when the agency moved from demand response only service to route deviation fixed route service. The previous fare change for CATC was in 1982. Thus, for CATC, fare changes and fare elasticity are a highly controversial issue in the Casper community. The fare changes for the other three peer agencies was for cost recovery from staff review of costs.

Figure 26: When were last fare changes made?



The most common processes for making a fare change were by Board direction and by conducting a fare analysis study. Other agencies conducted public surveys and peer analysis with other similar transit agencies across the state. Most agencies conducted public hearings during their fare change process. One agency advertised via social media for 90 days in advance of the change. Another agency sent letters to all riders giving them a 30-day notice prior to the rate change.

6.4.3.4 Fare Collection

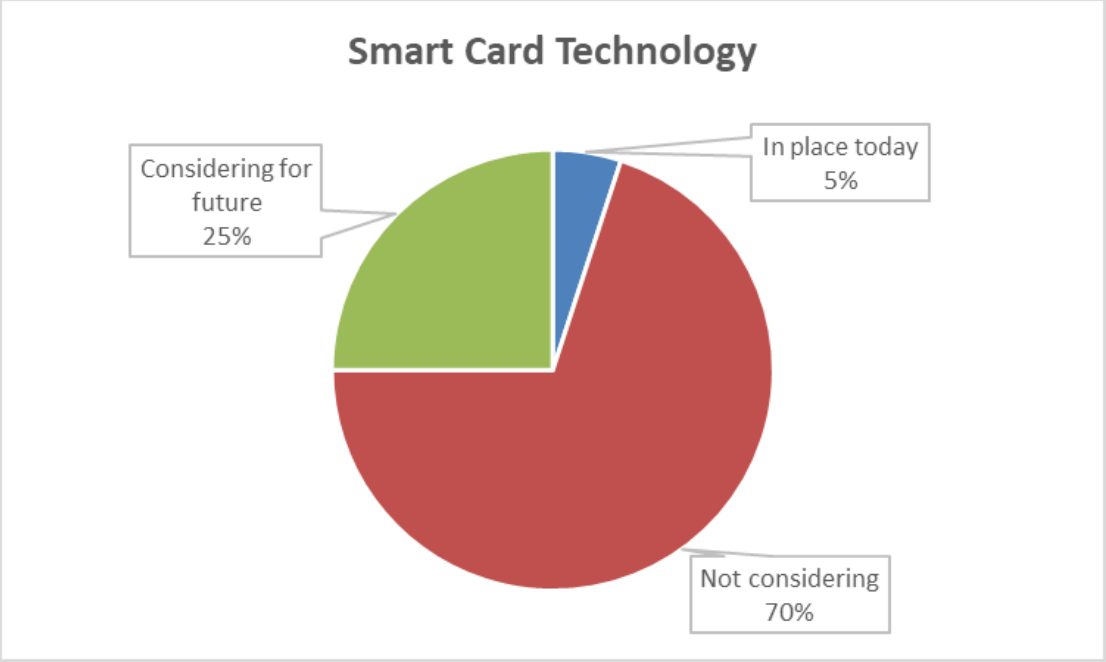
The survey collected responses related to transit agency fare collection procedures. Of the 18 agency responses, 50 percent have fareboxes and 50 percent have money bags. This ratio also speaks to the agencies using software to track ridership and fare media/revenues and those who manually track daily statistics. Most agencies reported daily reconciliation completed at the office after the driver's shift. One agency uses an outside agency for farebox revenue accounting. In addition, all responding transit agencies reported a checks and balances process for counting daily transactions, either through dispatch, supervisors, or management.

The surrounding state peer agencies reported three out of four agencies have fare boxes and software for tracking ridership and one agency with a money bag for each driver with manual documentation for ridership.

Agencies reported whether they have smart card technology in place today or may be considering in the future. One agency uses smart cards today (5%) and another five agencies (25%) are considering smart card technology in the future, as shown in Figure 27. Seventy percent (70%) of the agencies are

not considering smart card technology. None of the surrounding state agencies have smartcards at this time and do not have plans or funding for the advanced technology.

Figure 27: Smart Card Technology



The transit agencies reported where they sell tickets and passes for riders. The most common locations for agencies are at the transit office (43%) and on the bus (30%), as shown in Figure 28. Other outlets include local businesses, online sales, ticket outlets, and at the staffed transit transfer stations. The surrounding state peers use the same locations to sell tickets as the South Dakota agencies – primarily at the transit office or from the drivers.

The survey also requested information from the transit agencies regarding special events or promotions at the transit agency offering free or discounted rides. Figure 29 illustrates responses from the transit agencies, with approximately one-third of the agencies not sponsoring any special events. The most common special event (16%) at several agencies is the Summer Program, where kids ride free or at a discounted amount. Other program events include festivals, town tours, Buy-One-Ticket, Get-One-Free (BOGO), School test trips to acclimate children to riding the bus, Veterans services, United Way Campaign events, Earth Day, Voting Day, and local community events.

The surrounding state peer agencies had one agency provide free rides on one day of the year. The other three agencies did not provide free or discounted transit days.

Figure 28: Ticket Sales

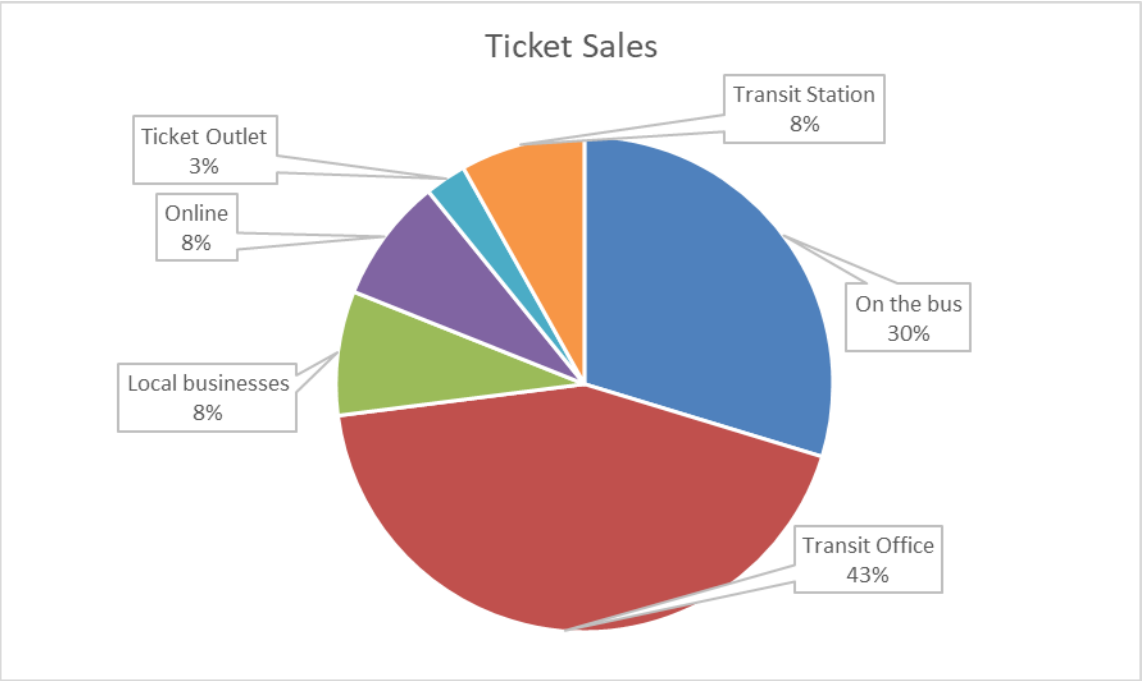
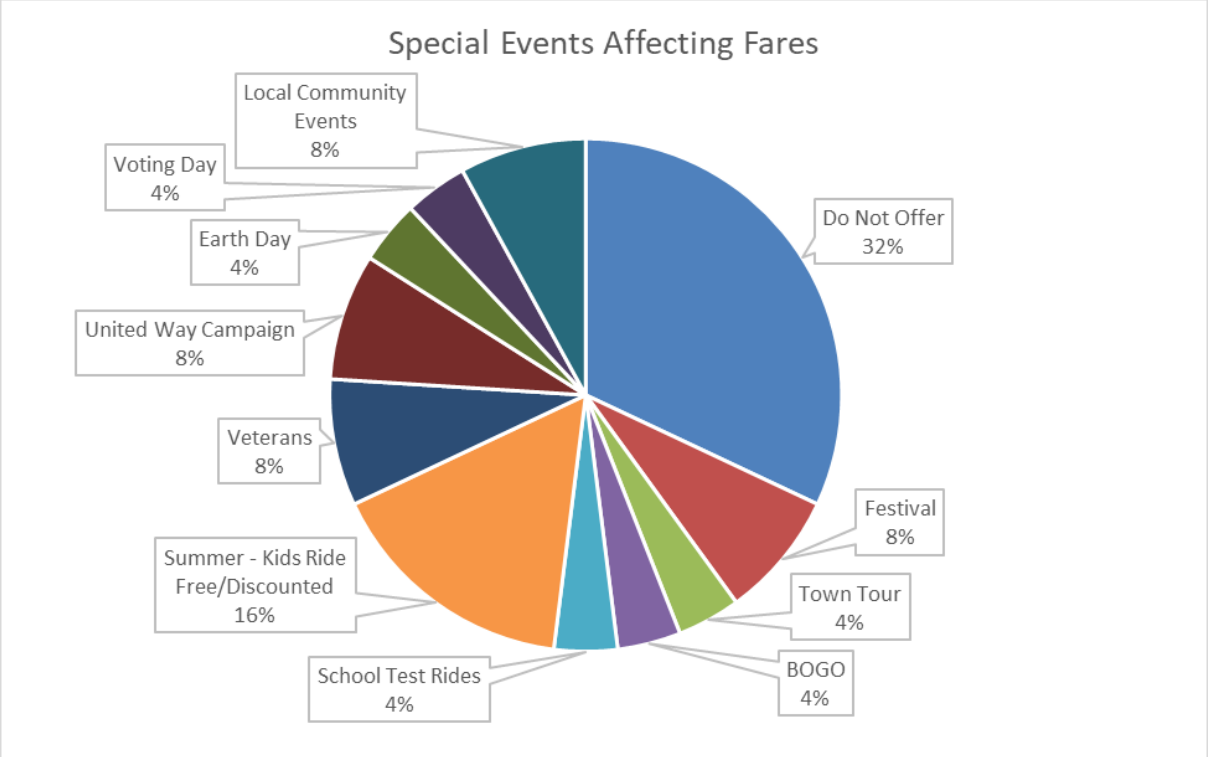


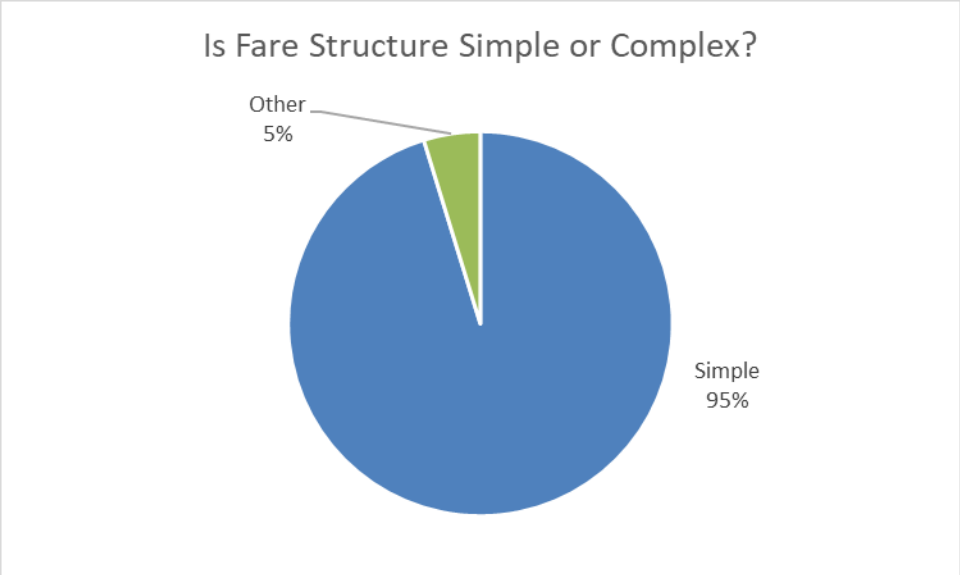
Figure 29: Special Events Affecting Fares



6.4.3.5 Fare Structure Perception

Some transit agencies have a complex fare structure which is difficult to interpret for the everyday rider, who eventually asks the driver or calls dispatch to ask how much the ride is because it is easier. Figure 30 shows 95 percent of the responding agencies believe their fare structure is simple. One agency responded their fare structure is moderately simple, primarily due to the different fares for general public riders verses elderly and for the different fares charged for out of town trips. All four of the surrounding state peer agencies reported their fare structure is simple.

Figure 30: Is Fare Structure Simple or Complex?



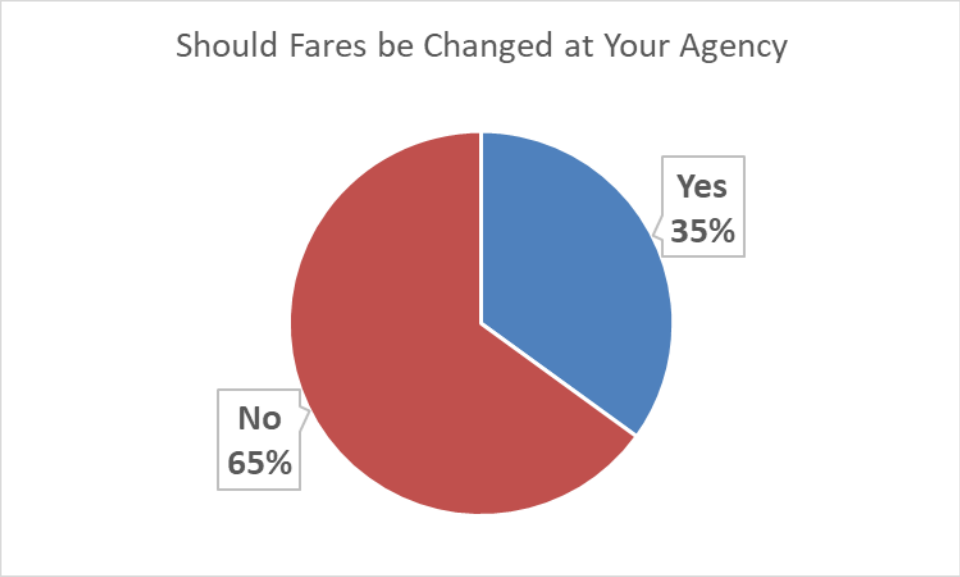
Another survey question asked transit agencies if they believe their local community thinks public transit is expensive to ride. All agencies, except two, believe the perception in their community is transit is NOT expensive to ride. The agencies responding 'Yes' to the transit is expensive perception question believe a segment of the community, the transit dependent riders who are typically low income and may have only one vehicle or no vehicle in the household, do think public transit is expensive. It was commented upon that if the passenger knew the full cost to provide public transit, they would understand.

Two of the surrounding state peer agencies reported their community thinks transit is NOT expensive. OATS, Inc. reported, in general, the rural Missouri community, thinks the public transit service IS expensive. For Valley County Transit in Glasgow, MT, some of the community cannot afford $1.00 per trip, but others think transit is a great deal.

A final question on the survey asked if the fares should be changed at their specific agency. Thirteen (65%) agencies stated the fares do not need to be changed, with 35 percent stating the fares should be changed. This information is shown in Figure 31. None of the surrounding state peer agencies

believe their fares should be changed at this time. This is likely due to recent fare changes within the last four years.

Figure 31: Should Fares be Changed at Your Agency?



6.4.4 Survey Summary of the Peer Agencies

The survey responses from transit agencies across the state and from the surrounding state peer transit agencies provide general insight and several trends related to the fare study.

- The average annual farebox recovery for the state of South Dakota is 12 percent, which is higher than the national transit industry averages reported in the 2017 Rural Transit Fact Book, which is 8 to 9 percent each year. Fixed route systems typically average a slightly higher recovery of 12 percent, while demand response transit systems average 7 percent. The peer state average was lower than South Dakota at eight percent.
- Average peak vehicles in service for the state is 16, which is consistent with the 2017 Rural Transit Fact Book for average fleet size of 16 vehicles for demand response agencies. However, it is recognized that South Dakota has several fixed route systems within the state with more vehicles than the average. The surrounding state peer agencies have a higher peak vehicle count than the South Dakota agencies and the national average for rural agencies.
- Continuing consistency with transit agencies across the US, South Dakota has an average annual passenger/revenue hour of 4.9, which is slightly higher than the national average of 4.8 passengers/revenue hour (includes fixed route and demand response). The surrounding state peer agencies have a slightly higher passenger/revenue hour of 5.5. The 2017 Fact Book reports an average of 11.2 passenger/revenues for fixed route services and 2.6 for demand response agencies.
- The average base fare for South Dakota ranges from $1 to $4 per one-way trip, with the average at $2.07. Nine agencies have the base fare below the average, five agencies have $2.00 for the base fare – near the average, and seven agencies have $2.50 or higher for the

base general public transit fare. The surrounding peer agencies have a lower average base fare of $1.30 than the average South Dakota base fare. The reduced fare for the peer agencies is also slightly lower than South Dakota agencies of $1, with an average of $0.70 per rider.

- Over 70 percent of the South Dakota transit agencies have a fare policy in place today, which is similar to the surrounding state peer transit agencies. Three of the four agencies have an agency policy.
- Approximately 80 percent of the transit agencies used a method for establishing their base fare. These included staff recommendations, council directive, peer community review, cost recovery, formula, or agency study.

6.4.5 State Department of Transportation (DOT) Survey Responses

A short survey was sent to the surrounding state Department of Transportation, Transit Division. Five states responded to the survey. The goal of survey was to determine if different states have more requirements for farebox revenue and base fares than other states. In addition, specific questions regarding human services coordination and funding were asked to DOT staff.

The state DOTs reported a range for the number of transit agencies within its state.

DOT	Transit Agencies Receiving 5310 funds	Transit Agencies Receiving 5311 funds
Iowa	10	24
Montana	n/a	35
Kansas	65	81
Minnesota	124	37
Nebraska	99	57

6.4.5.1 DOT Fare Structure Requirements

The Transit Division DOTs were asked if transit agencies were required to have minimum baseline fare. None of the DOTs require a minimum fare and all responded they follow the Federal Transit Agency guidelines for the 5310, 5311, and Intercity bus services.

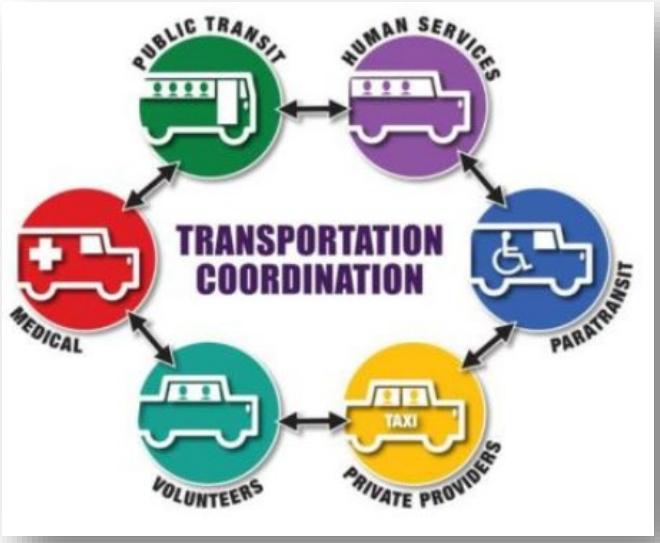
In addition, the state DOTs do not have a minimum farebox recovery ratio. However, three DOTs did state even though there is not a minimum farebox requirement, they do require the transit agencies follow the state statute requiring a specific local match, depending upon transit operations or a capital project.

6.4.5.2 Human Services Coordination

Many communities continue to work towards building a robust transportation network, which includes ways to improve mobility through coordination of public transportation and human service transportation. It is critical to understand there are many programs that provide funding for client

transportation, and the majority of the funding for these services comes from agencies outside the DOT. In addition, it is important to understand these agencies spend a significant amount of funding for client transportation, considerably more than the DOT spends on public transportation. Improving coordination between these programs (agency programs and public transportation) offers the chance to add significant revenue sources to the public transportation system, while improving cost efficiency for the agencies and improving mobility overall. The DOT survey stated four of the five DOTs reported the majority of transit agencies coordinate with human service providers. Nebraska DOT reported approximately 25 percent of the 59 rural transit agencies coordinate. Some of the primary human services programs with a key role in transportation include:

- Medicaid
- Developmental Disabilities
- Department of Aging
- Veterans Services
- Education



At the federal level, executive orders support coordination among the federal funding agencies, which have in turn supported states implementing these programs in their efforts to coordinate. The U.S. Department of Transportation and the Department of Health and Human Services have spearheaded these efforts over the last decade. Federal transportation authorizing legislation provides resources in terms of funding programs, planning requirements, and information on best practices—though no specific requirements for coordination.

At the state level, departments of transportation have generally been the implementing agencies for FTA programs and requirements regarding coordination, so state options for human service coordination can involve making maximum use of current federal support for coordination. The survey asked DOT staff if they have personnel who sit on a Statewide Human Services Transportation Committee. If the DOT Division did, then they were asked to provide details of the goal of the committee and how the committee has helped increase coordination efforts across the state. The individual responses are below.

- MnDOT is the point state agency along with DHS. The committee is to work any and all opportunities to improve collaboration, coordination and/or develop local fiscal partnership to provide more effective and more efficient transportation service (public and human service) throughout the state.
- Nebraska does not have an active statewide committee.
- KDOT reported during the recent update to our Statewide Coordinated Plan, the Transit Division established a steering group made up of transportation and human service

providers. This group will become a standing committee to assist the DOT in identifying opportunities for coordination between transportation and human services.

- Montana DOT does not have an active statewide committee.
- Staff from the Iowa DOT office chair the ITCC (Iowa Transportation Coordination Council). The ITCC has members from several human services organizations.

The next steps of this study will use the above survey data from other transit agencies and states, along with best practices, to assist with future strategies for coordination and potential funding options.

7.0 FARE POLICY FRAMEWORK

Transit agencies who follow a framework and process for setting fare policies typically develop goals for the fare policy to address financial matters (fare levels and revenue), customer relations, and cost control (administrative/ management issues). Fare policies for some agencies must also consider regional transit networks and developing a fare system consistent with existing regional practices, including transfers and fare technology, where applicable. Social equity and environmental justice are also important considerations in establishing fare policies and setting transit fares. Transit agencies typically work hard to offer equitable fares because they recognize riders may have a hard time paying their fares.

7.1 Purpose

The purpose of this Fare Policy Framework is to establish a policy and guidelines for setting and/or restructuring public transit fares for the transit agency. Staff utilize the agency policy to monitor fare collection and to make future decisions about adjusting fares. The policy framework typically includes:

- Fare Policy Goals: describing the overall intent of this policy;
- Fare Payment: including the types of fare media and passes to be used;
- Fare Structure: establishing full fares and discounts for various services and ridership groups;
- Fare Box Return: determines the portion of operating costs to be supported by users of the system;
- Public Notice and Solicitation of Comment: outlining procedures to be used to ensure adequate public input is provided to support decisions regarding fares.

7.2 Framework - Four Step Candidate Process

A series of fundamental and interrelated steps are considered when a transit agency implements or changes a transit fare, as shown in Figure 32. Fare policy framework generally sets the direction for the strategy and fare structure. This process is appropriate for any agency size or under type of organizational management. Issues related to fare policy affect all aspects of public transit, whether the agency is public, private, for-profit, or non-profit. Fare-related decisions have enormous effects on ridership, revenue, the amount of service that can be offered, and community perceptions of public transportation.

Fundamental steps for transit agency fare process include:

1. **Fare Policy** - Implement fare policy to address financial goals, equity, customer relations, cost control. Next steps – develop goals:
   - Achieve farebox recovery ratio ____%
   - Subsidy per passenger trip should not exceed $____

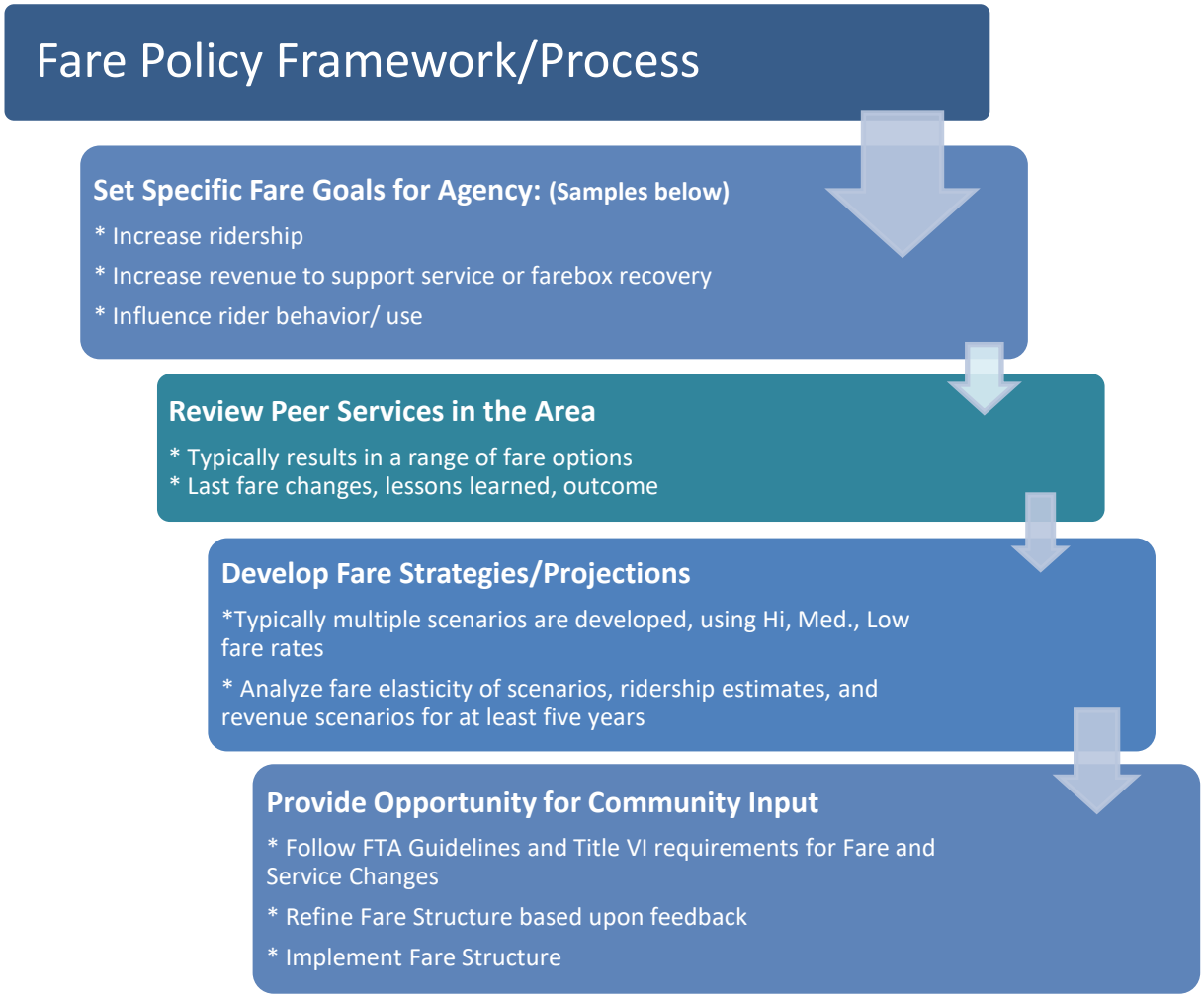
2. **Strategy and Structure**
   - Simple, easy to understand and use for riders and operators
   - Customers' ability to pay – passes, tickets

3. **Payment type/technology**
   - Fare media – cash, tickets, technology-based, tokens

- Technology – smart cards, magnetic strip cards
- Equipment – open/closed systems

4. **Collection**
   - Boarding, controlled access, proof of payment
   - Validation
   - Equipment

Figure 32: Fare Policy Framework



Important considerations in establishing transit policies and fare structure include:

- Social equity
- Environmental Justice

- Consistent with regional transportation goals
- Consistent with other transit agencies

Transit agencies typically offer equitable fares because they recognize riders may have a hard time paying high fares. Environmental justice considerations also address equitable and fair treatment for all segments of the population. For example, should students pay the same fare as adults? If a discount is offered, what is an appropriate student discount? Should college students get the same discount as elementary school students? Should transit agencies consider fare products that are affordable for low-income and transit-dependent passengers? Should special passes be sold in bulk at a discount rate to social service agencies? These are questions all transit agencies will need to address and which will influence the policy decision-making process.

When setting fare levels and increasing fares, it is common for transit agencies to consider the ability of passengers to pay transit fares with special emphasis on low-income riders, students, and seniors. Many transit agencies have a variety of fare instruments and discounted fares to address social equity /justice concerns. Reduced and discounted fares for young children and students (elementary and high school) are offered as well as monthly passes or ticket books sold at discounted prices. To keep costs at a reasonable level for parents traveling with young children, many transit agencies offer free fares for children under five years of age, provided they are traveling with a fare-paying adult.

Many, but not all, transit systems have an established target for achieving the percentage of costs to be recovered by passenger fares. As mentioned in Chapter 3, the standard within the transit industry across the nation for farebox recovery is approximately 10 percent. However, in more urban areas, the ratio ranges between 10 to 30 percent. For paratransit and demand response services, typically agencies have lower passengers per hour, with a range of 5 to 10 percent farebox recovery.

7.3 Example in Action - Framework Process

Putting to test the process discussed above is best shown in a simple example of a typical transit agency considering a fare structure change.

Agency	Existing Fare Structure	Proposed Fare Structure
ABC Transit Agency	Base Fare - $1 Paratransit - $0.50 Monthly Pass - $25	Base Fare - $2 Paratransit - $1.00 Monthly Pass - $30

ABC Transit Agency has had the same fare structure for over 10 years. The Transit Board had recent turnover with two new members who would like to increase the fares. The proposed fares were introduced to the transit manager. Using the framework introduced above, the transit manager begins the steps and will report information back to the Board.

Step 1	**Fare Policy Goals for ABC Transit Agency**	ABC Transit agency has an overall transit systemwide goal to achieve a farebox recovery ratio of 10 percent. Today the agency has a 12% farebox recovery ratio.
Step 2	**Peer Agency Fare Structure**	ABC Transit agency has the same base fare as two of the surrounding counties. One

		other county increased fares two years ago to $1.50 base fare, $0.75 paratransit, and $30 monthly pass.
Feedback	*The two agencies who have not changed fares stated the current riders cannot afford an increased fare. The county with recent changes stated the fares were not liked by the community, but after a while, the grumbling stopped. The change did affect ridership for first few months, then stabilized.*	
Step 3	**Develop Fare Scenarios and Analysis**	At the Board's direction, the scenario was already given to ABC Transit Agency Base Fare - $2 Paratransit - $1.00 Monthly Pass - $30 In addition, ABC Transit Agency reviewed an additional fare structure for comparison.

Results: The following table presents the Step 3 fare structure analysis for Scenario A – Board Recommendations and Scenario B – Alternative Fare Structure.

Scenario A:

- Using the fare structure directed from the Board, ridership is projected to decrease 5,200 annual trips, from 22,000 to 16,800 (-24%).
- Annual revenue is projected to decrease $4,433, from $16,500 to $12,067 (-27%).

Scenario B:

ABC Transit Agency also developed an alternate fare structure with a lower overall percentage of increase than Scenario A. This option used an increase of the base fare from $1 to $1.50; paratransit fare $0.50 to $0.75, and monthly pass the same as Scenario A, from $25 to $30.

- Ridership is projected to decrease 2,867 annual trips, from 22,000 to 19,133 (-13%).
- Annual revenue is projected to decrease $2,350, from $16,500 to $14,150 (-14%).

Scenario A									
Existing Ridership	today	Proposed	% of increase		decrease	Estimated Ridership			
10,000	$ 1.00	$ 2.00	100%		33%	6,667		-33%	
4,000	$ 0.50	$ 1.00	100%		33%	2,667		-33%	
8,000	$ 25.00	$ 30.00	20%		7%	7,467		-7%	
22,000						**16,800**		-24%	5,200
Rule = for each 3% increase = 1% decrease ridership / Simpson-Curtin rule									
Percentage Change = (y2-y1)/y1									
Existing Revenue	today	Proposed	% of increase			Estimated Revenue			
$ 9,700	$ 1.00	$ 2.00	100%		$ 0.97	$ 6,467		-33%	
$ 2,800	$ 0.50	$ 1.00	100%		$ 0.70	$ 1,867		-33%	
$ 4,000	$ 25.00	$ 30.00	20%		$ 0.50	$ 3,733		-7%	
$ 16,500						**$ 12,067**		-27%	$ 4,433
Scenario B									
Existing Ridership	today	Proposed	% of increase		decrease	Estimated Ridership			
10,000	$ 1.00	$ 1.50	50%		17%	8,333		-17%	
4,000	$ 0.50	$ 0.75	50%		17%	3,333		-17%	
8,000	$ 25.00	$ 30.00	20%		7%	7,467		-7%	
22,000						**19,133**		-13%	2,867
Rule = for each 3% increase = 1% decrease ridership / Simpson-Curtin rule									
Percentage Change = (y2-y1)/y1									
Existing Revenue	today	Proposed	% of increase			Estimated Revenue			
$ 9,700	$ 1.00	$ 1.50	50%		$ 0.97	$ 8,083		-17%	
$ 2,800	$ 0.50	$ 0.75	50%		$ 0.70	$ 2,333		-17%	
$ 4,000	$ 25.00	$ 30.00	20%		$ 0.50	$ 3,733		-7%	
$ 16,500						**$ 14,150**		-14%	$ 2,350

The final steps in the Fare Structure Framework process follow the analysis of data. This above sample process used the Simpson-Curtin Rule of Thumb methodology. At larger transit agencies across the country, travel demand modeling is available and used for developing ridership estimates. Travel demand model estimates are based upon demographic data, existing ridership, travel patterns, frequency of service, speed, and other mobility factors.

Step 4	**Agency Decision and Community Feedback**	ABC Transit Manager presented the data to the Board for review and decision. The Board decided to not move ahead with the fare structure rate change at this time, due to the projected high drop in ridership and annual revenue.

If ABC Transit Board would have voted to move ahead with the fare increase, many actions are involved with the decision in this final step, including hosting public meetings to receive feedback on the change in fare and conducting a Title VI equity analysis to evaluate the effects of the fare changes on both minority and low-income populations. The Board must also consider if the fare change is consistent with regional transportation goals and the overall transit agency goals. Other tasks to be completed in Step 4 if a fare change include the change of fare media, marketing materials, program of equipment, and the approved budget to complete the necessary tasks and outreach.

7.4 Framework Candidate Process Summary

The next steps for the fare policy framework are to apply the steps discussed above to South Dakota transit agencies, represented as case studies. The above information and data from the previous peer survey provide the steps to set goals, provide data from other agencies to develop fare structure alternatives, develop projections based upon existing usage, and provide an opportunity for agency and community feedback.

A relationship exists between the amount of government support provided for operating a public transit system and the amount of revenue collected from the actual users of the system. The relationship of subsidy verses user fee varies in each community and is based on policy decisions made by the local governing board. This relationship is measured by comparing the revenue collected from the fare box relative to the operating expenditures of the system.

The goal of the Policy Framework and process is to identify a prudent balance between the various factors influencing public transit. The process is intended to support the transit agency mission to identify and safely meet the mobility needs in the community with a courteous, dependable and environmentally sound commitment to quality service.

The nature of the Policy Framework is to develop a Fare Structure that balances affordability for transit customers with the need to generate sufficient fare revenue to help maintain and expand transit operations. Any future fare strategies considered in the next steps for case studies must meet the financial and administrative goals of the case study agency.

8.0 CASE STUDY CANDIDATES

8.1 Candidate Methodology and Selection

The case study analysis provided an opportunity to demonstrate fare strategies and different policies identified within the literature review, best practices, and with other peer transit agencies. The evaluation of the case studies includes the feasibility of fare modifications at the agency, the challenges associated with modifications, and applicability of the framework process. Three case studies were conducted representing different size operations and location of transit agencies in South Dakota.

- Case Study 1: Rural transit agency with nine or fewer vehicles
- Case Study 2: Rural transit agency with 10 or more vehicles
- Case Study 3: Urban transit agency

The different types of transit agency, size, and location have a variety of service modes, employees, service areas, political board representatives, internal policies, etc. The different agencies provided an opportunity to apply the fare structure framework to varying levels of transit service. The three case study agencies included:

- **Vermillion Public Transit – Case Study 1** – VPT operates service in Vermillion and the surrounding area. The agency is housed within Sesdac, a non-profit organization founded to support families and persons with disabilities. Hours of operation are Monday through Friday: 7:30a-10:00p; Saturday: 9:00a to 7:00p; and Sunday: 9:00a to 2:00p. Approximately 60,000 annual one-way trips are provided by the agency.

- **River Cities Public Transit – Case Study 2** – is operated by a private non-project agency, Community Coordinated Transportation System, and provides transit service to 13 counties. The agency was established in 2001, is headquartered in Pierre, and provided approximately 360,000 annual one-way trips in 2017.

- **Sioux Area Metro (SAM) – Case Study 3** – operates under the auspices of City of Sioux Falls and provides 13 fixed routes and paratransit service in the urban area. The agency provides approximately 900,000 annual one-way trips within the community.

Throughout the case study development, the fare policy framework was discussed to review realistic processes involved at each agency in relation to the different identified steps. The Information below was collected from each of the case study transit agencies.

- Fare Structure – all fares, passes, tokens, etc. offered today
- Previous changes to your fares – when, outcome of the change: ridership, revenues, community acceptance/perception
- Existing fare policy
- Ridership and revenue by service type and fare type
- Potential service changes – in the near future and over next three years

The above questions assisted in the development of the proposed fare structure changes for each agency. In two cases, VPT and RCPT, were underway with the implementation of modifying fares, in which the proposed fares were incorporated into the case study analysis. The following sections

identify the feasibility of implementing the proposed fares, challenges, and applicability to the local communities.

9.0 VERMILLION PUBLIC TRANSIT – Case Study 1

9.1 Agency Characteristics

Vermillion Public Transit provides demand response service seven days per week in Vermillion and the surrounding areas of Burbank and Meckling within a 7-mile radius. VPT provides same day trips for all age groups from preschool to elderly residents and visitors. The National Transit Database (2016) reported the agency operates 5 peak vehicles, with 9,427 annual revenue hours, and has an operating budget of approximately $417,000. The agency has a farebox recovery of 8 percent ($34,168). The annual cost per hour for providing service is $44.19. The 2017 NTD data was not released at the time of this printing; however, the SDDOT Annual Transit Report stated 2017 ridership at 67,180 annual trips, 8,738 annual revenue hours, and a total budget of $400,324.

9.2 Existing Transit Fares

VPT has a variety of fares available to the community. The fares for in-town services have not been changed in over 10 years, in which VPT reports the agency did experience a ridership decline due to the rate increase at that time. When the agency implemented the VIP Pass with unlimited monthly rides, the ridership and revenue increased for VPT. Figure 33 shows the existing fare structure.

Figure 33: VPT May 2019 Fare Structure

May 2019 Existing Fare Structure	
Cash Fares – in town	$2.50 per one-way trip. Additional fare beyond city limits
VIP Pass – Monthly pass	$50 per month
Jr. VIP Pass – Semester pass	$75 – for age 4 and under. Unlimited rides.
Ticket	$50.00 – 20 one-way trips. VPT prepaid punch card for travel w/in city limits. No expiration.
Out of town Trips (2.1 – 5 miles)	$3.50
Out of town Trips (5.1-10 miles)	$7.50
Medicaid trips	Billed to Medicaid with approval
Summer Pass	$75 – age 13 and under. Unlimited rides.
Sioux Fall - Out of Town	M, W, F = $25; T / Th = $60

The agency provides contracted service to the University for Safe Ride transportation during the late evenings and weekends. In addition, they also have a contract for TANF-eligible residents. VPT tracks ridership by fare category, shown below in Figure 34.

Figure 34: VPT Ridership by Fare Category

Fare Category	One-way trips	
Care Attendant - no fee	2	0%
Medicaid	892	2%
Safe Ride - University contract	9,027	15%
Self - Cash	4,669	8%
Semester Pass	1,062	2%
SESDAC - Agency paid trip	28,440	48%
Summer Pass	1,727	3%
TANF - contract service	422	1%
Ticket	3,076	5%
VIP Pass	3,670	6%
Welcome Table - no fee	423	1%
Voc Rehab	117	0%
Walk-on Rides	5,888	10%
	59,415	

Approximately 50 percent of the total trips for the agency are funded by SESDAC, the parent agency who pays for SESDAC approved client trips. The Safe Ride contract has the second highest ridership with 15 percent of the total ridership. The agency also tracks data for trip purpose, shown in Figure 35. Over 50 percent of the total annual trips are for employment. The second highest category for trip purpose is for shopping/personal trips at 31 percent.

Figure 35: VPT Ridership by Trip Purpose

Trip Purpose	One-way trips	
Education	1,708	3%
Medical	3,219	5%
Nutrition	407	1%
Social/Recreational	5,392	9%
Shopping/Personal	18,632	31%
Employment	30,057	51%
	59,415	

9.2.1 Proposed Fare Modifications and Policy Changes

Ten years ago, local city officials in Vermillion prompted the fare modification change. The proposed changes for June 2019 were prompted by new company leadership and as mentioned previously, the in-town rates have been in place for over 10 years. VPT plans to implement new rates and polices on June 1, 2019. Over the past nine months, VPT reviewed ridership and revenue data for the recent years to analyze ridership activity, both increases and decreases. VPT also researched neighboring transit agencies to compare existing fare infrastructure. VPT hopes to work with a neighboring county and mirrored the new out of town proposed rates for coordination simplicity.

Proposed VPT policy changes include enforcing the no-show policy by charging a $2.50 fee per trip. One other major change includes Sesdac-eligible clients, who currently have all trips paid for, will

after June 1, 2019, only have only medical and program-related trips funded. All other trips will be the responsibility of the rider. Sesdac funded trips are approximately half of the total ridership. Therefore, this change will impact the agency likely more than some of the fare changes discussed in the following paragraph. The proposed VPT fare rate changes for June 1, 2019 are shown below in Figure 36.

Figure 36: VPT June 2019 Fare Structure

					Ridership Loss
	May-19	Jun-19	% change		3% incr = 1% decr
Cash Fares – in town next day	$ 2.50	$ 2.50	0%		0%
Cash Fares – in town same day	$ 2.50	$ 5.00	100%		-33%
VIP Pass – Monthly pass	$ 50.00	$ 70.00	40%		-13%
Jr. VIP Pass – Semester pass	$ 75.00	$ 90.00	20%		-7%
Ticket	$ 50.00	$ 50.00	0%		0%
Out of town Trips (2.1 – 5 miles)*	$ 3.50	$ 5.13	46%		-15%
Out of town Trips (5.1-10 miles)*	$ 7.50	$ 8.13	8%		-3%
Medicaid trips	Billed		n/a		n/a
Summer Pass	$ 75.00	$ 90.00	20%		-7%
Sioux Fall - Out of Town	M,W,F = $25				
	T / Th = $60				
Sioux Falls - 1 rider	$ 60.00	$ 100.00	67%		-22%
Sioux Falls - 2 riders		$ 80.00			
Sioux Falls - 3 riders		$ 60.00			
Sioux Falls - 4+ riders		$ 40.00			
Elk Point - 1 rider		$ 30.00			
Elk Point - 2 riders		$ 24.00			
Elk Point - 3 riders		$ 18.00			
Elk Point - 4+ riders		$ 12.00			
Yankton - 1 rider		$ 45.00			
Yankton - 2 riders		$ 36.00			
Yankton - 3 riders		$ 27.00			
Yankton - 4+ riders		$ 18.00			
Dakota Dunes - 1 rider		$ 60.00			
Dakota Dunes - 2 riders		$ 48.00			
Dakota Dunes - 3 riders		$ 36.00			
Dakota Dunes - 4+ riders		$ 24.00			
			Average % Loss		-11%
* Average fare					

For June 2019, the out of town rates in the past were based upon a range of miles. The new rates are based on a per mile rate chart, shown to the right. Figure 36, on the previous page, uses an average rate for the two Out of Town trip types.

Current Rate		
distance	Fare	Round trip
in-town	$ 2.50	$ 5.00
1 mile	$ 3.25	$ 6.50
2	$ 4.00	$ 8.00
3	$ 4.75	$ 9.50
4	$ 5.50	$ 11.00
5	$ 6.25	$ 12.50
6	$ 7.00	$ 14.00
7	$ 7.75	$ 15.50
8	$ 8.50	$ 17.00
9	$ 9.25	$ 18.50
10	$ 10.00	$ 20.00
11	$ 10.75	$ 21.50
12	$ 11.50	$ 23.00
13	$ 12.25	$ 24.50
14	$ 13.00	$ 26.00
15	$ 13.75	$ 27.50
16	$ 14.50	$ 29.00
17	$ 15.25	$ 30.50
18	$ 16.00	$ 32.00
19	$ 16.75	$ 33.50
20	$ 17.50	$ 35.00
21	$ 18.25	$ 36.50
22	$ 19.00	$ 38.00
23	$ 19.75	$ 39.50
24	$ 20.50	$ 41.00
25	$ 21.25	$ 42.50
26	$ 22.00	$ 44.00
27	$ 22.75	$ 45.50
28	$ 23.50	$ 47.00
29	$ 24.25	$ 48.50
30	$ 25.00	$ 50.00
31	$ 25.75	$ 51.50
32	$ 26.50	$ 53.00
33	$ 27.25	$ 54.50
34	$ 28.00	$ 56.00
35	$ 28.75	$ 57.50
36	$ 29.50	$ 59.00
37	$ 30.25	$ 60.50
38	$ 31.00	$ 62.00
39	$ 31.75	$ 63.50
40	$ 32.50	$ 65.00
41	$ 33.25	$ 66.50
42	$ 34.00	$ 68.00
43	$ 34.75	$ 69.50
44	$ 35.50	$ 71.00
45	$ 36.25	$ 72.50
46	$ 37.00	$ 74.00
47	$ 37.75	$ 75.50
48	$ 38.50	$ 77.00
49	$ 39.25	$ 78.50
50	$ 40.00	$ 80.00

9.3 Agency Impacts

The information above shows a comparison of today's rates with the rates to be implemented on June 1, 2019. In addition to the proposed June 1, 2019 fares, the table also shows ridership impacts using a general elasticity model.

The elasticity model used for the above assumptions is the Simpson-Curtin rule – for every 3% fare increase, ridership will be reduced by 1%. This methodology is a general rule of thumb used by many transit planning agencies across the nation for short-term projections. For communities with travel demand models, more exact future estimates would be available for ridership and revenue projections. Transit ridership response to fare changes varies considerably based on individual circumstances; however, using an average method shows there is sensitivity in the elasticity model.

The average percent of VPT ridership loss is anticipated to be 11 percent for the initial 1-2 years after the fare change. The ridership loss will likely range from 6,500 to 7,400 trips annually. This decrease will not likely continue past the short-term due to the number of VPT riders who are transit-dependent.

The most significant change in VPT trip fares is for the 'In town, Same Day' fare changing from $2.50 per trip to $5.00 per trip, and for all 'Out of town' trips. From a minimum of a 8 percent increase for the 5.1-10 mile trips outside city limits from $7.50 to $8.13 (average fare based upon new trip rate sheet) to trips to Sioux Falls changing from $60 to $100 per trip.

VPT has experienced increased demand for same day trips over the past few years. By implementing an increased same-day trip rate, the agency expects the same day trips to decrease and for the scheduled trips to increase, which allows the agency to maximize use of the scheduling software. The agency is also experiencing an overall increased demand for trips.

As mentioned above, the 'Out of town' trips will have significant fare changes on June 1, 2019.

- **Vermillion to/from Sioux Falls** – the route is approximately 60 miles one-way. The time to drive in a bus with stops is likely 75 minutes. After June 1, 2019, the fare for 1-rider will be $100. Assuming the driver and vehicle stay in Sioux Falls for the duration of the trip for a full day of six hours, the total trip cost

for the day would be approximately $270. (6 hrs x $45 operating cost per revenue hour). The new fare covers one-third of the full cost. This cost recovery (farebox recovery) per trip is much higher than the average for the agency at just under 10 percent. The existing rate covers approximately 22 percent of the total cost in this scenario.

- **Vermillion to/from Elk Point** - the route is approximately 18 miles one-way. The time to drive in a bus with stops is likely 25 minutes. After June 1, 2019, the fare for 1-rider will be $30. Assuming the driver and vehicle drop the passenger and return to Vermillion for a one hour trip time, the total trip cost for the one hour would be approximately $45. (1 hr x $45 operating cost per revenue hour). The new fare covers 67 percent of the full cost. This cost recovery (farebox recovery) per trip is much higher than the average for the agency at just under 10 percent.

- **Vermillion to/from Yankton** - the route is just under 30 miles one-way. The time to drive in a bus with stops is likely 35 minutes. After June 1, 2019, the fare for 1-rider will be $45. Assuming the driver and vehicle drop the passenger and return to Vermillion for a 1.5 hour total trip time, the total trip cost would be approximately $68. (1.5 hr x $45 operating cost per revenue hour). The new fare covers 67 percent of the full cost. This cost recovery (farebox recovery) per trip is much higher than the average for the agency at just under 10 percent.

- **Vermillion to/from Dakota Dunes** - the route is approximately 40 miles one-way. The time to drive in a bus with stops is likely 55 minutes. After June 1, 2019, the fare for 1-rider will be $60. Assuming the driver and vehicle drop the passenger and return to Vermillion for a two hour total trip time, the total trip cost would be approximately $90. (2 hrs x $45 operating cost per revenue hour). The new fare covers 67 percent of the full cost. This cost recovery (farebox recovery) per trip is much higher than the average for the agency at just under 10 percent.

9.4 Fare Modification Framework Summary

Figure 37 includes a summary of specific agency data occurring throughout the duration of the fare change process.

Figure 37: Framework Summary

1	Does the agency have existing Fare Policy goal at the agency?	VPT does not have a specific fare policy, but knows the agency has approximately 10 percent farebox recovery.
2	Did the agency develop a fare policy goal for the upcoming changes?	VPT does not have a fare policy goal for the new proposed fares.
3	What is the strategy and structure for upcoming changes?	A change in company leadership prompted the fare change for June 2019 with the strategy to increase local funds to assist in

		increasing operating costs. Local officials prompted the fare change 10 years ago.
4	Did the agency review peer agency fares in the proposed new fares?	Yes. For future coordination, fares were mirrored from neighboring transit agency for out-of-town trips.
5	When did the agency last change its fares?	Over 10 years ago.
6	Were multiple fare scenarios developed for consideration of the new proposed fares?	Multiple fare scenarios were developed internally and narrowed to the final proposed fares.
7	Did the agency analyze the change in ridership and revenues estimates for the upcoming changes?	The agency reviewed internally.
8	Is the agency aware of the Federal Transit Administration Guidelines and the Title VI requirements for Fare and Service Changes? Did the agency document the analysis?	Yes. The agency is aware of the Title VI FTA Requirements for agencies with over 50 peak vehicles in urban areas over 200,000 population. The agency reviewed the fare increase changes and understands several of the changes are major fare changes. Internal documentation was prepared for analysis.
9	How was the community notified about the proposed changes?	VPT prepared and distributed flyers with the upcoming changes and reasons for the change. The information was presented to staff, the Advisory Board, and the Governing Board. In addition, an Open House was held and the information was presented during transit promotional week. Online social media is also being used for notifications.
10	Did the agency document and incorporate community feedback into the proposed new fares?	Yes. Feedback was documented and incorporated, as appropriate.
11	Did the agency consider payment type/technology changes to accompany the new fares?	Yes. No new fare equipment is needed for the new fares. New flyers, website updates, and ongoing communication is part of the outreach.
12	What collection implications will be involved with the upcoming changes?	No changes needed for new fares.

VPT began their fare infrastructure modification process prior to the completion of this study. VPT management have implemented fare changes in the past and were fairly comfortable with the process. The case study evaluation summary is shown below.

- Feasibility of fare modification (1 = not feasible to 5 very feasible rating) = 5 score. Very feasible and will be implemented on June 1, 2019.
- Challenges associated with modifications
    - Change is hard on everyone – riders, drivers, staff, local officials, etc.
    - Policy change from lead agency for clients will be difficult for many. Also, many have limited transportation options and have fixed income
    - Communicating with community true costs of transit
    - Testing rates for Out-of-town trips
    - Risk in losing ridership
- Applicability of the framework process
    - Good for review of steps and proper flow of information following federal regulations
    - Provides thoroughness of steps involved in changing fares
    - Appropriate for all size agencies

10.0 RIVER CITY PUBLIC TRANSIT – Case Study 2

10.1 Agency Characteristics

River City Public Transit (RCPT) is a leading transit agency in the state incorporating coordination of services from inception. RCPT coordinates transportation for many agencies and businesses in the Pierre – Fort Pierre area. The agency is also a Medicaid licensed transportation provider. RCPT provides transit service to several smaller communities in Central South Dakota and employment transportation to/from the Pierre area. Operating hours vary for the agency depending upon which community – some are peak hour only, others have service 24 hours per day, 7 days a week. The agency provided approximately 360,000 annual one-way trips in 2017, with 71,555 annual revenue hours, and an operating budget of $3.2M. The agency has a farebox recovery of 15 percent ($504,194). The annual cost per hour for providing service is $46.57.

10.2 Existing Transit Fares

RCPT has a variety of fares available to the community. On January 2, 2019, RCPT implemented a new fare structure, in which the majority of fare rates had not been changed since 1998. For the purposes of this Case Study, the 2018 fares will be compared to the new rates which began in Jan 2019.

The 2018 fare structure is shown below in Figure 38.

Figure 38: RCPT 2018 Fare Structure

2018 Fare Structure	
Elderly	Donation
Youth	$1.00
General Public	$1.55
Same Day Rides	$5.00

The agency has many contracted service agreements with area assisted living facilities, schools, tribal agencies, city of Sioux Falls, and community programs. RCPT tracks ridership by fare category, which is shown in Figure 39. The general public make up approximately 38 percent of the total RCPT ridership, followed by Youth at 33 percent, disabled riders at 21 percent, and elderly passengers represent 8 percent of total transit trips.

Figure 39: RCPT Ridership by Fare Category

General Public	138,148	38%
Elderly	28,322	8%
Youth	118,751	33%
Disabled	75,826	21%
	361,047	

The agency also tracks data for trip purpose, as shown below in Figure 40. Social trips are 35 percent of the total ridership, followed closely Education trips at 34 percent, and employment trips at 17 percent.

Figure 40: RCPT Ridership by Trip Purpose

Trip Purpose	One-way trips	
Medical	25,540	7%
Employment	62,435	17%
Nutrition	1,754	0%
Social	128,048	35%
Education	121,108	34%
Shopping	18,881	5%
Other	3,281	1%
	361,047	

10.3 January 2019 Fare Changes

In 2018, RCPT began looking for methods to recoup increasing operating costs and budget shortfalls. The agency staff reviewed data and routes over the past nine months to implement the change in January 2019. RCPT reviewed ridership and revenue data for the recent years to analyze ridership activity, both increases and decreases. RCPT also researched neighboring transit agencies to compare existing fare infrastructure. The January 2019 fare rate changes are shown below in Figure 41.

Figure 41: January 2019 RCPT New Fares

				Ridership Loss
	2018	2019**	% change	3% incr = 1% decr
Elderly	Donation*	$ 2.00	100%	-33%
Youth	$ 1.00	$ 2.00	100%	-33%
General Public	$ 1.55	$ 2.00	29%	-10%
Same Day Rides	$ 5.00	$ 6.00	20%	-7%
*Avg $1.00 Donation Assumed			Average % Loss	-21%
**Base fare + mileage cost				

Specific details for each of the 2019 fare categories follows.

- General Public Prescheduled Rides
    - $2.00 flat pickup rate
        - Up to 10 miles + $0.25 per mile
        - Over 10 miles +$0.75 per mile
    - $2.00 per additional passenger going to same location (age 4 yrs and up)
    - Children 3 and under ride free with an adult

- Youth and Senior Preschedule Rides
    - $2.00 flat pickup rate
        - Over 10 miles +$0.25 per mile
    - $2.00 per additional passenger going to same location (age 4 yrs and up)
    - Children 3 and under ride free with an adult

- Same Day Rides
    - $6.00 flat pickup rate
        - Up to 10 miles + $0.50 per mile
        - Over 10 miles +$1.50 per mile
        - $6.00 per additional passenger going to same location
        - $2.00 per additional child passenger going to the same location (Age 4-18yrs)
        - Children 3 and under ride free with an adult
    - $6.00 flat pickup rate under 10 miles between the hours of 11:00pm and 5:00 am

10.4 Agency Impacts

The information above shows a comparison of the 2018 rates with the rates implemented on January 2, 2019. In addition to the 2019 fares, the table also shows ridership impacts using a general elasticity model.

The elasticity model used for the above assumptions is the Simpson-Curtin rule – for every 3% fare increase, ridership will be reduced by 1%. This methodology is a general rule of thumb used by many transit planning agencies across the nation for short-term projections. For communities with travel demand models, more exact future estimates would be available for ridership and revenue projections. Transit ridership response to fare changes varies considerably based on individual circumstances; however, using an average method shows there is sensitivity in the elasticity model. The average percent of RCPT ridership loss is anticipated to be 21 percent for the initial 1-2 years after the fare change. The ridership loss will be approximately 75,000 trips annually. This decrease will not likely continue past the short-term due to the number of RCPT riders who are transit-dependent.

The most significant change in RCPT trip fares is for the elderly and youth fares changing from $1.00 per trip to $2.00 per trip. The new elderly fare is $2.00. It is assumed the previous average donation for elderly trips was $1.00. From a minimum of a 20 percent increase for the Same Day Rides to the 100 percent increase for the elderly and youth trips.

The 2019 first quarter (January – April 2019) RCPT ridership data provides a comparison for the actual RCPT system performance with the above elasticity model results.

Ridership	2017	2019 Actuals	Difference
1Q data	120,349	108,749	-11,600
Annual	361,047	326,247	-34,800
Avg Mth	30,087	27,187	-2,900
Percent Change		-10%	

As shown above, RCPT is showing a ridership impact of 10 percent less riders during the 2019 first quarter than reported data for 2017. This percentage is much lower than the projected -21 percent ridership loss from the elasticity model, which is good news for the agency. These initial data are looking favorable for RCPT to have ridership loss in year 1-2, but likely to stabilize after the short-term timeframe after the rate changes were implemented. As the service continues in 2019, the ridership data should continue to be monitored. At the end of 2019, RCPT will determine an overall average annual impact with the fare infrastructure increases. These data from 2019 and from 2020

will be valuable to determine future ridership impact percentages. When an agency has actual performance data, it should be used for forecasting versus modeling when the next fare change/modification is proposed in the future.
RCPT has experienced increased overall demand and operating costs over the past few years. By increasing the fares, the additional fare revenue will assist in funding the increased costs.

10.5 Fare Modification Framework Summary

Figure 42 includes a summary of specific agency data occurring throughout the duration of the fare change process.

Figure 42: RCPT Framework Summary

1	Does the agency have existing Fare Policy goal at the agency?	RCPT does not have a specific fare policy, but knows the agency has approximately 15 percent farebox recovery annually.
2	Did the agency develop a fare policy goal for the upcoming changes?	RCPT did not have a fare policy goal for the 2019 fares. However, the agency reviewed past revenues and ridership to determine 2019 rates.
3	What is the strategy and structure for upcoming changes?	RCPT knew of increasing operating costs. The fare increase will assist in offsetting costs.
4	Did the agency review peer agency fares in the proposed new fares?	Yes. For continued coordination, fares were reviewed from around the state to develop the 2019 rates.
5	When did the agency last change its fares?	1998
6	Were multiple fare scenarios developed for consideration of the new proposed fares?	Multiple fare scenarios were developed internally and narrowed to the final proposed 2019 fares.
7	Did the agency analyze the change in ridership and revenues estimates for the upcoming changes?	The agency reviewed internally.

8	Is the agency aware of the Federal Transit Administration Guidelines and the Title VI requirements for Fare and Service Changes? Did the agency document the analysis?	Yes. The agency is aware of the Title VI FTA Requirements for agencies with over 50 peak vehicles in urban areas over 200,000 population. The agency reviewed the fare increase changes and understands several of the changes are major fare changes. Internal documentation was prepared for analysis.
9	How was the community notified about the proposed changes?	RCPT prepared and distributed flyers with the upcoming changes and reasons for the change. Online social media was also used for notifications.
10	Did the agency document and incorporate community feedback into the proposed new fares?	Yes. Feedback was documented and incorporated, as appropriate.
11	Did the agency consider payment type/technology changes to accompany the new fares?	Yes. No new fare equipment is needed for the new fares. New flyers, website updates, and ongoing communication is part of the outreach.
12	What collection implications will be involved with the upcoming changes?	No changes needed for new fares, only updated online and hardcopy information.

RCPT began their fare infrastructure modification process prior to the completion of this study. The case study evaluation summary is shown below.

- Feasibility of fare modification (1 = not feasible to 5 = very feasible rating) = 5 score. Very feasible and 2019 fares were implemented as of January 2, 2019.
- Challenges associated with modifications
    - Change is hard on everyone – riders, drivers, staff, local officials, etc.
    - Communicating with community true costs of transit
    - Implementing base fare + mileage is a complex fare
    - Risk in losing ridership
- Applicability of the framework process
    - Good for review of steps and proper flow of information following federal regulations
    - Provides thoroughness of steps involved in changing fares
    - Appropriate for all size agencies

11.0 SIOUX AREA METRO (SAM) – Case Study 3

11.1 Agency Characteristics

Sioux Area Metro (SAM) operates 12 local fixed routes and paratransit service within the city of Sioux Falls. Service is provided six days a week with reduced service on Saturday. Service on Sundays and major holidays is not provided. SAM operates 22 peak fixed route vehicles and 20 paratransit vehicles. The National Transit Database (2017) reported the agency operated 108,620 annual revenue hours, provided 894,836 annual one-way trips, and has an annual operating budget of $8,176,000. The agency has a farebox recovery of 8 percent ($691,262). The annual cost per hour for providing service is $75.27.

11.2 Existing Transit Fares

SAM has many types of fare media available to the community. The SAM fares were last modified in 2015. Prior to that time, the fares had not been changed for 19 years. The existing fare structure is shown in Figure 43 below.

Figure 43: SAM Current Fare Structure

Fare Category	Today
Base Fare	$ 1.50
Elderly, Disabled, Children	$ 0.75
Day Pass	$ 3.00
Day Pass - 65+, disabled	$ 1.50
7-Day Pass	$ 12.50
7-Day Pass - 65+, disabled	$ 6.25
30-Day Pass	$ 30.00
30-Day Pass - 65+, disabled	$ 15.00
10-Ride Pass	$ 10.50
Freedom Youth Pass	Free
Children < 5yrs	Free
Eligible Veterans	Free
Paratransit	$ 2.50
College Pass	$ 0.85
10-Yr Pass	$ 3,600

The College Pass allows student/staff with appropriate IDs to ride unlimited trips. SAM and the college have an approved contract based upon the previous semester's ridership, with a minimum of 500 one-way trips.

SAM annual ticket sales are shown in Figure 44. Advance ticket sales are not included in the data, but the information provides a good snapshot of what categories are highly used and where strong revenue is generated for existing services.

Figure 44: SAM Annual Ticket Sales

Fare Category	Today	# Annual Tickets	% of Total Tickets	Annual Revenue	% of Annual Farebox
Base Fare	$ 1.50	2,750	12%	$ 4,125	1%
Elderly, Disabled, Children	$ 0.75	1,243	5%	$ 932	0%
Day Pass	$ 3.00	5,378	23%	$ 16,134	6%
Day Pass - 65+, disabled	$ 1.50	1,355	6%	$ 2,033	1%
7-Day Pass	$ 12.50	594	3%	$ 7,425	3%
7-Day Pass - 65+, disabled	$ 6.25	77	0%	$ 481	0%
30-Day Pass	$ 30.00	5,439	23%	$ 163,170	56%
30-Day Pass - 65+, disabled	$ 15.00	5,942	25%	$ 89,130	31%
10-Ride Pass	$ 10.50	636	3%	$ 6,678	2%
		23,414		$ 290,108	

The highest sold ticket category (25% of all annual tickets) for SAM is the 30-day pass for persons over age 65 and/or disabled riders. The second two most sold ticket categories for SAM are the Day Pass and the 30-Day Pass, with 23 percent for both categories of total ticket sales. These data for sales indicate consistent regular passengers for SAM services who maximize the passes offered for the city services. The highest revenue fare category with over half of ticket revenues ($163,170 – 56%) is for the 30-Day Pass at $30 per month. The next highest revenue fare category is for the 30-Day Pass discounted for elderly and disabled riders and sold for $15 per month.

11.3 Proposed Fare Modifications and Policy Changes

Different from Case Study 1 and Case Study 2, SAM is not currently considering fare modifications. The agency was interested in participating as a case study to learn of the fare policy framework and process and learn for when the time is right in Sioux Falls for the next round of fare changes. As mentioned previously, the agency last changed fares in 2015. Since that time, ridership has decreased and the time is not right for the community or elected officials to discuss raising fares which may result in further ridership decline.

For Case Study 3, three SAM fare scenarios were discussed and reviewed.

- **Scenario 1** – Small Increases (rounding fare category) - SAM, as a transit agency, prefers a simple fare infrastructure, with rounding to the quarter dollar. For example, the base fare is $1.50, not $1.55. Many agencies prefer this simplicity for rider exact change transactions and easy to remember fares.
- **Scenario 2** – Free transit service – Over the past decade, SAM has been asked from different constituents about whether the City should have free transit service. This case study review is an opportunity to review that option.
- **Scenario 3** – 25 percent increase across the board, then rounded for simplicity. This option has the highest increase of rates of the three scenarios. Often using a specific percent of increase (25% in this case) provides an easy response from the agency to recoup increasing costs by a certain percentage. This method also likely has the strongest impact to ridership projections.

The three SAM scenarios are shown below in Figure 45.

Figure 45: SAM Fare Rate Scenarios

Scenario 1 - Small Increases			Scenario 2 - Free Transit		Scenario 3 - 25% Increase			
	1	% of increase	2	% of decrease	25%	% of increase	Rounded	% of increase
Base Fare	$ 1.75	17%	$ -	100%	$ 1.88	25%	$ 2.00	33%
Elderly, Disabled, Children	$ 0.75	0%	$ -	100%	$ 0.94	25%	$ 1.00	33%
Day Pass	$ 4.00	33%	$ -	100%	$ 3.75	25%	$ 4.00	33%
Day Pass - 65+, disabled	$ 2.00	33%	$ -	100%	$ 1.88	25%	$ 2.00	33%
7-Day Pass	$ 13.00	4%	$ -	100%	$ 15.63	25%	$ 15.00	20%
7-Day Pass - 65+, disabled	$ 6.50	4%	$ -	100%	$ 7.81	25%	$ 7.50	20%
30-Day Pass	$ 35.00	17%	$ -	100%	$ 37.50	25%	$ 35.00	17%
30-Day Pass - 65+, disabled	$ 17.50	17%	$ -	100%	$ 18.75	25%	$ 17.50	17%
10-Ride Pass	$ 12.00	14%	$ -	100%	$ 13.13	25%	$ 13.00	24%
Freedom Youth Pass	Free	n/a	Free	n/a	Free	n/a	Free	n/a
Children < 5yrs	Free	n/a	Free	n/a	Free	n/a	Free	n/a
Eligible Veterans	Free	n/a	Free	n/a	Free	n/a	Free	n/a
Paratransit	$ 2.75	10%	$ -	100%	$ 3.13	25%	$ 3.25	30%
College Pass	$ 1.00	18%	$ -	100%	$ 1.06	25%	$ 1.00	18%
10-Yr Pass	$ 3,700	3%	$ -	100%	$ 4,500	25%	$ 4,500	25%

11.3.1 Scenario 1 – Small Increases

Scenario 1 - Small Increases, shown in Figure 46, focuses on a small increase in fare rates for all categories. The small increase ranges from no change to the discounted base fare of $0.75 to a 33 percent increase to the Day Pass and the Discounted Day Pass.

Figure 46: Scenario 1 - Small Increases

		Scenario 1 - Small Increases		Ridership Loss
Fare Category	**Today**		% of increase	3% incr = 1% decr
Base Fare	$ 1.50	$ 1.75	17%	-6%
Elderly, Disabled, Children	$ 0.75	$ 0.75	0%	0%
Day Pass	$ 3.00	$ 4.00	33%	-11%
Day Pass - 65+, disabled	$ 1.50	$ 2.00	33%	-11%
7-Day Pass	$ 12.50	$ 13.00	4%	-1%
7-Day Pass - 65+, disabled	$ 6.25	$ 6.50	4%	-1%
30-Day Pass	$ 30.00	$ 35.00	17%	-6%
30-Day Pass - 65+, disabled	$ 15.00	$ 17.50	17%	-6%
10-Ride Pass	$ 10.50	$ 12.00	14%	-5%
Freedom Youth Pass	Free	Free	n/a	n/a
Children < 5yrs	Free	Free	n/a	n/a
Eligible Veterans	Free	Free	n/a	n/a
Paratransit	$ 2.50	$ 2.75	10%	-3%
College Pass	$ 0.85	$ 1.00	18%	-6%
10-Yr Pass	$ 3,600	$ 3,700	3%	-1%
			Average % Loss	-5%

The information above shows a comparison of today's rates with the Scenario 1 rate changes. In addition to the Scenario 1 fares, the table also shows ridership impacts using a general elasticity model.

The elasticity model used for the above assumptions is the Simpson-Curtin rule – for every 3% fare increase, ridership will be reduced by 1%. This methodology is a general rule of thumb used by many transit planning agencies across the nation for short-term projections. For communities with travel demand models, such as the Sioux Falls Metropolitan Planning Organization (MPO), more exact future estimates may be available for ridership and revenue projections, if the existing model has a transit component. The MPO in Sioux Falls uses the travel demand model, Cube; however, the model does not currently have a transit component. For the purposes of this transit study, using an average method provides a general estimate of the fare changes with the elasticity model.

The average percent of SAM ridership loss for Scenario 1 is anticipated to be 5 percent for the initial 1-2 years after the fare change. The ridership loss will be approximately 40,000 annual one-way trips. This decrease will not likely continue past the short-term due to the number transit-dependent SAM riders. The existing average passenger fare per trip for SAM is $0.77. Using this information, the SAM fare revenue would decrease by approximately $30,000 annually for Scenario 1. (894,836 annual trips – 40,000 ridership loss = 854,836 new annual one-way trips. 854,836 annual trips x $0.77 avg fare = ~$30,000)

11.3.2 Scenario 2 – Free Transit

Scenario 2 – Free Transit, shown in Figure 47, provides a review of the system if the transit service were free to the community. Over the past decade, SAM has been asked from different constituents about whether the City should have free transit service. This case study review is an opportunity to review that option.

Figure 47: Scenario 2 - Free Transit

		Scenario 2 - Free Transit	
Fare Category	**Today**	2	% Change
Base Fare	$ 1.50	Free	100%
Elderly, Disabled, Children	$ 0.75	Free	100%
Day Pass	$ 3.00	Free	100%
Day Pass - 65+, disabled	$ 1.50	Free	100%
7-Day Pass	$ 12.50	Free	100%
7-Day Pass - 65+, disabled	$ 6.25	Free	100%
30-Day Pass	$ 30.00	Free	100%
30-Day Pass - 65+, disabled	$ 15.00	Free	100%
10-Ride Pass	$ 10.50	Free	100%
Freedom Youth Pass	Free	Free	n/a
Children < 5yrs	Free	Free	n/a
Eligible Veterans	Free	Free	n/a
Paratransit	$ 2.50	Free	100%
College Pass	$ 0.85	Free	100%
10-Yr Pass	$ 3,600	Free	100%

Existing farebox revenues for SAM are $691,262. Should the transit agency move away from fare collection and go to free transit service, the agency would need to replace the almost $700,000 in the budget from some other revenue sources. To date, SAM does not have dedicated funding. The agency prepares City budgets, just as all other city departments, which is submitted to the City Manager and approved by Council after negotiations. It is a daunting thought of losing revenues of this amount without having strong community support for a dedicated funding source.

The notion of fare elasticity is questionable for Scenario 2 when fares are moving to a fare-free system. The *Transportation Cooperative Research Board, Report 95*, Chapter 12 discusses the effect of eliminating fares at an agency. The report implies the percent increase in ridership is equal to the elasticity value, given the 100 percent drop in fares. However, there is skepticism documented with this methodology when examining fare-free services.

Existing SAM ridership is 894,836 annual trips. Using the examples from the report and national experience, if SAM eliminated system-wide fares for the service, ridership is estimated to increase 15 – 40 percent in the short term, depending upon accompanying marketing and program outreach. This results in an increase of 135,000 annual trips on the low end to 400,000 annual trips on the high end. Total transit trips for the agency may range from 1M to 1.3M annual trips. The costs of moving to a fare free system are the loss in revenue and potentially having to add service and/or vehicles to accommodate increased demand. A reduction in costs would occur at SAM due to no cost for collecting fares.

In addition to these factors, fare free also applies to paratransit services for SAM. Paratransit services currently have a farebox recovery of approximately eight percent annually. Though lower than the fixed route farebox, the change to zero revenue for the fixed route and paratransit will be a challenge for the system. The decrease in revenues, increased demand, and increased costs for paratransit service would have a strain on the existing services and on the SAM budget. If SAM administration considers systemwide fare free service in the future, the agency will need to include accommodations for increased paratransit service demand.

11.3.3 Scenario 3 – 25% Increase

Scenario 3 – 25% Increase. This scenario focuses on an across- the-board 25 percent increase for all categories. Because the agency also prefers simple rounded fares, some of the rates were approximately 25 percent, once adjusted. The 25 percent increase scenario ranges from 17 percent for 30-Day Passes to 33 percent for the Base Fare and Day Passes. Figure 48 shows the scenario information.

Figure 48: Scenario 3 - 25% Increase

		Scenario 3 - 25% Increase					Ridership Loss
Fare Category	**Today**	25%	% of increase		**Rounded**	% of increase	3% incr = 1% decr
Base Fare	$ 1.50	$ 1.88	25%		**$ 2.00**	33%	-11%
Elderly, Disabled, Children	$ 0.75	$ 0.94	25%		**$ 1.00**	33%	-11%
Day Pass	$ 3.00	$ 3.75	25%		**$ 4.00**	33%	-11%
Day Pass - 65+, disabled	$ 1.50	$ 1.88	25%		**$ 2.00**	33%	-11%
7-Day Pass	$ 12.50	$ 15.63	25%		**$ 15.00**	20%	-7%
7-Day Pass - 65+, disabled	$ 6.25	$ 7.81	25%		**$ 7.50**	20%	-7%
30-Day Pass	$ 30.00	$ 37.50	25%		**$ 35.00**	17%	-6%
30-Day Pass - 65+, disabled	$ 15.00	$ 18.75	25%		**$ 17.50**	17%	-6%
10-Ride Pass	$ 10.50	$ 13.13	25%		**$ 13.00**	24%	-8%
Freedom Youth Pass	Free	Free	n/a		**Free**	n/a	n/a
Children < 5yrs	Free	Free	n/a		**Free**	n/a	n/a
Eligible Veterans	Free	Free	n/a		**Free**	n/a	n/a
Paratransit	$ 2.50	$ 3.13	25%		**$ 3.25**	30%	-10%
College Pass	$ 0.85	$ 1.06	25%		**$ 1.00**	18%	-6%
10-Yr Pass	$ 3,600	$ 4,500	25%		**$ 4,500**	25%	-8%
						Average % Loss	-8%

The information above shows a comparison of today's rates with the Scenario 3 rate changes. In addition to the Scenario 3 fares, the table also shows ridership impacts using a general elasticity model.

The elasticity model used for the above assumptions is the Simpson-Curtin rule – for every 3% fare increase, ridership will be reduced by 1%. This methodology is a general rule of thumb used by many transit planning agencies across the nation for short-term projections. For communities with travel demand models, such as the Sioux Falls Metropolitan Planning Organization (MPO), more exact future estimates would be available for ridership and revenue projections, if the existing model has a transit component. For the purposes of this transit study, using an average method provides a general estimate of the fare changes with the elasticity model.

The average percent of SAM ridership loss for Scenario 3 is anticipated to be 8 percent for the initial 1-2 years after the fare change. The ridership loss will be approximately 70,000 annual one-way trips. This decrease will not likely continue past the short-term due to the number transit-dependent SAM riders. The existing average passenger fare per trip for SAM is $0.77. Using this information, the SAM fare revenue would decrease by approximately $50,000 annually for Scenario 3. (894,836 annual trips – 70,000 ridership loss = 824,836 new annual one-way trips. 824,836 annual trips x $0.77 avg fare = ~$50,000)

11.4 Fare Modification Framework Summary

The following summary in Figure 49 includes specific agency data collected during this study's efforts. Many of the questions were applied to the fare change that occurred in 2015.

Figure 49: SAM Framework Summary

1	Does the agency have existing Fare Policy goal at the agency?	SAM does not have a specific fare policy goal. However, the TDP has supporting language for keeping up with inflation costs and sustaining financial stability, and minimal impact to riders.
2	Did the agency develop a fare policy goal for the upcoming changes?	Not applicable. In 2015, the agency was aware of the existing farebox recovery ratio of approximately 10 percent. For future fare modifications, the agency will review existing goals to determine if a specific fare policy goal is set.
3	What is the strategy and structure for upcoming changes?	Not applicable today. In 2015, the fare modifications were implemented for cost recovery and the fares had not been changed in 19 years.
4	Did the agency review peer agency fares in the proposed new fares?	Yes. In 2015, peer agencies were researched. SAM had lower fares than other peer agencies.
5	When did the agency last change its fares?	2015
6	Were multiple fare scenarios developed for consideration of the new proposed fares?	In 2015, multiple fare scenarios were discussed internally and narrowed to the final proposed fares.
7	Did the agency analyze the change in ridership and revenues estimates for the upcoming changes?	In 2015, the agency reviewed internally.

8	Is the agency aware of the Federal Transit Administration Guidelines and the Title VI requirements for Fare and Service Changes? Did the agency document the analysis?	Yes. The agency is aware of the Title VI FTA Requirements for agencies with over 50 peak vehicles in urban areas over 200,000 population. In 2015, the agency completed the required FTA analysis for fare and services changes. Internal documentation was prepared for analysis.
9	How was the community notified about the proposed changes?	In 2015, SAM followed the agency public participation plan to ensure required documentation was completed and to engage the community about the upcoming changes.
10	Did the agency document and incorporate community feedback into the proposed new fares?	Yes. In 2015, feedback was documented and incorporated, as appropriate.
11	Did the agency consider payment type/technology changes to accompany the new fares?	Yes. No new fare equipment is needed for the new fares. New flyers, website updates, fare media, and ongoing communication was part of the process.
12	What collection implications will be involved with the upcoming changes?	No changes were needed for new fares, except updating above materials and fare boxes.

SAM staff are very familiar with the process for modifications to fare infrastructure. The case study evaluation summary is shown below.

- Feasibility of fare modification (1 = not feasible to 5 very feasible rating) = 1 score. Implementing a fare change in Sioux Falls is not feasible at this time due to decreasing ridership and the time is not politically right to justify increased fares.
- Challenges associated with modifications
    - Change is hard on everyone – riders, drivers, staff, local officials, etc.
    - Transit and community support must be aligned for support of change
    - Communicating with community true costs of transit
    - Risk in losing ridership
- Applicability of the framework process
    - Good for review of steps and proper flow of information following federal regulations. SAM is familiar with steps and prepared for when time is right for change.
    - Provides thoroughness of steps involved in changing fares
    - Appropriate for all size agencies

12.0 SUMMARY AND CONCLUSIONS

12.1 Summary

This study focusing on the funding strategies for transit agencies in South Dakota began with two primary focuses – 1) identifying traditional and non-traditional funding sources and 2) developing a fare strategy framework for transit agencies – no matter the size or location of the agency.

The background literature review and three transit surveys provided the baseline information and data for the fare strategy framework and for the identification of funding sources used by transit agencies. The literature review identified funding strategies for public transit agencies dating back prior to the 1980s, with the *Transportation Research Board (TRB) Special Report 213—Research for Public Transit: New Directions*[10] and the *Transit Cooperative Research Project (TCRP) Project H-7, Funding and Strategies for Public Transportation*[11]. These reports addressed using existing funding revenues, performance of transit systems, and identifying new sources of funding for operating and capital expenses. Case studies documented the non-traditional financing techniques used to improve financial conditions at agencies. Today, transit agencies continue to have the challenge of funding public transit and staying abreast of new funding sources. In addition, the fine line for transit agencies of setting fare structures that are equitable and realistic for a community continue to be a challenge.

12.2 Conclusions

Based on the literature review of recent studies for multiple transit projects, the following general findings were developed.

- Agencies have turned to the farebox for more traditional commuter-based services; however, for baseline services, farebox structure changes are approached cautiously due to heavy elasticity results on the passenger base.
- Using dedicated funding sources at the state, local, and jurisdictional levels for a stable source of revenue is a primary method of funding baseline services.
- For enhanced services or projects, external sources of funding may include impact fees, tax-increment financing districts, transportation development districts, state infrastructure bonds, revolving loans, leasing partnerships, public private partnerships, toll concession agreements, cigarette tax, vehicle leasing/rental fees, parking fees/fines, advertising, etc.
- Transit agencies have found alternatives to federal operating funding and have reduced costs or postponed projects when funding is unavailable.
- Some states provide funding for human service agency trips to help transit agencies or the transit agencies subcontractors pay the fully allocated rate of the agency trips.

[10] https://www.nap.edu/catalog/11363/research-for-public-transit-new-directions-special-report-213

[11] http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_31-1-a.pdf

- The 2019 Funding Guide was prepared based upon data collected throughout the study process. The Guide is a living document and should be updated annually with new grant programs that may be available.

The three peer transit agency reviews provided a useful tool to understand baseline data for similar transit agencies. The following conclusions are based on the results of the three transit agency surveys.

- The average farebox recovery ratio for South Dakota agencies was 12 percent, with a low of 5 percent at Siouxland Regional Transit System to a high of 21 percent for Rosebud Sioux Tribe Transportation and for Rapid Transit System. The peer agencies averaged 8 percent for their farebox recovery ratio, with a low of 1 percent at OATS, Inc. and a high of 21 percent in Mankato, MN.
    - The average farebox recovery ratio across the nation is 10 percent and the peer survey agency's farebox recovery was 8 percent, as mentioned above. Therefore, South Dakota transit agencies having an average of 12 percent are making significant efforts to collect local fare revenue to cover operating costs.
    - Having a goal of increased farebox recovery ratio is a good goal for a transit agency. However, if one agency is currently collecting 10 percent or more, it is suggested the agency approach fare structure changes cautiously for local services, due to local ridership impacts. For commuter services or out-of-town services, a higher farebox recovery goal is more common due to the increased operating costs.
- A wide variety of fare types exist for South Dakota transit agencies. The most common base fare is $2.00 for General Public and Suggested Donation for Elderly riders, followed by $1.00 for General Public, then $2.50 for General Public and $1.00 Reduced Fare.
    - The surrounding peer agencies have a lower average base fare of $1.30 than the average South Dakota base fare of $2.07. The Student Fare is similar to South Dakota, averaging $1 per rider. Also, each of the peer agencies provide free service to children under age five years. The reduced fare for the peer agencies is also slightly lower than South Dakota agencies of $1, with an average of $0.70 per rider.
    - The conclusion from this statistic is South Dakota transit agencies have wisely increased fare revenues over the past decade to keep up with increased operating and capital costs. However, knowing this and using peer comparison data, South Dakota transit agencies will want to cautiously increase fare infrastructure for local fares due to the ridership impacts. Transit agencies in South Dakota have a high transit-dependent ridership, with either limited mobility options or many with fixed incomes. Therefore, increasing local transit fares will have a significant impact to primary transit markets.

- Over 75 percent of South Dakota transit agencies have partnerships with local, regional, and state organizations.
    - Partnerships are one of the most common methods of cost sharing for the peer transit agencies. Understanding the true costs for transit service is the first step. Once an agency knows the true costs of service, they are able to share that information with partner agencies and develop a contract covering the appropriate

amount of service. Many rural transit agencies are able to match dollar for dollar for specific services.

- Over 70 percent of the South Dakota transit agencies reported having a fare policy in place. However, after follow-up with several agencies, the fare policy was commonly understood as knowing their farebox recovery rate.
    - The conclusion for transit agency fare policies is for the agency to continue to review farebox recovery data annually. The agency should review goals and set a policy that is appropriate to their services. If an agency is planning to modify their fare infrastructure, it is strongly recommended to develop a fare policy goal to guide the modifications for the agency. For example, River City Public Transit had a goal with its recent fare structure changes to increase revenues to meet budget shortfalls. The agency anticipated ridership decreases, but needed to increase revenues. The results from the first quarter showed increased revenues, which meets the agency goal. The agency also experienced a ridership decline, which was expected.
- The Fare Policy/Framework Process identifies a series of fundamental steps to consider when a transit agency implements or changes a transit fare. The framework sets the direction for the agency and provides guidance to consider.
    - The conclusion of the Fare Policy/Framework Process from the three case study candidates is that the framework is helpful to the agency to provide thoroughness in the change process, in addition to justification for the change, and support for communicating with the general public, elected officials, and transit boards. The nature of the Policy Framework is to develop a fare structure that balances affordability for transit customers with the need to generate sufficient fare revenue to help maintain and expand transit operations.
- The case study analysis provided an opportunity to demonstrate fare strategies and different policies identified within the literature review, best practices, and with other peer transit agencies. Three case studies were conducted representing different size operations and location of transit agencies in South Dakota.
    - The elasticity model used for the three case studies was the Simpson-Curtin rule – for every 3% fare increase, ridership will be reduced by 1%. This methodology is a general rule of thumb used by many transit planning agencies across the nation for short-term projections. For communities with travel demand models, more exact future estimates would be available for ridership and revenue projections.
    - Transit ridership response to fare changes varies considerably based on individual circumstances; however, using an average method shows there is sensitivity in the elasticity model.
    - In the case of River Cities Public Transit, first quarter ridership data were available after the fare changes were made. The Simpson-Curtin estimate was higher than the actual ridership numbers, which is great news for RCPT. As actual calculations are available, ridership projections should be updated to determine the overall impact to the agency, both for the short-term impacts and the long-term impacts.
- The case study candidates reported the applicability of the Framework Process as a good review of steps and proper flow of information for fare structure modifications. The process was also appropriate for all size of agencies.

13.0 RECOMMENDATIONS

This project has multiple objectives that, combined, provide a valuable tool for South Dakota transit agencies to review potential funding sources and to also provide a policy framework for transit agencies to utilize when planning to modify fare structures. Based on the findings of this study, the research team offers the following recommendations.

13.1.1 Recommendation 1

The 2019 Funding Guide should be distributed to transit agencies across the state of South Dakota, in addition to having it as a resource on the web and available for download. SD Transit agencies should review the Funding Guide for existing funding sources, look for other eligible funding programs, and discuss if funding is applicable for existing or future planned services. If eligible, the agency should apply for the funding program to assist with capital and operating costs. A checklist is provided within the Funding Guide. All SD transit agencies should incorporate this list into the annual planning and budgeting process.

13.1.2 Recommendation 2

The SDDOT should look for opportunities to present the Fare Policy Framework/Process at national conferences for the sharing of data and case study results. The data collected within this research for funding resources and for fare strategies are valuable tools and information for other transit agencies across the country to learn from and also implement at their agencies. Example conferences include Transportation Cooperative Research Board Annual meeting and National Rural Transit Assistance Program.

13.1.3 Recommendation 3

The Fare Policy Framework recommends the following action for South Dakota transit agencies.

- For agencies who have a farebox recovery ratio between 5-10%, review base fares, when fares were last changed, and determine if it is appropriate in the community to adjust fares. Some communities support a lower base fare to ensure service is available and have a policy in place to support that service. In other communities, it may be time to revisit fares, in which the Fare Policy Framework would be a good tool to begin the process. Other agencies may have a high level of contracted service, which may affect directly a lower farebox recovery ratio.
- For agencies who have not reviewed their fare structure in over seven years, it is recommended the agency use the Fare Policy Framework to begin the process of re-developing their fare structure.
- For transit agencies who have partner contracts in place for service, it is recommended for agencies to negotiate the contract annually or every two years. When the contract is negotiated, the true costs of providing the service should be used to base the contract amount.

The Fare Policy Framework was developed to guide SD transit agencies in the process of fare structure modification. During the survey process, agency performance data were identified, including farebox

recovery ratio, base fare type, operating costs, etc. In addition, agencies were also asked about fare policies in place, partnerships, contracting costs, when fares were last changed and the process.

13.1.4 Recommendation 4

The SDDOT should continue to provide technical assistance to the transit agencies in the state regarding fare policy infrastructure changes. The above recommendations will be difficult for some transit agencies to comprehend and complete without assistance. The focus of this recommendation is for SDDOT to provide assistance with existing staff or have technical assistance available for the agencies, as needed. In addition, not all agencies will be interested. However, all the agencies should become familiar with the process for the appropriate time when that agency needs to make a modification.

13.1.5 Recommendation 5

The SDDOT should continue to support the transit agencies in coordination efforts for human services transportation, particularly Medicaid coordination.

Over 75 percent of the SD transit agencies reported being a Medicaid provider. The SDDOT should invite human service agency representatives to the Transit Program Meetings and have a specific topic discussion on coordination of services, funding potential, challenges, etc. The SD transit agencies interested in advancing coordination would be invited to have additional meetings to address challenges.

14.0 RESEARCH BENEFITS

The research benefits for this transit study focusing on funding strategies for South Dakota transit agencies include the development of the 2019 Funding Guide, which provides a snapshot of current funding resources available to public transit agencies. The value of the Funding Guide is that it gives each South Dakota agency the opportunity to research potential funding sources the agency may be eligible for. In addition, the Guide provides a checklist of proactive steps for transit agencies to implement as funding programs are discussed.

The study also identified a Fare Policy Framework/Process applicable to all-sized transit agencies. Peer transit agency data were available for transit agencies to compare themselves to other agencies. Three case studies were identified through the study process in which transit agencies are able to follow the fare infrastructure modification process. The Fare Policy/Framework Process identifies a series of fundamental steps to consider when a transit agency implements or changes a transit fare.

Appendices

The Appendices are available in a separate document due to the file size.