



2015 Regional Public Transit Feasibility Report

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- I. Executive Summary
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The 2015 Regional Public Transit Feasibility Report is the result of an extensive process of determining transportation priorities for the Southwest Colorado Council of Governments based on the evaluation of past plans, substantial literature review, and consultation with subject matter experts. In order to do so, three main objectives for the study were identified. These were:

Objective 1) Review earlier southwest Colorado regional transit plans and conduct extensive literature review to quantitatively determine which aspects of each plan are still valid in today's economic, demographic, and transportation climate.

Objective 2) Drawing from past plans and current transportation planning experts in the region, devise a regional public transportation route and identify which regional population demographics would be most likely to utilize the public transportation system, and which route would be most optimal.

Objective 3) Identify funding sources for the initial cost of start-up, and determine an estimate of what the cost of operations

will be for the first year.

After drafting a research methodology, and conducting comprehensive analyses of the literature reviews, case studies, and past plans, three recommendations were identified that would satisfy all three aforementioned objectives. The recommendations from this report include:

- Producing a vision plan for the SWCCOG, and a concurrent Action Plan for the Regional Transit Coordinating Council. This way, there can be a clear delineation of what the expected role of the SWCCOG will be in the coordination of Transportation and Human Services.
- Hire additional staff to focus on the coordination and funding of Regional Transit Coordinating Council projects. Currently the SWCCOG only employs two people and the addition of a transportation coordinator would greatly expand the efficiency and outreach of the Regional Transportation Coordinating Council.

- Establish a regional inter-city fixed route transit line from Cortez to Durango along US Highway 160. Although capital costs and first year operations costs would total 167,457.00, ample funding for rural transit is available through the Capital Investment Program, Enhanced mobility of seniors and individuals with disabilities program, Rural public transportation formula grant program, the Older Americans Act, and CDOT funding.

These recommendations represent the most viable actions for providing increased levels of regional public transit service for individuals with medical needs, the elderly population, commuting workers, and tourists. Moreover, these recommendations also work towards a sustainable future for Southwest Colorado. Offering intercity public transit will allow for the free flow of visitors, workers, and cash revenue between the jurisdictions within Southwest Colorado and thereby resulting in thriving and sustainable communities.

The stunning natural areas, and inviting, friendly communities make Southwest Colorado one of the best places to live in the nation. However, residents of Archuleta, Dolores, La Plata, Montezuma, and San Juan counties face a number of transportation challenges. Most notably, the mountainous terrain and long distances between cities make regional transportation costly and time-consuming. This issues of inter-city transit become even more pronounced for individuals with disabilities, low-income populations, and the elderly. To address this issue, this report will work in conjunction with the Southwest Colorado Council of Governments (SWCCOG) to analyze existing regional transportation studies, examine past planning efforts, and review funding options. The purpose of performing these tasks will be to provide the SWCCOG's Regional Transit Council with recommendations on how to move forward with a cost-effective, user-friendly, regional public transportation system.

The process of studying and drafting a rural regional transportation system will be valuable for a number of reasons. Primarily, this will be of great value to

the SWCCOG, The Regional Transit Council, and the individual municipalities in the region because it will provide them with viable planning and policy recommendations for creating regional transportation. These recommendations will help guide policymakers from each organization towards decisions that will reduce environmental pollution, mitigate potential legal liability, and ultimately save citizens and municipalities money.

This project will also be significant to the study of urban and regional planning. Rural public transportation is an issue that has not been in the forefront of American transportation planning dialogues. As such, the amount of literature that exists surrounding rural public transportation is small compared to other, more popular transportation subjects like transit-oriented development, or efficient public rail. This plan will add to the existing canon of literature on rural public transit by critiquing existing studies and providing a literature review. This study will also benefit other communities' planning efforts by offering insight on how to design for and financially structure a rural regional public transit line.

Nevertheless, providing the Regional Transit Council with policy recommendations for a viable transit line in Southwest Colorado will be no easy task. In order to make this plan accessible, and most useful to the Regional Transit Council and other planners, there are three objectives that this plan will meet:

Objective 1) Review earlier Southwest Colorado regional transit plans and conduct an extensive literature review of previous plans to quantitatively determine which aspects of each plan are still valid in today's economic, demographic, and transportation climate.

Objective 2) Drawing from past plans and current transportation planning experts in the region, devise an optimal regional public transportation route and identify which regional population demographics would be most likely to utilize the public transportation system.

Objective 3) Identify funding sources for the initial cost of

start-up, and determine an estimate of what the cost of operations will be for the first year.

The remainder of the report has been structured according to each objective. The rest of Section One will include additional information about the Southwest Colorado Council of Governments, and the University of Colorado Denver Master of Urban and Regional Planning Capstone program. Section Two will cover the Research Methodology, and Literature Review. Additionally, Section Two will include an Evaluation of Past Planning Efforts conducted in accordance with the research plan described in the research methodology portion. Section Three will include: Recommendations, Funding Sources, and also the Cost of Operations. Section Four will include Concluding Remarks, a bibliography of works cited, and appendices that include the case studies that the research drew upon in Section Two.

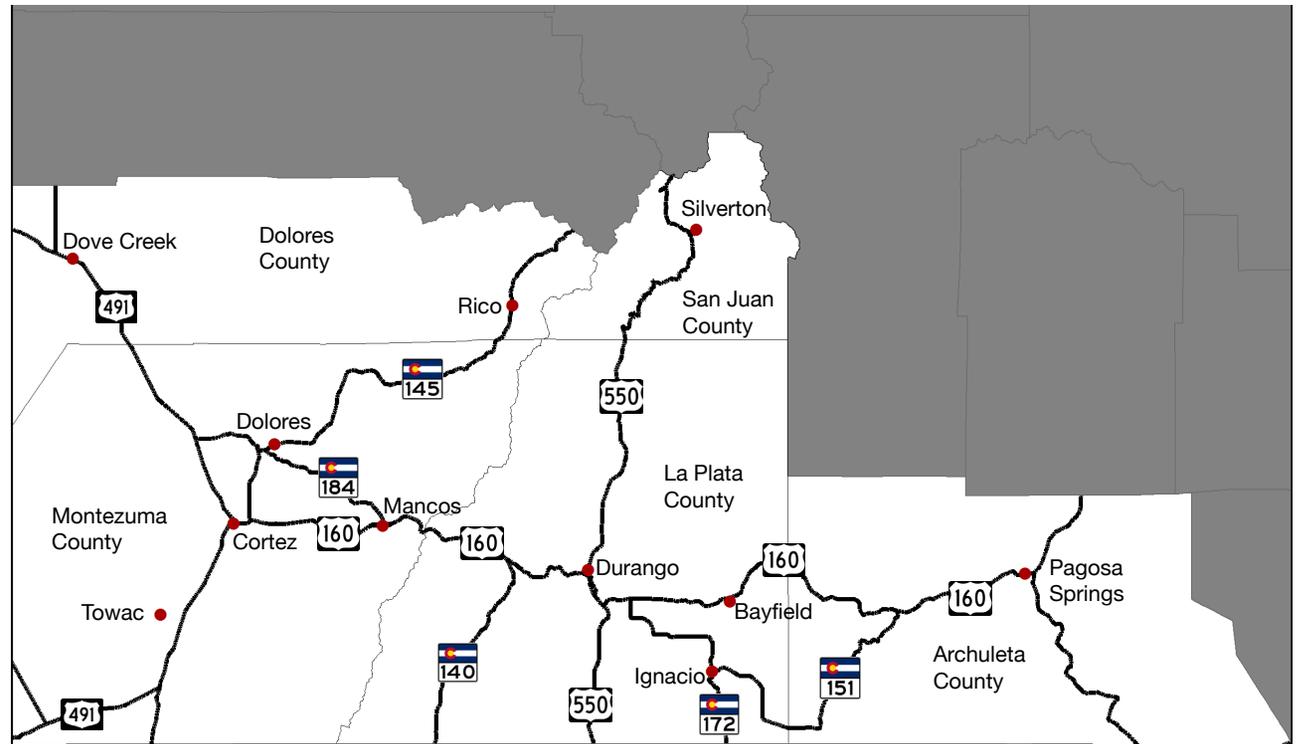
The Southwest Colorado Council of Governments (SWCCOG) officially formed in December 2009, and intergovernmental agreements are currently in effect between 14 of the 17 governmental jurisdictions across the region.

The Southwest Colorado Council of Governments promotes regional cooperation and coordination among local governments and between levels of government for the geographic area comprising the Counties of Archuleta, Dolores, La Plata, Montezuma, and San Juan (Seen in Map 1). The need for a regional council of governments is based on the recognition that the people of the region form a single community and are bound together not only physically, but economically and socially. It is the purpose of the SWCCOG through its participating membership, staff and programs, to provide local public officials with the means of responding more effectively to the local and regional problems of this regional community.

The SWCCOG came into fruition when the Region 9 Economic Development District of Southwest Colorado (Region 9) established a Regional Cooperation

Committee (RCC) in 2008 and formalized the evolving conversation about forming a Council of Governments in Southwest Colorado. The Region 9 Board is made up from representatives of the 17 governmental jurisdictions, the majority of whom participated on this RCC group. In early 2009, several local government representatives decided to move ahead with the formation of the SWCCOG.

Information was provided at a monthly county/city managers meeting, the RCC group and Region 9 Board meetings. There was recognition about the difficulty of solving long-range planning and topical issues across jurisdictional boundaries, but also recognition that there may be opportunities where it would be beneficial to the local governments to do so.



Map 1: Context map that illustrates participating counties and municipalities, and their Highway connections

ABOUT THE CAPSTONE PROCESS

This project, in addition to fulfilling a planning gap in the Southwestern Colorado area, is a capstone project that is part of a graduate planning program designed to test, and strengthen students' planning, data analysis, and communications skills.

The “capstone” of the Master of Urban and Regional Planning (MURP) degree at the University of Colorado Denver represents the culmination of what the student has learned during the MURP program. A MURP Capstone is a real-world, client-based planning project. Completing a unique, self-directed project gives students the opportunity to demonstrate the skills and knowledge they have gained, integrate and synthesize what they have learned, and pursue their individual passions. Working with a client enables students to apply their creativity and problem-solving abilities in a real-world context and demonstrate their professional competencies to both the faculty and potential employers.

Students work with a client organization or agency to complete a project that is of significance and practical use to the organization. By the end of the Capstone

semester, the student will produce a professional-quality project deliverable that addresses the client's needs and conforms to the MURP program's expectations for quality graduate-level work.

A Capstone project is not merely a narrow technical exercise, nor a lofty theoretical undertaking. Rather, the project should reflect knowledge of relevant literature, exhibit urban planning competencies, demonstrate an awareness of potential impacts on multiple constituencies, and address the formulation of policy goals. It should be an in-depth project that is useful for the client, but narrow enough that it can be completed in a single 15-week semester.



- I. Research Methodology
- II. Literature Review
- III. Review of Past Planning Efforts

To meet the first objective, which is to quantitatively determine which aspects from past plans are still valid in today's economic, demographic, and transportation climate, I started by gathering each of the past plans conducted that relate to transportation efforts in the region. The plans reviewed were:

- 2008 Colorado Statewide Intercity and Regional Bus Network Study
- 2008 Southwest Local Transit and Human Service Transportation Coordination Plan
- 2012 Southwest Regional Transportation Coordinating Council Action Plan
- 2035 Regional Transportation Plan (published in 2008)
- 2009 Regional Transit Feasibility Study
- 2014 Draft Southwest Transportation Region Regional Coordinated Transit and Human Services Plan

After gathering these studies, I first read through each one to better understand the content of the plan, and how it was structured. After reading through to understand the context of the plan, I conducted a second, and more thorough reading. With the second reading, I analyzed and annotated each section, making certain to note similarities between plans, highlighting information that is supported by my preliminary electronic research and literature review.

Following the second read-through, I conducted structured interviews with my subject matter experts, Matt Muraro and Dr. Carolyn McAndrews. I also compared what existing transportation literature says about best practices in rural regional public transportation to each of the plans' findings. Using this information, I sought out relevant case case studies that would provide additional insight into how one should devise and finance a rural inter-city transit line.

All final determinations relating to the recommendations were weighted based on the graphic seen in Figure 1, where subject matter at the base of the pyramid was factored more heavily into the

determinations, and information towards the top of the pyramid was viewed as less important. The information deemed valid and relevant is displayed in Section Two of the report, and categorized by each plan.

To meet the second objective, which is to identify which regional population demographics would be most likely to utilize the public transportation system and determine which routes would be most optimal, I drew from the information collected by the regional transit council. This resulted in an assertion that the elderly, veterans, individuals with medical concerns, and the economically disadvantaged who travel for work would likely need the regional public transportation the most. To examine whether or not this was correct, I used information from my unstructured interview with Dr. McAndrews. Additionally, I cross-referenced demographic information from the past studies with summary file information from the 2013 American Community Survey to see if levels of poverty, elderly persons, and other population statistics have risen more quickly in this region than others.

In order to ascertain what recommendations would be most feasible, I took the data gathered from literature review, study of past plans, and analysis of demographic data, to decide if a fixed route would be best. After making that decision, the stops were allocated based on need, current travel data, and existing transportation infrastructure. Additional unstructured interviews with representatives from the Regional Transit Council were also administered to receive a better understanding of local perceptions and attitudes.

The third objective is to identify funding sources for the initial cost of start-up, and provide an accurate estimate of what the cost of operations will be for the first year. To draft this budget, I analyzed online transportation journals and recorded subject-oriented discussions and annotated for comparison to subject matter expert input. I also conducted additional review of Colorado Department of Transportation and Federal Highway Administration reports on best practices and available funding. As for the presentation of funding sources, I

continued to review case studies from comparative transportation plans. This practice yielded ideas for how to structure the funding, and also assisted in identifying potential grant resources. The most relevant case studies were documented, and are included in the appendices section.

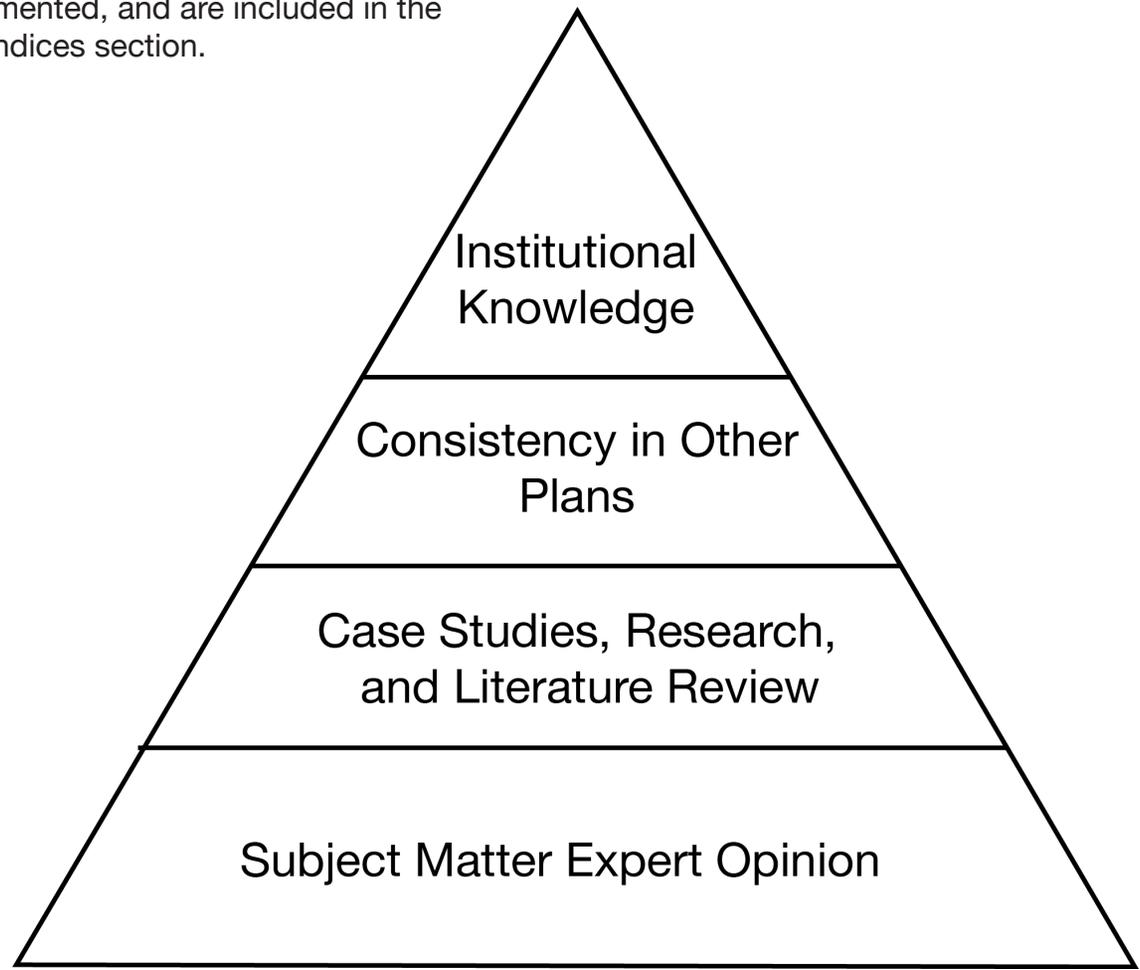


Figure 1: Heirarchical Pyrimid denoting importance of information.

In order to provide a consensus on academic research as it pertains to this 2015 Regional Transit Feasibility Study, this literature review will first define rural in the context of rural transportation, and also describe why this topic is important in the broader scheme of American transportation planning. Then, the review will demonstrate what barriers to success rural transportation faces, and why the vitality of rural public transportation is predicated on the inclusion of the elderly and impoverished demographic groups. In the end, concluding remarks will be offered to demonstrate how the state of academic, and practitioner research in this particular subject body relate to the 2015 Regional Public Transit Feasibility Report.

Even the most superficial research into rural public transportation will show that there is plenty of debate among experts and practitioners about what constitutes a rural area. For purposes of the 2015 Regional Transit Feasibility Report, the working definition of rural will be the same as the “developed rural” definition featured in the Federal Highway Administration (FHWA) technical assistance manual, [Planning for Transportation in Rural Areas](#). In this

manual, a rural area can be defined one of three ways.

First, there is “basic rural.” This type consists of “dispersed counties or regions with few or no major population centers of 5,000 or more” (Leyzerovsky, 2001, p. 52). This is what most individuals perceive as traditionally rural, and is the working definition of rural for most census-based research into rural travel and demography studies. The second typology of rural is “developed rural.” This condition is where there are still dispersed counties and regions, but there is at least one population center of 5,000 or more. In these larger population centers, the economy will be mixed industrial and service-based, whereas the rural areas will have more people working in agricultural or natural resources employment sectors (Leyzerovsky, 2001, p. 53). The third type of rural is “urban boundary rural,” which includes regions that are highly developed and on the edge of metropolitan boundaries (Leyzerovsky, 2001, p. 53).

Transportation planning literature is quick to note that rural areas—regardless of their typology—deserve additional focus

because of their potential to bolster economic growth throughout the nation. In the *Journal of Race, Poverty, and Environment*, Steven Alexander states, “a large percentage of rural dwellers are elderly, as well a greater percentage (are) also living below poverty level” (Alexander, 1995, p. 3). This corroborates the conclusion of more recent studies that recognize the importance of public transportation for low-income households. For example, the National Association for State Community Services Programs finds that, “rural transit is cost efficient. For every dollar spent on this form of transit, rural communities reap about 3.1 dollars in benefits” (Criden, 2008, p. 7). Additionally, rural transit connects workers with their jobs and supports the economic development of small communities, thus allowing rural America to maintain its character (Criden, 2008, p. 8).

Even though providing public transportation options for (basic or developed) rural areas will lead to myriad economic benefits, much of the transportation literature notes that rural communities still face a number of challenges (Shoup, & Homa, 2010, p. 4) in harnessing the economic,

social and health benefits that public transportation can offer rural areas. The most commonly attributed reason among all reviewed literature can be best summarized as decentralization—in both organizational structure of authority, and in funding (Roth, 2001; Alexander, 1995; Kidder, 2004). While this notion is widely supported in other transportation planning literature, it is best summarized in the Public Roads journal article, “Take Me Home Country Roads,” by Stephanie Roth (2001).

In her article, Roth argues that one of the challenges that keeps rural transportation from developing and growing in the United States is that there is no uniform jurisdiction for funding sources. Roth cites that “Most roads are funded and maintained by different levels of government” (2001, n.p.), which leads to jurisdictional issues. The Western Rural Development Center similarly claims that “Transportation decision-making, like all other policy areas, is divided between many stakeholders at all levels of the federal system” (Kidder, 2001, p. 4). Moreover, some states allow regional entities to undertake the transportation planning efforts, while other states have

a more top-down approach where the state department of transportation carries out rural transportation efforts. This complicates coordination, especially for intercity public transportation needs and services (Goodwin, Overman, & Rosa, 2004; Leyzerovsky, 2001).

On top of jurisdictional disagreements and inconsistencies, decentralization has also led to inequities in numerous types of funding for rural transit. Steven Alexander claims in the Journal on Race, Poverty, and the Environment that existing funding between urban and metropolitan transportation, and rural transportation is disproportionate (Alexander, 1995, p.3). Alexander further expounds on this inequality by stating that the metropolitan areas receive more funding due to population concentration.

Decentralization has also impacted rural funding, because the different state structures and laws pose significant challenges to transportation planners at the Federal Transit Authority to implement rural transportation elements of the nation’s most prominent transportation funding bills (Roth, 2001) in a way that is equitable and in accordance with

state statutes. These major federal transportation bills, as noted by most literature, are the Intermodal Surface Transportation Efficiency Act (ISTEA); the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Uses (SAFETEA-LU); and the Transportation Equity Act for the 21st century (TEA 21) (Roth, 2001; Kidder, 2004; Alexander 1995; Mateson, 2010). T

As a means to circumvent jurisdictional and funding inequity issues, the literature suggests that transportation planners should devise rural public transportation routes in a manner that is mindful of health services needs, particularly those associated with elderly demographics. In fact, Alexander writes that “The most urgent need, however, for rural public transportation is in the area of health care” (1995, p. 2) because “as growing numbers of aging citizens retire to rural America, they bring with them new transportation challenges” (Ibid.).

In her article, “Rural Public Transportation and the Mobility of Older Persons,” Edith Stunkel further argues that the elderly population is the best place to start when devising rural public transit because “even

with proportionately less federal funding, rural elderly ridership is substantially higher than in urban areas. Nationally, about 7% of all transit riders are 65 years or older, while rural communities have an average of 18% elderly passengers” (Stunkel, 2008, n.p.).

There is not simply a higher demand for health services among the elderly; there are also economic incentives to provide access to healthcare for older populations. In “Transportation, Distance, and Health Care Utilization for Older Adults in Rural and Small Urban Areas,” Jeremy Matheson says that with provision of public transportation services to healthcare organizations, there would be “cost benefits in terms of reduced need for emergency care and preventable hospitalizations” (Matheson, 2010, p. 196). Matheson further states, “Missing a trip for routine care or preventive services can often result in a medical trip that is more costly than the trip that was missed. While providing non-emergency medical transportation (NEMT) for those who lack it may be expensive, it has the potential to provide cost savings” (Matheson, 2010, p. 196).

Since funding decentralization has been proven to be an issue in rural public transportation, it is generally accepted that the inclusion of health services provision for the elderly is also a way to obtain transit funding from other non-traditional federal sources. For instance, the Older Americans Act created the Aging Services Network, which oversees and implements grant programs for elderly services of all type, including transportation. The National Center of Senior Transportation reports that the Aging Network “provided 29.6 million trips to older adults, spent \$66 million in OAA funds and leveraged an additional \$196 million to support transportation services” (Dize, 2011, p. 4). There is also Section 5310 funding, which is mentioned in Alexander’s *The Need for Rural Public Transportation*, and *The West Texas A&M Rural Transportation Planning Guidebook*. Section 5310 funding:

“provides grants or loans for the provision of services to elderly persons and/or persons with disabilities. Eligible recipients include private nonprofit organizations or associations, public bodies that coordinate

services for the elderly and/or disabled, or any public body that certifies that nonprofit organizations in the area are not readily available to carry out the services. The match requirement is 80 percent federal maximum and 20 percent local match” (Goodwin, Overman, & Rosa, 2004, p. 32).

While the literature review has yielded that the best practices incorporate health provision services and the elderly, there is no clear consensus on whether it is most effective to have only a demand response system, a fixed-route system, or a combination of the two (“Rural Public Transit: Why Is This Important?”, 2012, p. 2). A demand response system is a transportation system that offers door-to-door service that is usually focused on a single need (e.g. healthcare visits, or services to senior centers) (Goodwin, Overman, & Rosa, 2004, p. 45). Contrarily, a fixed-route system is what most people think of when they envision public transportation. This is a published route that has designated stops at scheduled times (Goodwin, Overman, & Rosa, 2004, p. 45).

From the review of rural transportation literature, due to the variety of transit needs, geographic concerns, and diversity of users (both economically and demographically), this 2015 Regional Transit Feasibility Report will recommend a fixed-route system. This is supported by Velanga, who notes that a fixed-route system is one of the better solutions for transport problems in remote areas with low demand where conventional urban public transport systems (e.g., BRT, commuter rail, etc.) are not appropriate (Velanga, Nelson, Wright, & Farrington, 2004). Transportation literature also notes that higher ridership is correlated with increased efficiency and reliability of service provision. Therefore, having a more fixed route will aid in attracting additional transit riders.

The literature review has demonstrated that, by and large, structural and funding decentralization of public transit in rural areas can lead to both coordination issues and financing barriers for public transportation projects. However, by planning these routes for the older population, or for those in need of health services, transit authorities can capitalize on additional funding that is

not just tied to federal transportation omnibus legislation. (Alexander, 1995, p. 3). These lessons are certainly relevant to the 2015 Regional Transit Feasibility Study; they will provide a substantial basis for understanding sound rural public transportation practices, which will be identified in the next section.

Between 2008 and 2014, there were six extensive planning studies conducted in Southwest Colorado that identified transportation needs, and determined viable solutions to meet the transportation gaps that each plan outlined. Each of these reports currently provide context for understanding the transportation needs and decisions that have shaped the regional transportation climate in Archuleta, Dolores, La Plata, Montezuma, and San Juan counties. To further understand how each plan has informed the recommendations of this report, a brief synopsis will be given of the most relevant studies that have been conducted in the area over the past seven years.

Each summary will list the title, date of publication, for whom the report was prepared, and a description of the plan. Following that, this report will offer a critical analysis of each report in order to determine whether or not the past plan is relevant to this document. Each plan will be addressed in order of date published, starting with the plans that were published in 2008, and working towards more recent plans. For purposes of clarity, each study will be referenced by the year published. For example, instead of saying

“this study,” to avoid confusion anything included in the summary of past plans will say “the 2008 plan”

1) TITLE: Colorado Statewide Intercity Bus Study
DATE PUBLISHED: 2008
PREPARED FOR: Colorado Department of Transportation

SUMMARY:

The Colorado Statewide Intercity Bus Study is divided into six distinct parts. The first establishes the state and federal policy context that shaped the funding and transportation framework that existed in 2008. The second analyzes existing intercity transit services in all of Colorado, and the third section of the report provides substantial information pertaining to population characteristics and the need for intercity bus services. Following that, the fourth section details the methodology and results from their public outreach campaign. The fifth section of the 2008 report describes potential intercity bus and regional transit networks. These five things lead to the sixth and final portion, which provides policy recommendations; all of which are largely related to the

potential intercity bus services highlighted in section five.

Of all the information that this report provides, the material found in the sections on policy context, population characteristics, and need for inter city bus service are largest and most extensive. The policy context provides an exhaustive history of federal and state funding for transportation, giving particular focus to the impacts of the Intermodal Surface Transportation Efficiency Act (ISTEA), then the updated Safe, Accountable, Flexible, Transportation Act: A Legacy for Users (SAFETEA-LU), and the Transportation Efficiency Act for the 21st century (TEA-21). Although it was not mentioned in the 2008 report because of its date of publication, TEA-21 has since been replaced with Moving Ahead for Progress in the 21st Century, or MAP-21.

The remainder of the funding portion details how the FTA has typically funded public transit using 5311 funds from SAFETEA-LU, and how other grants can be obtained for “over the road bus accessibility programs.” This historical overview provides an invaluable insight as to how these major transportation

policies, and state responses have shaped intercity bus transit since 1930.

Due to the rapid expansion of the Southwestern Colorado region at the turn of the century, the 2008 plan also provided information regarding population projections, and potential impacts on transit demand. This was accomplished by outlining “Potentially transit-dependent population segments” which the 2008 study defines as “those segments of the population that, because of demographic characteristics such as age, income, or automobile availability, and may require transit service to meet mobility needs”. Moreover, evaluating basic census data through a geospatial lens, and was able to determine need for intercity services based on geographic distance from

existing routes. The 2008 plan notes with great emphasis that Cortez was over 25 miles from the nearest existing route, and was one of the report’s “new, feasible intercity bus stop candidates.” Other data pertaining to transportation region specific demographics was provided as well, which gives insight to the transportation planning challenges in Archuleta, Dolores, La Plata, and San Juan counties too.

The last section of the 2008 report also identified potential regional transit services based on corridors that centered on transportation dependent segments of the population. This is relevant for the recommendations of the 2015 Regional Public Transit Feasibility Report because it identified Durango as a corridor, and listed what the level of service, number of

trips, and costs (in thousands) would be to establish a regional route. The table can be found below in Table 1.

RELEVANCE:

The Colorado Statewide Intercity Bus Study places heavy emphasis on obtaining 5311 funding to examine options for a number of routes that are, in some portion, covered by the Southern Ute Community Action Program and the Southern Ute Tribe. Additionally, there is now Road Runner transit that allows for public transit to Grand Junction, so there is already a public transit connection to a hub for Greyhound (and other modes of transit), just as the plan had recommended. Nevertheless, 5311 funding remains a sound option

Table 5-4: POTENTIAL REGIONAL SERVICES

Corridor	Existing		Proposed		Existing Annual			Additional Annual			Total Annual		
	LOS	Daily Trips	LOS	Added Trips	Miles	Riders	Costs	Miles	Riders	Costs	Miles	Riders	Costs
Durango													
US 160 Cortez - Durango	F	-	C	8	-	-	-	100,000	50,000	\$375	100,000	50,000	\$375
US 550 Farmington/Aztec-Durango	F	-	C	8	-	-	-	81,000	41,000	\$304	81,000	41,000	\$304
CO 172 Ignacio - Durango	C	8	B	8	54,000	10,000	\$108	54,000	10,000	\$108	108,000	20,000	\$216
US 160 Bayfield - Durango	C	8	B	8	67,000	10,000	\$112	67,000	10,000	\$112	134,000	20,000	\$224
US 160 Pagosa Spgs - Bayfield	F	-	C	8	-	-	-	188,000	20,000	\$240	188,000	20,000	\$240

Table 1: Table indicating potential regional transit routes, and associated annual costs for each route.

for financing routes to areas that do not already have established intercity services. Table 1 depicts one such route, running east from Cortez to Durango. The recommended intercity routes from the 2008 intercity plan also contain useful finance information that will assist in constructing this plan's Cost of Operations section.

2) TITLE: 2035 Southwest Regional Transportation Plan
DATE PUBLISHED: 2008
PREPARED FOR: Colorado Department of Transportation

SUMMARY:

The 2035 Southwest Regional Transportation Plan (2035 RTP) is divided into ten sections that include:

- An Introduction to the Transportation Planning Region (TPR)
- A Description of Public Involvement
- Vision, Goals, and Strategies
- A Transportation System Inventory
- A Socioeconomic profile of the Region
- An Environmental Overview

- Corridor Visions
- Vision Plan
- Financially Constrained Plan
- Midterm Implementation Strategies.

The first section of the 2035 RTP details who was involved in the planning process, what the study area was, and who was involved in the regional planning commission at the time. Then the 2035 RTP covers the public involvement process, which included Regional Transportation Forums and Prioritization meetings to determine what the RPC, and the community members felt were the most important to transportation factors to address in the plan. The public input period also consisted of multiple public outreach and draft review meetings to make sure that the final 2035 Southwest Regional Transportation Plan addressed the concerns of the citizens within the five county region.

The third section of the 2035 RTP titled Vision, Goals, and Strategies provides an overall vision for the region, which is to:

“Maintain the rural character, quality of life, and environment desired by its residents and visitors by providing for a balanced

transportation system that accommodates the movements of residents, tourists, and goods throughout the region through the use of telecommunications, expanded air and multimodal travel, and an enhanced highway system.”

After stating the vision, 6 goals were listed that would work towards turning the vision into reality. A multitude of strategies were also included for each goal, and each one identifies how the goal can become more attainable.

The transportation system inventory is also a major part of this plan because it provides reports on roadways and their condition, Vehicle Miles traveled on National Highway System roads, fatality rates by corridor, and a list of service providers in the area. More importantly, the transportation system inventory also detailed a list of identified needs that would improve the regional transportation system. This list of needs included regional transit tailored to address gaps based on mobility and location, which included the lack of intercity bus service along the 160 corridor, and needs for extended medical, and employment related transportation

services. The socioeconomic profile includes information on age, population, minority status and employment commute by county. However, since this report was published in 2008, much of the information is outdated.

The 2035 RTP was also the first of all other reviewed past plans to include information on how the transportation system interacts with the environment. In the final section, the 2035 Regional Transportation Plan notes that there are at-risk areas in the region, which guide the corridor vision plans and the vision plans. For instance, the 2035 RTP accounts for air quality, noise, wildlife linkages, and historical/archeological sites for protection.

The next sections of the 2035 RTP expanded on the initial vision for the region. First, the 2035 plan divides the transportation region into 14 corridors, which can be seen in Table 2. Then, it describes the main priority for each corridor vision, and what goals and strategies exist for attaining those. For instance, the plan notes that the primary goal for the 160 corridors is mobility. To address the goal of mobility, one strategy

would be to improve and increase (intercity) transit ridership.

After detailing the corridor strategies, the 2035 Regional Transportation Plan combines all of the information into a master action plan, and an additional financially constrained master vision plan that operates under the assumption of baseline funding. The first vision plan includes funding options from federal state, and local entities, and assumes

that the funds will be received for transportation improvements. These two visions are followed by the midterm implementation strategies section, which includes strategies to address the regionally prioritized issues, and strategies to address the decline in state and federal transportation funding sources.

RELEVANCE: There are a number of aspects about the 2035 Regional Transportation plan that are relevant

Corridor Name	Corridor Number	Description (from/to)	Within TPR		Primary Investment Category
			Beg MP	End MP	
SH 3	PSW7001	US 160 to 8 th Street in Durango	0.000	1.270	Safety
SH 41	PSW7002	Utah State Line to US 160	0.000	9.500	Safety
SH 84	PSW7003	NM State Line to Pagosa Springs	0.000	27.920	Safety
SH 110	PSW7004	US 550 to on/off ramp in Silverton	0.000	0.140	System Quality
SH 140	PSW7005	NM State Line to Hesperus	0.000	23.430	Mobility
SH 141	PSW7006	West of Dove Creek to Montrose/Mesa County Line	0.000	7.349	System Quality
SH 145	PSW7007	East of Cortez to Dolores/San Miguel County Line	0.000	59.450	System Quality
SH 151	PSW7008	US 160 to Ignacio	0.000	33.960	Safety
US 160	PSW7009	NM State Line to Archuleta/Mineral County Line	0.000	155.090	Mobility
SH 172	PSW7010	NM State Line to US 160	0.000	24.490	Safety
SH 184	PSW7011	Mancos to US 491	0.000	7.990	System Quality
US 491 A	PSW7012	NM State Line to North of US 160 intersection in Cortez	0.000	6.422	Safety
US 491 B	PSW7013	Cortez to Utah State Line	26.371	69.602	System Quality
US 550	PSW7014	NM State Line to San Juan/Ouray County Line	0.000	80.523	Mobility

Table 2: List of Regional Priority Corridors, and their primary concerns.

to the 2015 Regional Public Transit Feasibility Report. First and foremost, the inventory of the transportation system will be valuable when considering recommendations. This is because the inventory on the transportation system lists identified transportation gaps and needs that are also mentioned in other studies. This means that the information taken from the 2035 RTP will be heralded as more valuable, because it is consistently mentioned across other transportation studies. Additionally, the funding options mentioned in the last section of the 2035 RTP will provide a good starting point when researching potential funding sources.

3) TITLE: Southwest Colorado Regional Transit Feasibility Study
DATE PUBLISHED: 2009
PREPARED FOR: Region 9 Economic Development District

SUMMARY:

The 2009 Southwest Colorado Regional Transit Feasibility Study (2009 RTFS) compiles existing conditions and community input into a comprehensive regional transit plan with service and recommended policy solutions. It includes

9 sections: The introduction, Public Involvement, Existing Transportation Resources, Regional Transit Demand Estimates, an Assessment of Regional Transit Needs, Service Alternatives/ recommendations, Institutional/Financial Alternatives, a Preferred Services section, and an Implementation Plan section.

The 2009 RTFS obtained a substantial amount of resident and commuter feedback. This input and public outreach period consisted of 5 separate “town hall” meetings in Bayfield, Pagosa Springs, Ignacio, Cortez, and Durango. Each meeting identified public transportation needs through open community input and data collected through limited-response surveys. As it relates to this study, the open-input process found that:

- Each community that identified transportation to Durango (for medical, work, transportation, or other) was essential in a regional public transportation route.
- Each community identified a greater need for inter-city transit to Farmington, New Mexico for recreation, and employment.
- Residents in all communities would prefer to have bike racks on their

public transportation.

- Age, Income, and Vehicle Availability all played substantial roles in determining who would be most likely to utilize a regional public transit route.
- Ideal transit route departures aligned with traditional commuting habits, in that each community preferred bus routes that operated in rush hour timeframes: 6:00AM to 8:00AM and 4:00PM to 6:00PM.

As well, the limited-response surveys found that “service from home to work”, “services from home to medical facilities”, and “express service (limited stops)” ranked from important to extremely important across all commuters who participated in the survey.

After detailing the existing services in the area, the Southwest Colorado Regional Transit Feasibility Study produce regional transit demand estimates to guide their recommendations. Based off of 2035 population growth estimates (Seen in Figure 1 on next page), travel demand estimates were forecasted, and each demonstrates how Average Annual Daily Traffic will impact inter-county commuting patterns. For instance by 2035, there will

Population Projections

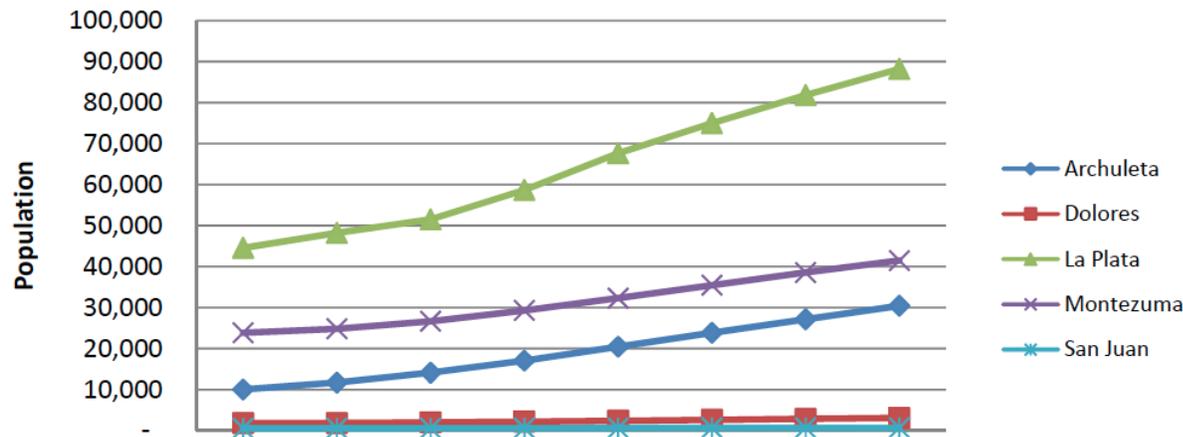


Figure 1: Population projections for Southwest Colorado, ending in 2040.

be over 10,000 daily trips on eastbound US Highway 160 from Mancos to Durango. The study also finds that Cortez Durango and Pagosa Springs will receive a disproportionately larger amount of incoming workers in 2035, which has the potential to drastically impact commuting habits from outlying communities.

After highlighting the regional service gaps in the Assessment of Travel Demand Needs, the 2009 RTFS identifies various types of services that may be offered

in the area. This includes typical transit information on Flex Route, Commuter Bus Service, and Vanpool type transit services. the 2009 RTFS also calculates the total costs of its recommended routes and service types. Table 3 includes an example of these options.

The Southwest Colorado Regional Transit Feasibility Study also outlines a preferred service plan, which is broken into three parts: vanpool services, regional services, and local service. Each section includes

recommended service, provider, hours of service, annual cost, estimated ridership, and cost per passenger. For instance, one recommendation calls for a vanpool from Cortez to Durango that would operate Monday-Friday, with 6,100 annual passengers and annual operations cost of \$37,320. However, this was not the only recommendation. The 2009 RTFS also recommended four other vanpool services, seven regional bus services, and three local flex service routes. After detailing all of the recommended routes and costs, the study's final chapter includes an implementation plan, which consists of a timetable for reasonable completion of all the tasks necessary to achieve regional transportation in the area.

RELEVANCE:

While it was not an intended consequence of the report, the most valuable aspects of the Southwest Colorado Regional Transit Feasibility Study were the results from the public involvement chapter. The open input and survey results will provide a strong foundation for determining what routes, and how many stops would be preferred by the end user. Additionally, the information in the recommendations for

Cortez to Mancos

Flex-Route Service

This flex-route service between Cortez and Mancos would operate Monday through Friday between the hours of 6:30 a.m. and 6:30 p.m. This service would be operated by Montezuma County Transportation (MCT) at a cost of \$30 per hour.

Service characteristics are as follows:

- Number of vehicles: 1
- Operated by: Montezuma County Transportation (MCT)
- Annual operations cost: \$91,800
- Estimated annual passenger-trips: 21,165 one-way trips
- Annual vehicle-hours: 3,060
- Annual vehicle-miles: 104,040
- Passengers per hour: 6.9
- Cost per passenger-trip: \$4.34

Table 3: Example of plan description for flex route service, costs, and forecasted passenger-trips.

flex route services will provide an excellent example how to correctly determine annual costs of operation, and potential routes based on future forecasts.

- 4) TITLE:** Southwest Colorado Council of Governments Transit Coordinating Council Action Plan
DATE PUBLISHED: 2011; Revised 2012
PREPARED FOR: Southwest Colorado Council of Governments

SUMMARY:

The 2011 SWCCOG Transit Coordinating Council Action is much different than other plans examined in this section, in that it is more of an internal guiding document for the Southwest Colorado Council of Governments. The 2011 SWCCOG Action Plan contains the four goals for the Transit Coordinating Council (TCC), what strategies and actions will be employed, and what the expected outcomes are. There are also progress

reports, which include primary partners, available resources, expected barriers, and a timeline for each goal. The four goals of the 2011 report are:

- 1) Sustain and expand public and specialized transportation services in the region.
- 2) Develop mechanisms to coordinate existing public and specialized transit service providers.
- 3) Develop mechanisms to sustain and strengthen the regional Transit Coordinating Council.
- 4) Complete Southwest Colorado Accessible Transportation Plan for End-Users.

RELEVANCE:

There are no regional recommendations in the 2011 SWCCOG Action Plan; however, it still has valuable information. For instance, the strategies and actions can indicate good starting points in the search for capital funding for this reports recommendations. Additionally, the 2011 SWCCOG Action Plan indicates what the TCC envisions for its future. This insight will allow any recommendations from this

report to align with the identity that the TCC seeks to have in coming years.

- 5) TITLE:** Draft Southwest Transportation Planning Region Regional Coordinated Transit and Human Services Plan
DATE PUBLISHED: 2014
PREPARED FOR: Colorado Department of Transportation

SUMMARY:

The Southwest Transportation Planning Region Regional Coordinated Transit and Human Services Plan (2014 HSP) is broken down into seven sections, which include an introduction, a regional overview, a description of existing transit providers and human service agencies, current and potential transit funding opportunities, transit needs and service gaps, financial and funding overview, and an implementation plan for the recommendations.

The beginning of the 2014 HSP demonstrates the methodology for the public input, while the regional overview provides the southwest transit vision. The vision of the 2014 HSP states that “the

Southwest TPR will provide coordinated transportation services that encourage transit travel among the region’s residents, employees, and visitors.” Additionally, the beginning of the 2014 HSP includes the most up to date information relating to the region’s population, employment, and job characteristics. Population and demographic forecasts through 2040 are also provided.

Following that, the 2014 HSP lists that detail which public transportation and human services transportation providers are already operating in the region are provided, along with and a brief description of the structure of the Regional Transit Coordinating Council. Next, the 2014 HSP evaluates the potential funding sources that are available to the region for increased transit dollars through various federal 5310, 5311, Older Americans Act, Veterans Transportation and Community Initiative funds. Then, the 2014 HSP describes how regional transit agencies can coordinate with localities to receive additional funding through VMT fees, payroll taxes, and other sources.

Towards the end of th 2014 HSP, the current state of funding in the Southwest

Colorado Transportation Region (SWTPR) is detailed. The HSP also lists what funding scenarios exist to bridge any current funding gaps. A status quo revenue and expense summary is also shown in order to demonstrate that the SWTPR faces a potential .04% decline in funding by 2040, even in the face of a rapidly growing population and increased transit demand.

The final section final section of the 2014 HSP is an implementation plan that sets five goals to address identified transportation needs and community desires. The five goals of the implementation plan are to:

- 1) Adopt policies that encourage sustainable, transit-oriented development that maximize choices and incentives for reducing dependency on the private automobile
- 2) Identify and explore funding opportunities to preserve existing transportation services and expand the transportation network, and to share funding information with all transportation providers.

3) Consider regional bus service to boost commerce, tourism, and economic development.

4) Ensure mobility and access for seniors, people with disabilities, people on limited incomes, and other economically disadvantaged (or “transit dependent”) populations.

5) Support existing and future transportation services with informational programs, outreach, and incentives

Each of these goals are followed by a set of strategies, an expected cost, a timeline, and a table that lists the expected benefits/needs addressed. For instance, the 2014 HSP noted that one regional strategy is to “Establish a mobility management function within the RCC to provide a one-stop shop/clearinghouse of information.” This would take nearly 8 years and cost upwards of \$100,000, but it would carry the benefit of providing more comprehensive transportation information for customers. The 2014 HSP concludes by providing an Implementation Plan Financial Summary, which gives the “estimated costs over the next 15 years associated with maintaining the existing

system compared to implementing the high-priority strategies identified in the Southwest TPR’s implementation plan.”

RELEVANCE:

Of all the past plans reviewed, the Southwest Transportation Planning Region Regional Coordinated Transit and Human Services Plan is the most comprehensive document. The up to date demographic information, and the list of human services coordination agencies will be essential to the process of drafting accurate and feasible recommendations.

6) TITLE: 2040 Regional Transportation Plan
DATE PUBLISHED: 2014
PREPARED FOR: Colorado Department of Transportation

SUMMARY:

In essence, the 2040 Regional Transportation Plan (2040 RTP) is the regional master transportation visioning document for the region, and it aims to guide the transportation related decision

making processes as they relate to the statewide transportation system. To elaborate on the region’s vision, the 2040 RTP is divided into six chapters: the first chapter tells the regional transportation story, the second details the forthcoming changes that will be affecting regional transportation, and the third illustrates the purpose of planning, and what processes are involved in the Southwest Transportation Planning Region (SWTPR). The fourth chapter identifies what areas of the SWTPR are considered to be regional priority centers, the fifth chapter states the transportation needs and revenue sources while the sixth, and final, chapter provides implementation actions and steps for moving forward.

Chapters one through three describe the state of the existing conditions of the area, noting how the mountainous landscape and diverse economic needs make the SWTPR a challenging place to provide transportation services. Additionally, the first half of the document forecasts what changes could be expected in the region between 2015 and 2040. Some examples included a growing population, and complexities in distribution of federal funds.

Mexico State line to US 160

The 2040 RTP also outlines how the planning process has been based on corridor-planning because this type of planning “connects the long-term vision of a transportation corridor with the goals, solutions, and strategies that the TPR has identified to attain the vision.” Accordingly, they define a regional priority corridor as a “corridor that has been selected by the members of the TPR as having high importance to the region’s transportation system or it is important because of a need for near-term improvements”. With that, the 2040 Regional Transportation Plan identifies five regional priority corridors. They are:

- US Highway 160 from the Four Corners to the Archuleta/Mineral County Line
- US Highway 491 from the New Mexico State line to the connection with US 160
- US Highway 550 from the New Mexico State line to the San Juan/Ouray County line
- State Highway 151 from Ignacio to US Highway 160 West of Pagosa Springs
- State Highway 172 from the New

The 2040 RTP also cites how each corridor has their own “corridor characteristics,” as well as “Goals and Strategies.” For instance, the US Highway 160 corridor’s characteristics include natural resources exploration and production, freight transport and commuter traffic, access to Montezuma Cortez Airport, and Tourism, Recreation, Agriculture and Commercial activity. The same corridor’s goals and strategies are to provide tourist friendly travel, improve multimodal options, and improve intersections.

After identifying the strategies and characteristics of each regional priority corridor, the 2040 RTP briefly highlights other transportation needs funding options that exist to satisfy all the goals, strategies, and other concerns in the area. This portion of the document mainly focuses on baseline scenarios based off of the existing CDOT funding, and projected growth in the departmental budget. However, the plan does note that there can be available grants through other state and federal agencies to improve critical infrastructure.

The 2040 Regional Transportation Plan concludes by providing final implementation actions, and describing how each is applicable to the SWTRP vision. For instance, the plan recommends that the SWTRP should “coordinate with local transit operators, transit advocates, and CDOT regional staff to discuss ways to advance mutual goals. “This particular action step aligns with the vision of mobility, and access.

RELEVANCE:

However, the information found on Regional Priority Corridors is valuable, in that it will assist in the prioritization of recommendations. The Regional Priority Corridor section will also guide the recommendations towards aligning with the strengths and characteristics of the jurisdictions participating in the Southwest Colorado Council of Governments. Finally, the information provided on CDOT funding scenarios will be useful for determining how to craft financially solvent recommendations.



- I. Recommendations
- II. Funding Sources
- III. Cost of Operations

After performing a literature review, conducting an analysis of past transportation plans, and holding discussions with transportation experts in the region, three recommendations for the SWCCOG transportation system were identified. Each recommendation represents an area where the Southwestern Colorado Council of Governments has the largest opportunity to enhance the services offered within its jurisdiction. The recommendations are:

1) Produce a vision plan for the SWCCOG and concurrent Action Plan for the Regional Transit Coordinating Council.

The current vision of the SWCCOG states “The SWCCOG will be the catalyst to promote quality of life, effective and efficient services, and leadership through regional communication, cooperation, planning, and action.” While this is a commendable vision to work towards, there needs to be a clear delineation of what the expected role of the Southwest Colorado Council of Governments will be in the coordination of Transportation and Human Services.

2) Hire additional staff to focus on the coordination and funding of Regional Transit Coordinating Council projects.

Multiple sources in the literature review, and two past plans from section two of this report cited that regional coordination entities function best with a dedicated coordinator for transit services. Currently the SWCCOG only employs two people, and the addition of a transportation coordinator would greatly expand the efficiency of the Regional Transportation Coordinating Council. The Transit Coordinator would be able to perform essential transit service duties that would include (but not be limited to): Answering queries from passengers, scheduling transportation related events, assisting member jurisdictions and obtaining grant funding.

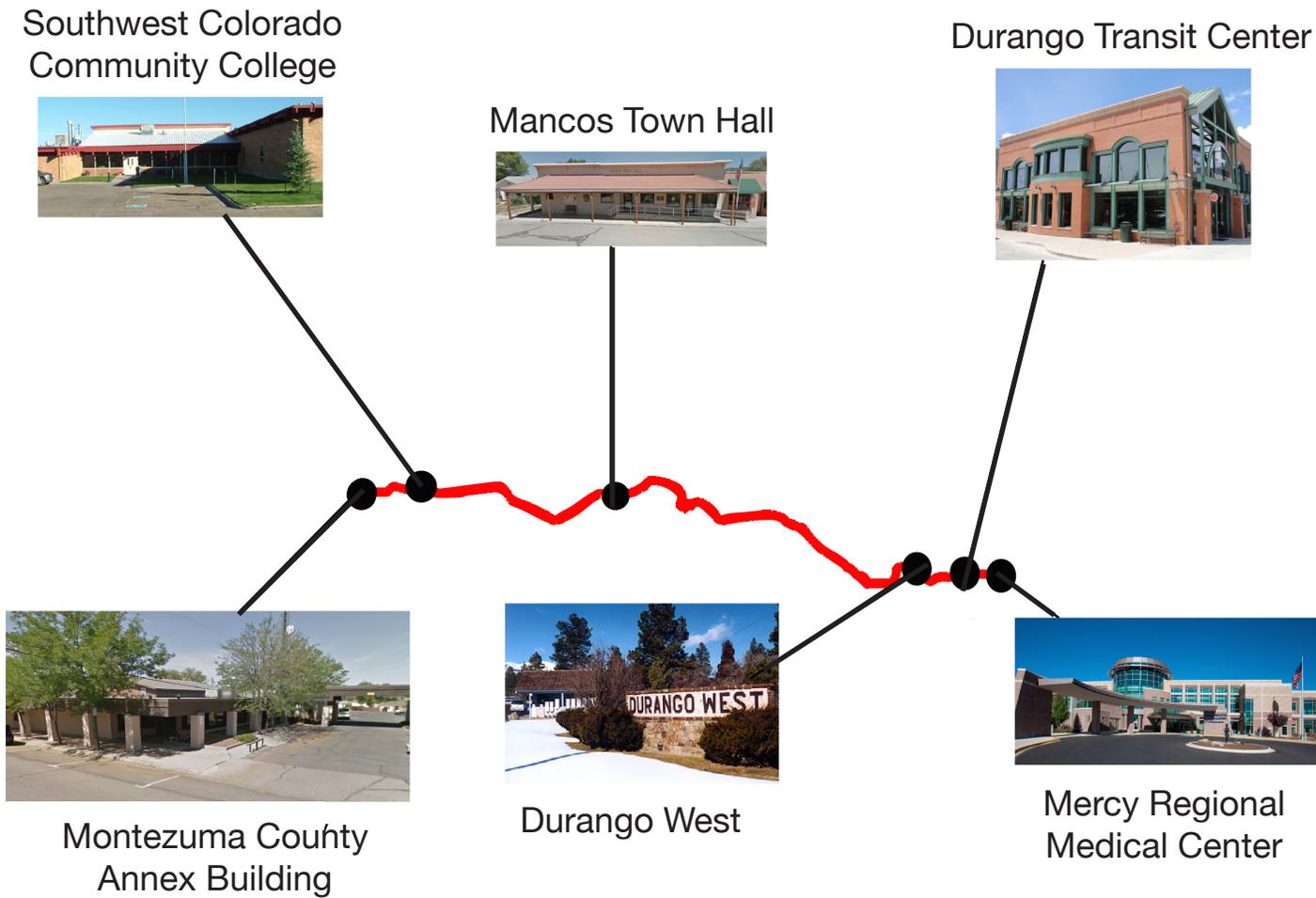
3) Work with Member jurisdictions to establish a regional inter-city fixed route transit line from Cortez to Durango.

This regional transit service would operate twice-daily on weekdays, using an 8-12 passenger vehicle similar to a Ford Startrans (See Appendix A), leaving from

the Montezuma County Annex Building in Cortez, and ending at the Mercy Medical Center in Durango. This line would include stops at Southwest Community College, Mancos Town Hall, Durango West, and the Durango Transit Center.

This transit line would meet a clear need identified in almost every major planning study that took place over the past seven years, and would present the best opportunity for expansion as population and demand increases. For instance, this route could be grown to include a stop near Towac, or work in conjunction with current transportation planning efforts by the Ute Mountain Ute Tribe. Additionally, the coordination of this service can be done so that the schedule of Southern Ute Community Action Program’s Road Runner service to Bayfield and Ignacio. Picture 2 on the next page highlights the proposed route and stops, while a proposed bus schedule can be found in Appendix C. Funding Sources, Cost of Operations will be discussed later in this section.

Picture 2: Proposed US Highway 160 Route



The funding sources described in this section are resources that provide money for capital start-up costs, or continuing operations of public transportation. While there are many private grants available for financing similar transportation projects, the funding sources that are listed in this section are most likely to be awarded to the Southwest Colorado Council of Governments and the participating jurisdictions. The sources are arranged based on the size of funding, and level of government that provides the money (i.e. federal transportation funding sources are listed first, arranged by which provides the most amount of money).

1) MAP-21

There are a number of funds available through the Moving Ahead for Progress in the 21st Century (MAP-21) transportation omnibus bill. Each of the options is described in turn below:

5309 Capital Investment Program

As noted by the United States Department of Transportation, the Section 5309 program provides “the establishment of

new rail or busway projects (new starts), the improvement and maintenance of existing rail and other fixed guideway systems that are more than seven years old, and the upgrading of bus systems” (USDOT). These funds would be ideal for the start up of any projects, and the acquisition of the necessary transportation resources to establish a regional route to run along US Highway 160.

5310 Enhanced Mobility of Seniors and Individuals with Disabilities

The 5310 program is a formula grant fund available to private non profits, transit operators, state or local governments authorities so that these organizations may enhance the mobility of seniors or persons with disabilities. While this funding source could provide substantial capital for the projects laid out in this report, it is mandated that 55 percent of funds public transportation capital projects that are intended to meet the special needs of seniors and individuals with disabilities when public transportation is insufficient, inappropriate, or unavailable. However, the remaining 45 percent can be used on projects that are not related to ADA access requirements

for transit dependent persons.

5311 Rural Public Transportation Formula Grants

An overwhelming majority of the past plans reviewed in this report suggested that 5311 funding would be an optimal way to obtain federal funding for regional transportation in Southwest Colorado. The 5311 funding program provides funding to the states for the administrative, capital, and operating costs of transportation projects in areas with populations less than 50,000 people. Moreover, 15% of 5311(f) funds must be allocated for intercity rural bus services. Other subsets of 5311 funding, like 5311(b)(3) the Rural Transit Assistance Program, could be applied to any recommendations found within this report. The Job Access and Reverse Commute Program (JARC) that was a key feature of SAFETEA-LU has also been subsumed into 5311 funding.

2) Older Americans Act

The Older Americans Act provides funds for transportation through Title III-B. This funding source allocates funding to State and local agencies for the purpose

of providing supportive services to the elderly in the form of operation of multi-purpose senior centers. Considering that a reasonable amount of use for the proposed route will come from seniors, Title III-B funding is an option that deserves consideration.

3) FASTER

The Funding Advancements for Surface Transportation and Economic Recovery (FASTER) bill was passed in March 2nd of 2009, and authorizes the Colorado Department of Transportation to improve road safety, improve infrastructure, and support/expand transit options. Through the FASTER transit grant program, 15 million dollars is set aside each year, with 5 million being allocated for local transit grants, and 10 million being used for statewide transit projects. Since the inception of the FASTER program, 138 projects have been completed across the state of Colorado, and the breakdown of categories can be seen in Figure 2. Although local governments are required to provide a (minimum) 20% match, this is yet another viable funding source for the recommendations set forward in this report.

4) Local Tax Revenue

If the five counties participating in the Southwest Colorado Council of Governments were to increase sales tax by 0.7 percent, the annual revenues available for the region could be upwards of 10 million. Alternatively, increasing property taxes by 1.0 mil, or 1 dollar on every 1000 dollars of assessed value, would yield over 2 million dollars for regional transportation funds. While this is the most direct source available for enacting recommendations, the Taxpayers Bill of Rights would require that any tax

increases be voted upon, and could have negative political consequences for county officials.

FASTER Transit Grants & Projects

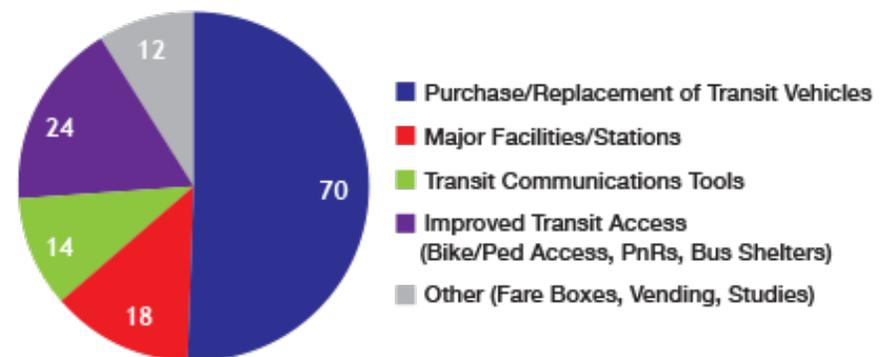


Figure 2: A breakdown of FASTER Projects Since 2009

Table 3 represents the maximum total cost of operating the recommended route along US Highway 160. The costs associated in the top half of Table 3 are Capital Costs, and would be incurred on the first year only. Moreover, each figure in the Capital Costs section denotes the absolute highest amount associated with the action. This is done intentionally, so any policies formulated around the recommendations can be made in preparation of the most expensive outcomes possible. For instance, this projection notes that the vehicle acquisition costs are \$85,000.00, and this would have to only happen in the first year. The \$85,000 figure comes from extensive research into the costs of purchasing two high quality Ford Startrans Candidate SCII Single Wheel Vehicles (See Appendix A). It is possible that the decision-making body responsible for the route could purchase a single vehicle at lower than half of that number.

The research conducted to draft this budget also indicated that there was no reason to include infrastructure or construction costs into the Capital Costs. This is a result of the fact that each stop identified in the recommended

route already houses some level of public transit service. However, as the region experiences population growth and increased intercity transit demand, additional costs may be incurred to expand infrastructure or to accommodate riders.

The First Year Operating Costs are much more difficult to determine in any transit budget, as a number of the figures are reliant upon many variables. For example,

the cost for Fuel Expenses in Table 3 comes from extensive research into petroleum forecasting, which determines that the average regional fuel cost for the State of Colorado will be \$2.64. There is no guarantee that this figure will remain stable; any volatility in oil markets can drastically impact the amount of money spent on fuel. Furthermore, the costs associated with Annual Vehicle Maintenance are derived from averages found in the case studies used for this

First Year Costs of Operation	
Capital Costs	
Vehicle Acquisition Costs	\$ 85,000.00
Marketing/Advertising	\$ 5,000.00
Operating Costs	
Vehicle Maintenance Costs (Vehicle Average)	\$ 4,957.00
Fuel Expenses	\$ 6,970.00
<i>Total Vehicle-Miles Per Year</i>	23,000.00
<i>Average Regional Fuel Cost Projection</i>	\$ 2.64
Driver Salary (Max. Annual)	\$ 25,000.00
Transit Coordinator Salary (Annual)	\$ 40,530.00
Total First Year Costs	\$ 167,457.00

report, and one cannot reasonably assume that the costs for maintaining a two vehicle fleet will consistently amount to exactly \$4,987.00.

In order to recuperate costs of operations, the fare would need to be **\$5.00 per passenger** to cover at least 25%, or \$41,864.25 of the total cost of operating the recommended transit line. This calculation is also predicated on averaging 8 riders per trip, per day. Additional fare schedules can be calculated where riders who are going further pay more, but it is the recommendation of this report that rider fares do not exceed \$10.00. This is because the fares need to be such that utilizing the regional transit system is economically advantageous, and average cost per round trip from the Cortez Community Center to Mercy Regional Medical Center would cost a single driver \$12.04 in a vehicle that has the national average 22 MPG fuel efficiency.



- I. Appendices
- II. Work Cited

APPENDIX A – Case Studies

The case studies featured in this appendix are examples of rural regional transportation that were highlighted during the research phase, and shed light on ways in which the Southwest Colorado Council of Governments may successfully implement the best management practices that are already in place at other locations. Each case study identified here is chosen because it either closely represents the same population as the Southwest Colorado Region, aims to address similar transportation issues, or provides additional information on structuring transportation services that was not available in the Literature Review section

1) Mid Delta Community Services Transportation, Helena, Arkansas

Mid Delta Community Services offers low-cost transportation services to the general public in Philips, Monroe, Prairie, and Lee counties in Eastern Arkansas. Mid Delta Community Services Transportation (MDCS) provides a wide array of services, ranging from non-medical transport to appointments, rides to job sites, and other

personal needs. Fares are based on travel distance, need, age, and disability status. As such, fares range from \$4.45 for a one stop, one county ride, to \$25.00 for a four county, round trip stop.

Although the population between the counties of the MDCS is comparable to that of Southwestern Colorado, the real reason this transportation service was used as a case study was for fare structuring, and a clear, accessible operating budget. Since there is ample and detailed information on what line items must be included in a regional transportation operating budget, this study will closely emulate the same format and formula used in the operating budget for the Mid Delta Community Services.

2) CARTS, Chautauqua County, New York

The Chautauqua Area Rural Transit System is the public transportation provider for people living, working, or visiting Chautauqua County, New York. There are two main CARTS terminals in the Municipalities of Jamestown, and Dunkirk, and each provides fixed route services to Lakewood, Fairmount, and

Fredonia. Additional towns and hamlets are serviced through East Southeast County, North County, Northwest County, and South County bus routes. Fares are determined by type of service used, and number of (townships) crossed during your trip. Individuals can buy one-way, round trip, 10 trip, or monthly tickets. Senior discounts are available upon request and proof of ID.

The Chautauqua Area Rural Transit System was viewed as a relevant case study for the 2015 Regional Public Transit Feasibility Report for several reasons. First, the racial and economic demographics of are very similar to that of Durango Colorado. For instance, Jamestown has a median individual income of \$30,003, whereas Durango had a median income of \$34, 882. Moreover, 17.2% of persons in Durango live below the poverty line, and 19.5% of Jamestown residents live below the poverty line. It is worth noting that while Dunkirk, NY has more residents than Cortez, CO, both are similar in economic demography.

These similarities are important because poverty statistics and median incomes often dictate travel patterns,

trip generators, and likely use of public transit. While there is no guarantee that any proposed line would receive the same amount of ridership, the CARTS was still useful because it demonstrated that for rural transportation systems to function properly among areas of a similar economic background jobs cannot be the only consideration in determining routes. The CARTS also has established routes to major medical, tourism, and education hubs as well, and that is something that will need to be taken into account for when the physical planning of routes occurs in Southwest Colorado.

3) SunRides Transit, Maichas, Maine

The SunRides Transit service provides veterans, elderly and non-emergency medical transportation services in Maichas, Eastport, Pleasant Point, Lubec and Millbridge, Maine. Additional, free intercity service to Bangor, Maine is provided to senior citizens. Much like the case study of Mid-Delta Community Services Transportation, this case study was chosen not because of trip generation information, or comparable demography; instead, this was chosen because the transit agency, Washington Hancock

Community Agency, has provided substantial information on expenses relating to the vehicles used for intercity transit. For instance, this report detailed what the average cost of a Ford Startrans Candidate SCII Single Wheel (pictured below) is, and what each transit agency can reasonably expect for annual repair costs, and fuel consumption per mile.



Example of a Ford Startrans Candidate SC II Single Wheel model that is recommended for the route proposed in Section Three

APPENDIX B—Road Runner Transit Schedule

This appendix includes tables that display the weekday Southbound and Northbound schedules for the Southern Ute Community Action Program’s Road Runner Transit system. The Road Runner transit system has been so successful that it was imperative that the proposed route found in Section Three worked in conjunction with the weekday routes to provide increased travel opportunities, and potentially increase ridership.

WEEKDAY NORTHBOUND IGNACIO TO DURANGO Effective 1-12-2015 ALL Times Listed are DEPARTURE Times except Transit Center Dispatch: 970-749-0223 / Office:970-563-4545					
<u>Stop</u>	<u>AM</u> <u>1</u>	<u>AM</u> <u>2</u>	<u>Mid-Day</u> <u>3</u>	<u>PM</u> <u>4</u>	<u>PM</u> <u>5</u>
RRT OFFICE	5:55 AM	8:25 AM	11:55 AM	2:25 PM	4:50 PM
Ignacio Post Office	6:00 AM	8:30 AM	12:00 PM	2:30 PM	4:55 PM
Ignacio Library	6:02 AM	8:32 AM	12 :02 PM	2:32 PM	4:57 PM
Senior Center	6:04 AM	8:34 AM	12 :04 PM	2:34 PM	4:59 PM
Growth Fund Bldg	6:06 AM	8:36 AM	12 :06 PM	2:36 PM	5:01 PM
Annex Bldg	6:07 AM	8:37 AM	12 :07 PM	2:37 PM	5:02 PM
Leonard C Burch Bldg.	6:08 AM	8:38 AM	12 :08 PM	2:38 PM	5:03 PM
Sky Ute Casino / Ignacio	6:11 AM	8:41 AM	12 :11 PM	2:41 PM	5:06 PM
Hwy 172 & CR 222	6:28 AM	8:58 AM	12 :28 PM	2:58 PM	5:23 PM
WALMART/Mercy Medical Center	REQUEST	REQUEST	REQUEST	REQUEST	
Mercury Payments	6:47 AM	9:17 AM	12:47 PM	3:17 PM	5:42 PM
Centennial Center	REQUEST	REQUEST	REQUEST	REQUEST	
Durango Transit Center	6:59 AM (arrival)	9:27 AM (arrival)	12:59 PM (arrival)	3:29 PM (arrival)	5:54 PM (arrival)

APPENDIX B—Road Runner Transit Schedule (Cont.)

<p align="center">WEEKDAY SOUTHBOUND DURANGO TO IGNACIO Effective 1/12/2015 (ALL Times Listed are DEPARTURE times)</p>					
Stop	AM 1	AM 2	PM 3	PM 4	PM 5
Durango Transit Center	7:08 AM (departure)	10:08 AM (departure)	1:08 PM (departure)	3:35 PM (departure)	6:03 PM
Centennial Center	7:14 AM	10:14 AM	1:14 PM	3:41 PM	6:09 PM
Mercury Payments	7:20 AM	10:20 AM	1:20 PM	3:47 PM	6:15 PM
Walmart (CALL ONLY) Mercy Medical Center	CALL	10:29 AM	1:29 PM	CALL	
Hwy 172 & CR 221	7:35 AM	10:35 AM	1:35 PM	4:02 PM	6:30 PM
Sky Ute Casino / Ignacio	7:52 AM	10:52 AM	1:52 PM	4:19 PM	6:47 PM
Leonard C Burch Bldg.	7:55 AM	10:55 AM	1:55 PM	4:22 PM	6:50 PM
Annex Bldg	7:56 AM	10:56 AM	1:56 PM	4:23 PM	6:51 PM
Growth Fund Bldg	7:57 AM	10:57 AM	1:57 PM	4:25 PM	6:52 PM
Senior Center	7:59 AM	10:59 AM	1:59 PM	4:27 PM	6:54 PM
Ignacio Library	8:01 AM	11 :01 AM	2:01 PM	4:31 PM	6:56 PM
Post Office	8:03 AM	11 :03 AM	2:03 PM	4:33 PM	6:58 PM
RRT OFFICE	8:10 AM	11:10 AM	2:10 PM	4:40 PM	7:10 PM

APPENDIX C—Proposed Timeline for Recommended Route

The times seen in in the tables for this appendix reflect a potential schedule for the route that was recommended in Section Three. Each schedule was carefully drafted so that riders can arrive in Durango in time to connect with the Southbound AM 1 route of the Road Runner to travel to Ignacio, or allow individuals returning from Ignacio to connect with the Northbound PM 5 to travel to Cortez. Since almost all of the past studies identified that commuting for work would be vitally important to the success of an intercity route along US Highway 160, this study also allows potential riders to commute to and from Durango before and after traditional work hours. Times were determined based off of subject matter expert opinion, driving the route, and comparing recorded times with online geospatial travel applications.

Proposed Eastbound Schedule for Recommended Route

	Cortez	Southwest Colorado Community College	Mancos Town Hall	Durango West	Durango Transit Center	Mercy Medical
Morning Route (All Times AM)	5:10	5:38	6:05	6:45	7:00	7:20
Afternoon Route (All Times PM)	2:00	2:28	2:55	3:35	3:50	4:10

Proposed Westbound Schedule for Recommended Route

	Mercy Medical	Durango Transit Center	Durango West	Mancos Town Hall	Southwest Colorado Community College	Cortez
Morning Route (All Times AM)	9:00	9:20	9:35	10:15	10:42	11:10
Afternoon Route (All Times PM)	5:45	6:05	6:20	6:40	7:07	7:35

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