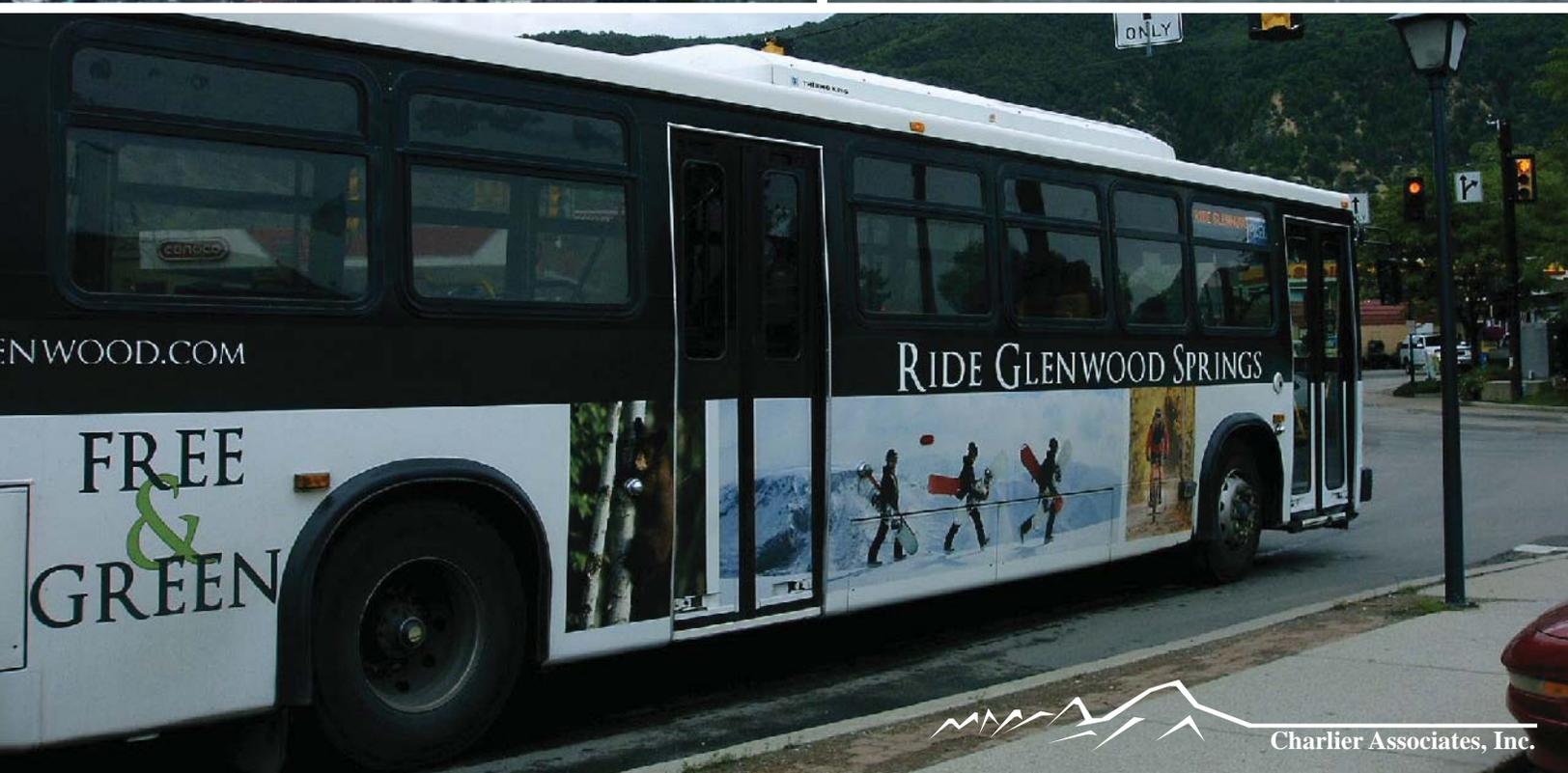


City of Glenwood Springs & Ride Glenwood Springs
Five Year Transit Operations Plan (2011-2015)
Final Report: December 2010



Chapter 1: Introduction, Context & Summary Recommendations

Introduction

The Transit Operations Plan (TOP) is the City's five-year planning, service, and implementation blueprint for its Ride Glenwood Springs (RGS) transit service. It addresses specific route, service, and operations recommendations as well as strategic transit planning and policy guidance. The TOP is required by the Colorado Department of Transportation (CDOT) to receive state and federal transit funding and to comply with other requirements in the City's role as a transit provider through RGS. This TOP was prepared in 2010 for the five year period of 2011-2015.

City Transportation staff led this TOP update with consultant assistance (Charlier Associates, Inc.) under the direction of the City's Transportation Commission and formal approval by City Council. Funding was provided by an FTA Section 5304 grant administered through CDOT, with local matching funds provided by the City. The planning process included significant community, stakeholder, and formal engagement.



Ride Glenwood Springs bus

Context

This TOP was prepared during a time of significant transition for Glenwood Springs. During 2010, the City was updating its Comprehensive Plan and working with CDOT and other partners on a Corridor Optimization Plan for Highway 82, among many other transportation-related initiatives. Additionally, the Roaring Fork Transportation Authority (RFTA) was working to implement its VelociRFTA Bus Rapid Transit (BRT) service from Aspen to Glenwood Springs (scheduled to begin service in 2013). At the same time, the local and national economy continued to struggle through a prolonged downturn, forcing difficult and unprecedented funding and service reductions to RGS service. How to do so in a cost-effective way that preserves as much quality service as possible became the central focus of this TOP effort.

Recommendations Summary

The 2011-2015 TOP's major recommendations are summarized below. Chapter 4 discusses the recommendations in more detail and context. The recommendations have two components: FY 2011, and FY 2012-2015. This distinction is made for several reasons. The first year of the TOP is based on official costs and revenues data from the City and RFTA, while outer years are necessarily unofficial projections that will change over time, perhaps significantly. Also, FY 2011 will represent an unfortunate but necessary downward recalibration of RGS service and funding. Because FY 2011 will serve as the base condition for future year revenues, costs, and service, it is important to distinguish FY 2011 conditions first.



TOP Recommendations (FY 2011)

- **Eliminate the South Route in Spring 2011:** The City does not have the funding to continue operating the South Route, which is much more expensive and much less productive than the Main Route. City Council directed that the route be continued through RFTA's winter schedule (through April 15th, 2011) to provide current riders a transition period to make other transportation arrangements.
- **Reduce Main Route Service:** Even eliminating the South Route will not entirely mitigate the City's FY 2011 transit budget shortfall, with Main Route service reductions also being necessary. The TOP recommends eliminating the three least-productive daily (weekday and weekend) service hours on the Main Route – the first service hour in the morning and the last two service hours at night. (Alternatively, service hours could be maintained with reduced frequency to balance service coverage with frequency. The objective is to reduce the equivalent of three daily service hours for budget purposes.) These changes would also take effect with RFTA's Spring service schedule on April 16th, 2011.
- **Implement Minor Main Route Modifications:** This recommendation addresses City Council's request to try aligning the Main Route in a one-way loop southbound on South Grand Avenue, eastbound on 27th Street, and returning northbound on Highway 82 from Roaring Fork Marketplace. This configuration is intended to maintain transit service west of Highway 82 in this area once the South Route is eliminated, and to try to save time in the Main Route schedule, a significant service concern. This recommendation is predicated on several conditions being met addressing service access and route operations, which are discussed in detail in Chapter 4.
- **Create a Financial Contingency:** As noted previously, the bus tax fund has been carrying a deficit and suffering declining sales tax revenue. The City's FY 2011 budget purposefully and strategically provides for a contingency in the bus tax fund to help buffer against lower revenues, higher costs, or other unanticipated adverse conditions affecting transit service.
- **Remain Fare-Free in 2011:** Charging a reasonable fare – large enough to generate net revenue after administrative and operational costs – would exacerbate declining ridership and would not generate enough revenue to preserve the South Route. The appealing perception of "shared sacrifice" would actually harm the Main Route without saving the South Route. Charging a fare on the Main Route is counter to RGS' mission as a Transportation Demand Management solution for Highway 82. The Transportation Commission also voted against implementing a fare at this time.



TOP Recommendations (2012-2015)

- **Work Towards Increased Ridership:** The City should continue its efforts to educate, advocate, and promote RGS as a meaningful transportation option, especially for local residents, employees and others who would potentially ride the bus on a regular, recurring basis as a means to increase and solidify ridership over time. Visitors, tourists, and others should also continue to be targeted, particularly given RGS' objective as a Transportation Demand Strategy to help manage and reduce vehicle traffic on SH 82.
- **Work Towards Enhanced Weekday Service:** The Transportation Commission has prioritized implementing 15-minute weekday frequency on at least a portion of the Main Route, and ideally the entire route, to maximize convenience and ridership potential. This objective may not be feasible until economic conditions – and transit funding – improve, but should be prioritized to strategically improve the RGS system. Frequent service in concentrated areas (strategic depth) is more productive over time than spreading less-frequent service across a greater coverage area (broad breadth).
- **Reconsider Implementing a Fare:** Implementing a fare is the most direct way to diversify RGS's funding sources, but would come with significant ridership decline. Accordingly, improved economic conditions and higher RGS ridership over time are the pre-conditions under which a fare could be reconsidered to minimize its ridership impacts and maximize its potential net revenues. Once ridership returns to 2008 levels, a fare becomes more viable – if absolutely needed for revenue purposes – in terms of absorbing the accompanying ridership loss while still generating meaningful revenue towards service operations.
- **Change and Grow Service Carefully:** Any major change to transit service – whether instituting a fare or adding or reducing routes or service – can be a “shock to the system,” both to actual ridership as well as broader community perceptions about RGS. Coupled with current economic volatility, any major changes should be implemented carefully and thoughtfully. Given the significant and difficult service reductions already recommended, it will be most important to “hold the line” on preserving as much existing service as possible rather than risk both reducing and adding service. By reducing and enhancing service at the same time, RGS risks having to cut back on the new enhanced service or reduce even more service if financial conditions continue to deteriorate. This scenario should be avoided.
- **Diversify Transit Funding Sources:** RGS, like most transit providers, relies primarily on sales tax to fund transit service. Besides implementing a fare, additional transit funding options are more limited, particularly in the short-term. However, other possibilities should be considered, particularly over a longer-term timeframe.
- **Integrate with VelociRFTA:** RFTA's regional Bus Rapid Transit (BRT) service, VelociRFTA, is anticipated to begin service during this TOP timeframe (currently



estimated to start in 2013). VelociRFTA's down-valley terminal (last) station will be at 27th Street and Highway 82 in Glenwood Springs. Once BRT service starts, RGS should fully integrate its route and service as financially feasible to ensure seamless connections between both systems. This will primarily mean more frequent RGS service to match VelociRFTA's headways, as well as route and stop modifications to serve the BRT station.

TOP Overview

The remainder of this TOP is organized into the following chapters:

- **Chapter 2 – Community Engagement:** Summary of the TOP's extensive community and stakeholder engagement efforts and outcomes
- **Chapter 3 – Key Issues Analysis:** Technical and policy discussion and analysis of the priority issues affecting RGS, the foundation of developing this TOP
- **Chapter 4 – TOP Recommendations:** Detailed FY 2011 and FY 2012-2015 RGS service, operations, planning, and policy recommendations

Conclusion

This 2011-2015 Transit Operations Plan (TOP) is intended to provide strategic and directive technical and policy guidance to RGS and its stakeholder partners addressing the system's planning, operations, service, and funding over the next five years. A primary focus has been how overcome significant FY 2011 budget and funding shortfalls in maintaining as much service as possible. Given ongoing economic volatility, outer year conditions are more difficult to forecast and plan for, so 2012-2015 recommendations are more planning and policy oriented to provide RGS with guidance to adjust to changing economic and budget conditions as they occur.



Chapter 2: Community Engagement

Introduction

The TOP included several forms of outreach and involvement during the planning process involving local residents, transit passengers, stakeholders, elected officials, and others. While transit budget and funding shortfalls constrained the service and planning opportunities to explore through community engagement, consensus-building was prioritized to address RGS' reduced funding and service realities. The following major outreach and engagement activities summarized below were undertaken to prioritize key issues and guide the TOP's development.

Community Engagement Activities

Transportation Commission

The Transportation Commission (TC) advises the City Council and other transportation stakeholders regarding key transportation issues, priorities, projects, and funding affecting Glenwood Springs. The TC serves as an advisory committee about transportation similar to the Planning Commission's advisory role regarding general planning and development issues.

For the TOP, the TC serves as a steering committee providing direction, review, oversight, and monitoring to develop, implement, track, and refine the TOP. Several meetings were held with the TC to develop this TOP – first, to identify priority issues and focus areas for plan development, and then especially to sort through complicated budget, funding, and service options and implications once the City's FY 2011 transit budget was prepared.

Chapter 3 addresses the following priority issues identified by the TC (and City staff) for this TOP; priority issues were not rank-ordered:

- Transit budget and revenues, especially how much service is affordable
- Funding options and stability over time
- Whether or not to charge a fare
- Whether or not to continue South Route service
- Addressing safety and security issues

Though this list was not rank-ordered, the TC did emphasize starting with the "budget affordability" issue to guide the amount of opportunity and flexibility for the other issues. Similarly, while the TC agreed that safety and security are important issues, it was felt that the TOP could address them only so much, and that they were less important than the other budget and service issues.

Additionally, the TC also identified other over-arching transit service objectives and aspirations. Chief among these is to eventually have at least 15 minute service frequency along the Main Route to maximize discretionary, cost-effective ridership, especially in the



summer. Another important issue is how and where RGS should interface with VelociRFTA service to balance seamless access, connections, and service between them.

Finally, the TC emphasized two other critical issues for the TOP. The first is a desire to provide substantive guidance on transit service issues for which there has been past vacillation. In particular, whether to charge a fare and whether to continue South Route service have been vexing issues over time. Both service issues have been tried, stopped, and in the case of the South Route, modified and re-started. The second critical issue is to provide such guidance in a directive and compelling way. The TC felt that the TOP needs to be decisive to enable forward progress and to successfully navigate through the current difficult transit environment. Having a strong and compelling transit plan strengthens its credibility and effectiveness, while allowing for needed flexibility and adjustment.

The TC, along with City Council, was also instrumental in providing guidance and direction to sort through complicated budget, funding, and service issues to address the significant FY 2011 transit budget shortfall. Similarly, the TC also thoughtfully discussed and provided direction regarding the fare and South Route service issues. All of these are discussed in detail in Chapter 3.

City Council

The Glenwood Springs City Council formally adopts the TOP based on advice and recommendation from the TC and City staff. The City Council considered and discussed this TOP and the priority transit issues described above during several meetings and work sessions in November and December 2010. In summary, the City Council endorsed ending South Route service, not charging a fare at this time, and other elements of the TOP's recommendations, discussed in Chapters 1 and 4.

Stakeholder Meeting

An informal roundtable discussion was held with approximately 10 representatives of local and regional transportation providers and community stakeholders on April 5th, 2010. Participating entities included Greyhound Bus Lines, Colorado Mountain College, RFTA, the Traveler (ADA paratransit provider), and others from a master stakeholder database maintained by the City. The database includes Amtrak and other transportation providers, business/employers, tourism, real estate, architects/engineers, public agencies, non-profits, environmental interests, historic/cultural interests, schools/library, property owners, and other entities.

Major ideas, observations, outcomes, and priorities from the stakeholder meeting include:

- Greyhound has high ridership in Glenwood Springs, with three trips per day each to/from the west (Los Angeles) and east (Denver).
- An innovative idea is to integrate schedules, reservations, ticketing, and other customer service elements between Greyhound, RGS, and RFTA to collectively increase and leverage each agency's ridership and service area. It was noted that this would be very difficult to implement and should be done in stages over time.



A first step could be expanded website links reciprocity on each agency's homepage.

- Glenwood is a local and regional transportation and transit hub – Greyhound, Amtrak, RGS, RFTA (regional bus and, soon, VelociRFTA), ECO Transit (potentially), and others. There will be a long-term need to create one or more intermodal centers to coordinate the numerous transit services. Glenwood Springs is a “multi-center” city, with existing or logical future transportation/transit hubs downtown, at the future VelociRFTA terminus, and in West Glenwood.
- Whether or not to charge a fare on RGS service is a priority issue. If a fare is implemented, there is much complexity regarding stratification (how the fare is structured and priced for different users), logistics, finances, and other elements.
- Colorado Mountain College (CMC) is interested in transit's role to increase mobility for students and others working at, attending/meeting, or visiting CMC. Classes can run as late as 10:00 pm.
- Elderly and disabled passengers are an important constituency throughout Garfield County. Service or route changes to “fixed route” transit providers should account for impacts to “demand response” transit providers and their passengers.
- RGS has its roots as a Transportation Demand Management strategy for SH 82 traffic. This is still a primary objective; however, transit is important and valued enough to have “stand alone” priority, not just to manage vehicle traffic flow.
- Safety and security are important issues that should be considered within the TOP project's schedule and budget constraints. These issues can affect passenger comfort, “discretionary ridership,” and the general community's perceptions toward transit.
- Other important issues are using transit to facilitate bicycle mobility, and finding new and different transit funding options and sources.

RFTA Staff and Drivers

RFTA is RGS' contracted operator of the Main Route. As such, input from and coordination with RFTA staff occurred throughout the project. RFTA also participates on the TC. RFTA provided important information and guidance regarding their service cost, budget methodology, operational procedures and constraints, and their input on the key issues addressed in this TOP. For example, RFTA typically makes service changes in conjunction with seasonal schedule changes four times a year, and it is much more difficult to make major changes “in season.”

RFTA's RGS drivers were interviewed on April 5th, 2010. These interviews were informal chats with groups of drivers during their break time or at end-of-shift. Drivers were also invited to fill out comment cards if they could not participate and/or had other input.

Drivers were asked about the following topics:

1. Locations/destinations with the highest and lowest ridership
2. How ridership trends change over the course of a typical day and by time of year



3. The proportion of “typical” ridership consisting of regular riders versus infrequent, new, tourist, etc. riders
4. How passenger characteristics (age, gender, etc.) change throughout a typical day/week
5. The most frequently-requested service enhancements
6. How easy bus route maps and schedules are for passengers to understand and use
7. What is working well – and what is most challenging – about route alignments, transferring, and other operations/service aspects
8. Passenger safety and security
9. Other concerns and comments

Given the number of questions asked, as described above, and the number of drivers participating, input and feedback was voluminous and substantive. The following key themes emerged:

- Drivers wanted the Main Route to stay on SH 82 to save time in the schedule, which is becoming increasingly difficult to meet, and to avoid the series of left turns involved in diverting to 27th Street and Grand Avenue.
- Some drivers advocated deleting the 11th Street stop because of duplication, route time, etc.
- There is a significant issue involving the homeless riding the bus cursing, screaming, kicking, vomiting, and urinating. This is viewed as a safety and liability issue, and one that may be “scaring away” other riders.
- Afternoon shifts (2:00-6:00 pm) are the most difficult to keep the route schedule. Vehicle traffic has also been increasing over time.
- Walmart, City Market, downtown, and Target are high ridership areas. School kids can represent significant ridership when school lets out. Late night workers are another important ridership constituency.
- There do not appear to be many tourists riding the bus in winter. Typical ridership is primarily “regulars,” with some new/infrequent riders in the summer.
- New or expanded service is often requested closer to the Hot Springs, Greyhound, and Amtrak.
- Maneuvering through the area between the main bridge and Village Inn on Highway 6/24 is difficult, congested, and time-consuming.

Public Open House

As required by CDOT, City staff advertised and held a public open house on November 3rd, 2010 at Glenwood Springs City Hall. The draft TOP summary – with an emphasis on the FY 2011 budget shortfall and potential service reductions – was also posted on the City’s website leading up to the open house. While attendance was sparse, a local resident offered thoughtful concepts for additional transit funding. RFTA’s COO also attended. It should be emphasized that public input occurred throughout the planning process,



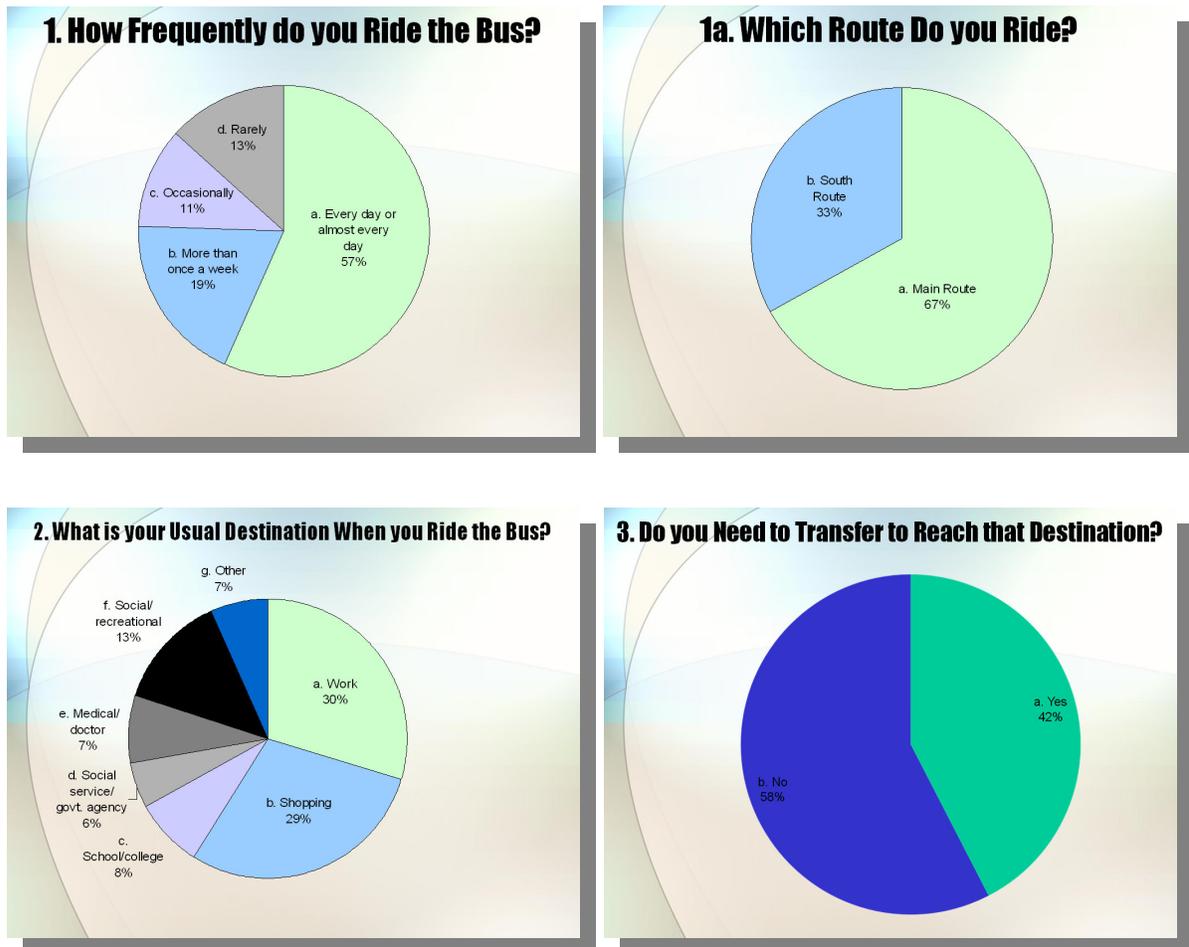
especially regarding whether to continue South Route service or not. This issue was emphasized by the TC and City Council, who both directly represent the public interest.

On-Board Rider Survey

Finally, a comprehensive, multi-day on board rider survey was conducted by City staff in August 2010. Over 100 passengers completed surveys on board both the Main Route and South Route, and at several stops throughout the system. Surveys were conducted at different times of day over several days to capture a full range of rider/operations environments.

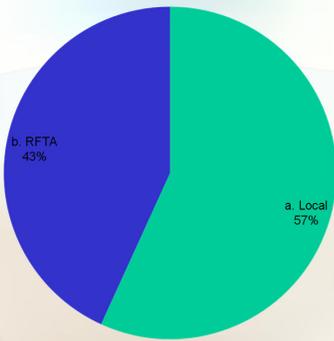
The survey’s objectives were to understand existing ridership characteristics, trends, and priorities, and to test reactions and preferences to potential service scenarios. Two important elements should be emphasized. First, the survey was conducted in the peak summer season, well before the City’s FY 2011 budget was prepared several months later and the significant transit funding shortfall was known. Second, conducting non-rider surveys, such as of residents and/or employees, was considered. The limited project budget constrained this activity, with available resources dedicated to addressing the funding shortfall issue once it became known.

The survey questions and responses are presented in the following charts:

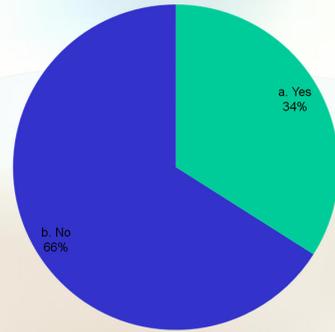


Five Year Transit Operations Plan (2011-2015)

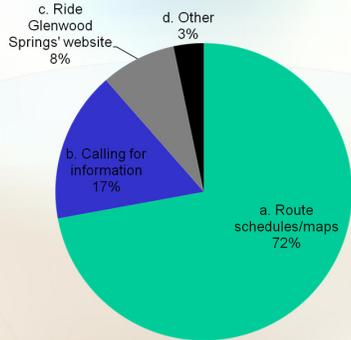
3a. If "yes," do you need to transfer to another local route or to a RFTA bus?



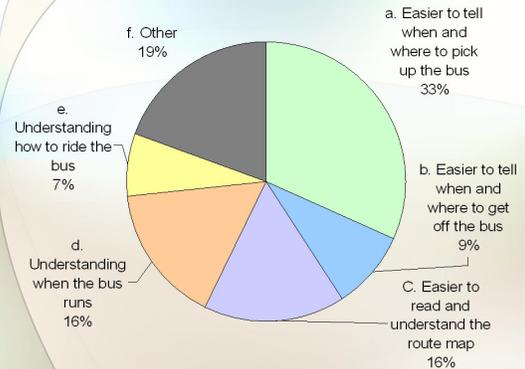
4. Do you typically have other means of transportation available besides riding the bus?



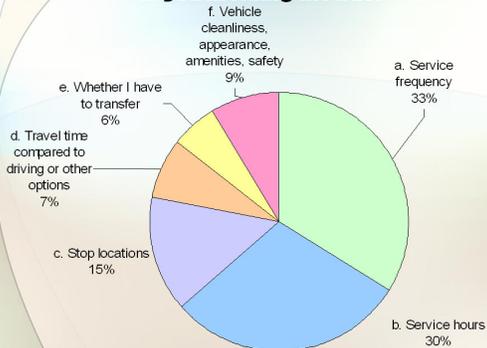
5. Which of the following materials are most helpful to you to ride the bus?



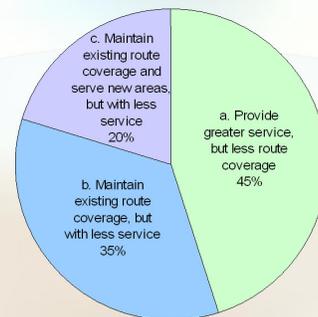
6. How could the bus schedule be more helpful to you?



7. What service characteristic is most important to you in riding the bus?

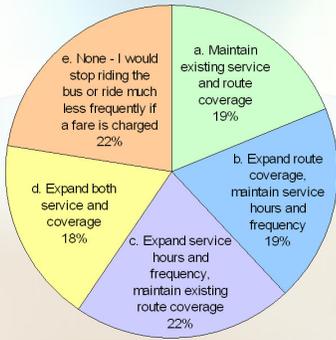


8. If shrinking revenues and rising costs dictated service changes, which option would you most support?

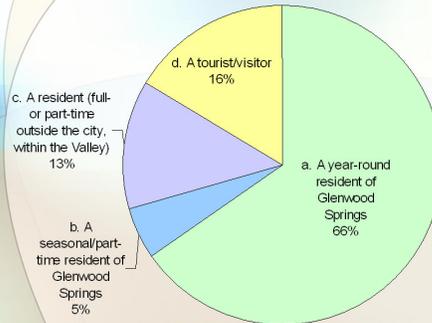


Five Year Transit Operations Plan (2011-2015)

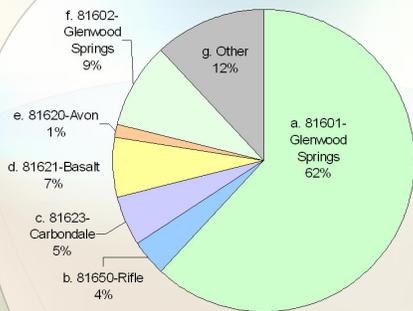
9. Under what condition(s) would you be willing to pay a fare?



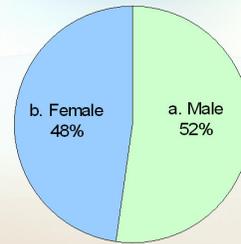
10. Are you?



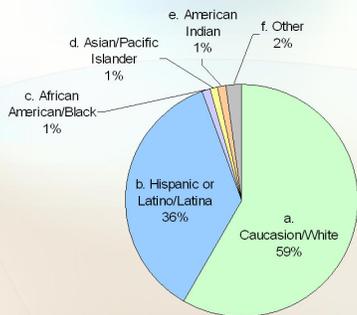
11. What is your home zip code?



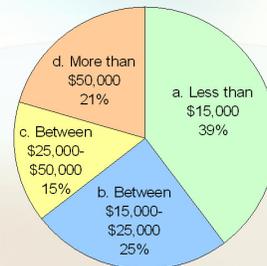
12. Are you male or female?



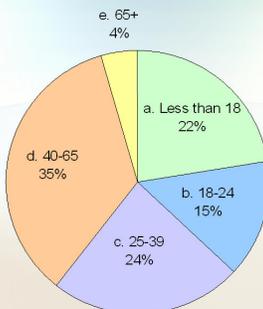
13. What is your primary race or ethnicity?



14. What is your household's annual income before taxes?



15. How old are you?



Chapter 3: Key Issues Analysis

Introduction

Based on direction from City staff and the Transportation Commission, this TOP focuses on a targeted list of critical and strategic issues involving public transit in Glenwood Springs. Chief among these is the dramatic shortfall in transit funding that the City, like almost every transit provider in the country, has been facing due to the prolonged economic downturn. Overlaying these funding and budget concerns is the issue of whether RGS should start charging a fare, and whether the potentially significant revenue gain in doing so would be worth the likely significant ridership loss. There has also been uncertainty about whether the South Route should be continued, an issue that has been exacerbated by funding concerns and unstable operations even during the course of this project. Finally, there is the question going forward of the most cost-effective RGS routing and service option(s) within the context of these other issues. Each of these issues is analyzed below.

Key Issue: Costs & Funding

RGS is funded by a combination of sales tax receipts (primarily), federal grants, and revenue from the City's street tax fund. More precisely, the Main Route is funded primarily through a citywide sales tax (separate from the dedicated RFTA sales tax). The South Route has typically been funded through an allocation from the City's street tax fund, with occasional general fund supplements. However, the bulk of the RGS' funding is from local sales tax. As in most places across the country, sales tax receipts have declined dramatically in Glenwood Springs during the current economic downturn. Transit funding is currently so imperiled that RGS is facing the possibility of eliminating the South Route and cutting service on the Main Route to bridge the significant transit funding budget deficient.

The City's FY 2009-2010 and draft¹ FY 2011 transit budgets are shown in Table 3.1a below. There are several important points to be made about the information shown in this table. First, transit revenues have decreased 30 percent, from \$1.4 million in 2010 to under \$1 million for 2011. Second, transit expenditures have decreased even more dramatically – 50 percent – from 2010 to 2011 to balance the budget. This decrease includes eliminating the South Route after the first quarter of 2011. Third, the bus tax fund has been running a deficit in prior years, which the 2011 budget addresses by both decreasing expenditures and creating a financial contingency. Finally, the budget information shown is only for the bus tax fund, also referred to in this TOP as the transit budget for simplicity. The City operates on a calendar fiscal year for budgeting purposes.

¹ The 2011 transit budget is "draft" in that it was being finalized during TOP development. The City has indicated it will closely monitor and adjust the budget throughout 2011 as economic conditions dictate.



Five Year Transit Operations Plan (2011-2015)

Table 3.1a: COGS Budget - RGS Bus Tax Fund

Revenue or Expense		2009 Budget	2010 Budget	2011 Draft Budget
Revenues	Sales Tax	\$735,578	\$841,089	\$772,357
	Use Tax	\$20,849	\$28,484	\$5,648
	Interest Income	\$702	\$600	\$500
	Bus Fares	\$1,987	\$0	\$0
	Advertising Fees	\$7,763	\$12,000	\$7,000
	Miscellaneous Income	\$8,958	\$1,000	\$200
	Grants	\$196,000	\$532,000	\$209,500
	Total Revenues	\$971,837	\$1,415,173	\$995,205
Expenditures	Fixed Labor Costs	\$271,027	\$278,760	\$207,870
	Direct Labor Costs	\$374,457	\$408,019	\$258,648
	Sales Tax TIF to DDA	\$19,922	\$16,535	\$7,700
	Economic Incentive Rebate	\$1,246	\$2,000	\$5,930
	Interfund Cost of Service	\$58,524	\$60,769	\$59,843
	Van Labor & Maintenance	\$929	\$0	\$0
	South Route Contract	\$156,600	\$0	\$0
	Direct Mileage Costs	\$211,980	\$252,583	\$162,669
	Allocated Training	\$33,304	\$32,649	\$31,863
	Other Operating Expense	\$17,692	\$3,500	\$12,842
	Allocated Capital	\$39,213	\$35,825	\$38,181
	Machinery & Equipment	\$0	\$385,290	\$0
	Employee Bus Passes	\$2,140	\$1,000	\$1,900
	ADA Contract	\$20,000	\$0	\$0
	Bus Security	\$13,832	\$12,000	\$0
	Para-Transit Service	\$0	\$50,000	\$20,000
	South GWS Route	\$0	\$180,000	\$50,000
	Wrap for One Bus	\$0	\$4,000	\$5,000
Total Expenditures	\$1,220,866	\$1,722,930	\$862,446	
Revenues vs. Expenditures		(\$249,029)	(\$307,757)	\$132,759
Transfers	From Street Tax Fund	\$125,000	\$54,300	\$0
	From Capital Projects	\$75,000	\$0	\$0
	For South Route (Winter 2011) (1)	\$0	\$0	\$50,000
	To DDA Fund (Annual Settlement)	(\$2,702)	(\$2,702)	(\$2,702)
	Total Transfers	\$197,298	\$51,598	\$47,298
Revenues vs. Expend. & Transfers		(\$51,731)	(\$256,159)	\$180,057
Fund Balance - Beginning		\$205,860	\$154,129	\$9,970
Fund Balance - Ending		\$154,129	(\$102,030)	\$190,027

NOTE

(1) South Route to be funded through Winter 2011 from other (non-bus tax) funds TBD.

Source: City of Glenwood Springs Draft 2011 Budget



It is important to note that the City’s transit expenditures fall into two categories. The first (and majority) is actual, “on the ground” transit service, which is operated by RFTA (Main Route) and a private operator (South Route) under contract to RGS. In this category, the two transit operators invoice the City for service provided. The second category is costs associated with providing and managing transit service. These expenditures include bus advertising, training, paratransit service, and other similar costs. Table 3.1b shows this cost categorization for the FY 2011 transit budget. The City’s transit budget “pays for” associated costs, which are generally fixed costs, and as much service cost as the budget can afford. Accordingly, the takeaway is the estimated \$749,231 that the City can afford to spend on actual transit service in FY 2011. This amount includes Main Route service and South Route service for one quarter of 2011 (for reasons discussed later in this chapter).

Table 3.1b: Draft 2011 Budget - Expenditures Classification

Category (1)	Expense	2011 Draft Budget
Service Cost	Fixed Labor Costs	\$207,870
Service Cost	Direct Labor Costs	\$258,648
Associated Cost	Sales Tax TIF to DDA	\$7,700
Associated Cost	Economic Incentive Rebate	\$5,930
Associated Cost	Interfund Cost of Service	\$59,843
Associated Cost	Van Labor & Maintenance	\$0
Service Cost	South Route Contract	\$0
Service Cost	Direct Mileage Costs	\$162,669
Service Cost	Allocated Training	\$31,863
Associated Cost	Other Operating Expense	\$12,842
Service Cost	Allocated Capital	\$38,181
Associated Cost	Machinery & Equipment	\$0
Associated Cost	Employee Bus Passes	\$1,900
Associated Cost	ADA Contract	\$0
Service Cost	Bus Security	\$0
Associated Cost	Para-Transit Service	\$20,000
Service Cost	South GWS Route	\$50,000
Associated Cost	Wrap for One Bus	\$5,000
Total Service Cost Expenditures (2)		\$749,231
Total Associated Cost Expenditures		\$113,215
Total Expenditures		\$862,446

NOTES

- (1) Service costs are reimbursed to RFTA to operate the Main Route. Associated costs are non-service, transit-supportive expenditures.
- (2) This is the amount of service RGS can afford for RFTA to operate.

Source: City of Glenwood Springs Draft FY 2011 Budget



The next step was to compare the budgeted service expenditure with estimated service costs to understand the magnitude of the budget shortfall. RFTA’s FY 2011 Main Route service cost was estimated by analyzing historical (2007-2010) cost data. For the South Route, the City terminated Valley Taxi’s contract at the end of 2010 (also discussed later in this chapter) and intends to contract with RFTA to provide service through the 2011 winter season. Service costs and the City’s budgeted expenditures for both routes are shown in Table 3.2 below.

Table 3.2: 2011 Transit Service Costs vs. Budget

	Main Route	South Route	Total
RFTA Service Cost (1) (2)	\$903,261	\$50,000	\$953,261
2011 Bus Tax Fund Service Expend.	\$699,231	\$50,000	\$749,231
Service Budget Shortfall	(\$204,030)	\$0	(\$204,030)

NOTES

- (1) Main Route: Est. by Consultant based on 2007-2010 RFTA data
- (2) South Route: Based on RFTA service proposal to City

Source: RFTA; COGS Draft 2011 Budget

As shown, there is a \$204,030 shortfall for Main Route service, about 23 percent of RFTA’s service cost. Table 3.2 also makes clear that the City cannot afford to continue South Route service beyond a portion of 2011, if even that. The full annual cost for the South Route is approximately \$200,000, or an additional \$150,000 shortfall to the FY 2011 transit budget. The combined shortfall would have been \$350,000. Instead, the City is forced to eliminate the South Route and make significant reductions to Main Route service without additional revenue.

Key Issue: Fare Assessment

The question then becomes whether charging a fare is a feasible way to provide such additional revenue. RGS has been a fare-free system since April 2005, meaning no fare is charged to ride either the Main Route or South Route, or to transfer between them. This has been important for Glenwood Springs given RGS’ roots as a Transportation Demand Management (TDM) strategy to help reduce traffic on SH 82 and to provide a viable travel choice for in-town travel and connections to RFTA’s regional bus network. This approach is common in many similarly-sized Western tourist-oriented communities that, like Glenwood Springs, view transit in terms of expanding personal mobility and jobs access while helping to manage vehicle traffic, particularly from tourists and visitors.

Having a fare-free system has provided many advantages for RGS and the City, particularly the ridership incentive of a free system for local residents, employees, and visitors; and not having the operating cost of administering and tracking fares. However, given the significant transit budget shortfall, whether to again charge a fare was analyzed.



Even so, potentially implementing a fare is not considered lightly. Attaching an explicit and direct cost to a service that has heretofore been “free” is a financial burden to passengers. Doing so also risks a significant ridership decrease, an outcome diametrically opposed to RGS’ objective of transit use as a viable alternative to driving. Potential benefits of charging a fare – besides the potentially significant amount of revenue it could generate – include having another local transit funding source and using fare stratification (how the fare is varied between passenger type, trip length, number of trips, or other means) to incentivize long-term ridership.

The two critical considerations to address are how much revenue a fare could generate, and at what ridership cost. National research has quantified relationships, known as elasticities, between transit fares, revenues, and ridership. This research has typically focused on large urban areas and does not account for the unique context and small size of a community like Glenwood Springs. According to the national research, there are two primary fare elasticities. The one most commonly used indicates that a 10 percent fare increase will result in a four percent ridership decrease, though this varies considerably by the size of the system, the specific transit mode, the type of rider, time of day, and other factors. Smaller systems in smaller communities, such as RGS, tend to have higher fare elasticity, meaning that ridership levels are much more sensitive to fare changes than in larger cities with larger, more established transit systems. The second elasticity is an algebraic equation known formally as the Simpson & Curtin formula, and informally as the “shrinkage” ratio. Finally, it is also important to note that both methods – and the national research generally – focus on ridership and revenue changes in response to changes to *existing* fares, rather than applying a new fare to a fare-free system, particularly for the standard elasticity calculation. RGS is facing the latter scenario, for which ridership loss is often more pronounced.

Such analysis is further complicated by the fact that not every passenger would pay a full standard fare. The concept of fare stratification noted above refers to the different fare amounts and fare types (categories) paid based on various factors. These can include reduced fares based on age, discounted fares purchased as a package, and many other variations. As an example, RTD’s (Denver) current fare chart for local bus service is shown at right.

Local/Limited	
Cash	\$2.00
Discount Cash*	\$1.00
10-Ride Ticketbook	\$18.00
Discount 10-Ride Ticketbook*	\$9.00
Monthly Pass	\$70.00
Discount Monthly Pass*	\$35.00

Additional complications include such factors as the cost of administering a fare and tracking revenues, declining ridership sensitivities by time of day, type of passenger, and other factors; fare evasion; and so on. In short, analyzing the potential impacts of charging a fare, much less implementing it, inherently includes significant uncertainty and complication.



The first step in conducting the fare analysis was to understand ridership trends. Table 3.3 shows current and historical ridership for the Main Route and South Route. As noted, 2010 ridership is a blend of actual ridership as available when analyzed, with the remainder estimated based on year-to-date trends.

Table 3.3: RGS Ridership Trends

	2005	2006	2007	2008	2009	2010 Budgeted (1)	2010 Actual (2)	2010 Projected (3)
Main Route	213,969	379,148	485,266	526,710	453,233	486,680	276,956	403,454
South Route (4)			9,823	17,261	17,868		9,769	16,167
Total	213,969	379,148	495,089	543,971	471,101	486,680	286,725	419,621

NOTES

- (1) From RFTA Budget
- (2) Through August (Main Route) and July (South Route)
- (3) Projected by Consultant based on ratio of actual vs. projected (Main Route) and 2010 YTD vs. 2009 YTD (South Route)
- (4) Route started in May 2007

Source: RFTA and City of Glenwood Springs data

Reflecting national transit trends, Table 3.3 vividly illustrates the significant ridership decline from 2008 levels in concert with the economic recession. In fact, the estimated 2010 ridership would be a decrease of 11 percent from 2009 and almost one quarter (23 percent) from 2008. This is important for two reasons. First, potential fare revenue would be generated based on this smaller pool of decreasing ridership. And second, since imposing a fare would itself exacerbate ridership loss, potential revenue could be even smaller.

City staff indicated that a potential one-way full fare, if implemented, would likely be in the range of \$1.00 to \$1.50. Accordingly, a revenue analysis was conducted to test a \$1.00 fare and \$1.50 fare against a reasonable range of ridership loss and fare stratification options. Ridership loss due to charging a fare was tested in the range of 15 percent to 50 percent, representing the reasonable minimum and maximum limits within which ridership could be affected. The fare stratification options are more complicated, but involve the concept that a full base fare is never paid by 100 percent of a transit system’s ridership. As noted above, fare reductions by age (such as for children and elderly riders), discounted fares as part of passes, transferring, fare evasion, fare administration costs, and other factors act to reduce the “effective average fare” paid over time, or more precisely, the average unit fare basis of the revenue generated.

This analysis tested effective fare options in the range of 85 percent to 50 percent, meaning that instead of every single rider paying a full fare, the effective average fare over time could range from a high of 85 percent to a low of 50 percent. This range cannot be verified unless or until RGS instituted a fare, but the ridership survey discussed in Chapter 2 lends support for this range based on age stratification, transfer rate, and other characteristics of existing ridership (which would likely change if a fare was implemented).



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The resulting combinations of ridership loss and fare stratification options were analyzed for a \$1.00 one-way base fare and a \$1.50 fare based on estimated 2010 RGS ridership to show the various possible revenue generation scenarios. Annual system ridership was chosen to mitigate inherent ridership variability by day, season, etc. 2010 ridership was chosen rather than a three-year average to reflect the decreasing ridership trend discussed above.

The results of this analysis are shown in Tables 3.4a-d. Revenue estimates for each fare level vary significantly based on the ridership loss and fare stratification combinations tested. An important caveat is that the combination options were held constant between the two fare levels for comparison, but would likely vary between the \$1.00 fare and the \$1.50 fare. In other words, the range of potential ridership loss could be greater for the \$1.50 fare than for the \$1.00 fare.

Table 3.4a: Fare Revenue (\$1.00) Scenarios - Both Routes

Annual Revenue Scenarios with \$1.00 fare		2010 System Ridership: 419,621			
		Potential Fare Amount: \$1.00			
		Potential Ridership Loss			
		15%	25%	35%	50%
Reduced Ridership:		356,678	314,716	272,754	209,811
Cumulative Effective Fare Paid	85%	\$303,176	\$267,508	\$231,841	\$178,339
	75%	\$267,508	\$236,037	\$204,565	\$157,358
	65%	\$231,841	\$204,565	\$177,290	\$136,377
	50%	\$178,339	\$157,358	\$136,377	\$104,905

Table 3.4c: Fare Revenue (\$1.00) Scenarios - Main Route

Annual Revenue Scenarios with \$1.00 fare		2010 Main Route Ridership: 403,454			
		Potential Fare Amount: \$1.00			
		Potential Ridership Loss			
		15%	25%	35%	50%
Reduced Ridership:		342,936	302,591	262,245	201,727
Cumulative Effective Fare Paid	85%	\$291,496	\$257,202	\$222,908	\$171,468
	75%	\$257,202	\$226,943	\$196,684	\$151,295
	65%	\$222,908	\$196,684	\$170,459	\$131,123
	50%	\$171,468	\$151,295	\$131,123	\$100,864

Table 3.4b: Fare Revenue (\$1.50) Scenarios - Both Routes

Annual Revenue Scenarios with \$1.50 fare		2010 System Ridership: 419,621			
		Potential Fare Amount: \$1.50			
		Potential Ridership Loss			
		15%	25%	35%	50%
Reduced Ridership:		356,678	314,716	272,754	209,811
Cumulative Effective Fare Paid	85%	\$454,764	\$401,263	\$347,761	\$267,508
	75%	\$401,263	\$354,055	\$306,848	\$236,037
	65%	\$347,761	\$306,848	\$265,935	\$204,565
	50%	\$267,508	\$236,037	\$204,565	\$157,358

Table 3.4d: Fare Revenue (\$1.50) Scenarios - Main Route

Annual Revenue Scenarios with \$1.50 fare		2010 Main Route Ridership: 403,454			
		Potential Fare Amount: \$1.50			
		Potential Ridership Loss			
		15%	25%	35%	50%
Reduced Ridership:		342,936	302,591	262,245	201,727
Cumulative Effective Fare Paid	85%	\$437,243	\$385,803	\$334,363	\$257,202
	75%	\$385,803	\$340,414	\$295,026	\$226,943
	65%	\$334,363	\$295,026	\$255,689	\$196,684
	50%	\$257,202	\$226,943	\$196,684	\$151,295

For comparison, Tables 3.5a-b illustrate the fare-revenue-ridership relationships using the shrinkage ratio method discussed previously for a range of potential fares. This method does not account for the effective average fare component, but does attempt to predict with more precision the relational change between fare level and ridership loss. Its calculated output for a \$1.00 fare most closely matches the 35 percent ridership loss and 85 percent effective fare or 25 percent ridership loss and 75 percent effective fare shown above. Similarly, its calculated output for a \$1.50 fare most closely matches the 50 percent ridership loss and 85 percent effective fare shown above.



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Table 3.5a: Fare Revenue Scenarios - Both Routes ("Shrinkage Ratio" Method)

Adult Fare	Annual Ridership	Percent Change	Farebox Revenue
\$0.00	419,621	0%	\$0
\$0.25	384,792	-8%	\$76,958
\$0.50	353,321	-16%	\$141,328
\$0.75	321,849	-23%	\$193,110
\$1.00	290,378	-31%	\$232,302
\$1.25	258,906	-38%	\$258,906
\$1.50	227,435	-46%	\$272,921
\$1.75	195,963	-53%	\$274,348
\$2.00	164,491	-61%	\$263,186
\$2.20	139,314	-67%	\$245,193
\$2.50	101,548	-76%	\$203,097
\$2.75	70,077	-83%	\$154,169
\$3.00	38,605	-91%	\$92,652
\$3.25	7,134	-98%	\$18,547

Table 3.5b: Fare Revenue Scenarios - Main Route ("Shrinkage Ratio" Method)

Adult Fare	Annual Ridership	Percent Change	Farebox Revenue
\$0.00	403,454	0%	\$0
\$0.25	369,967	-8%	\$73,993
\$0.50	339,708	-16%	\$135,883
\$0.75	309,449	-23%	\$185,670
\$1.00	279,190	-31%	\$223,352
\$1.25	248,931	-38%	\$248,931
\$1.50	218,672	-46%	\$262,406
\$1.75	188,413	-53%	\$263,778
\$2.00	158,154	-61%	\$253,046
\$2.20	133,947	-67%	\$235,746
\$2.50	97,636	-76%	\$195,272
\$2.75	67,377	-83%	\$148,229
\$3.00	37,118	-91%	\$89,083
\$3.25	6,859	-98%	\$17,833

This analysis suggests that RGS could generate approximately \$200,000-\$250,000 annually from fares, depending of course on the amount of fare charged, the average effective fare paid, the extent of ridership loss, general economic conditions, and the other factors discussed previously. Doing so would come at the price of losing an additional 30 to 35 percent of system ridership, however.

Just as importantly, charging a fare would not raise enough revenue to preserve South Route service. A fare might raise enough revenue to cover the FY 2011 \$204,030 Main Route budget shortfall, but not the additional \$150,000 for South Route service, and still at the cost of one-third of system ridership. Table 3.6 illustrates this concept.

Table 3.6: Fare Revenue vs. Budget Shortfall

	Both Routes	Main Route
Average Fare Rev. (\$1.00) (1)	\$234,451	\$225,418
2011 City Budget Service Shortfall	(\$356,034)	(\$204,030)
Revenue vs. Shortfall	(\$121,584)	\$21,388

NOTES

(1) Average of mid-range data from Tables 3.4 and 3.5

During discussion of this issue with City Council, the concept of "shared sacrifice" was raised. In other words, if the South Route has to be eliminated, isn't it most equitable for the Main Route to have a fare instead of remaining free? However, the appealing perception of shared sacrifice would actually harm the Main Route without saving the South



Route. Charging a fare on the Main Route is counter to RGS' mission as a Transportation Demand Management solution for Highway 82. And, the anticipated ridership loss is too great an impact, with the danger of rapidly decreasing revenues beyond 2011 because of the shrinking ridership base. Additionally, a fare would significantly burden those who depend on RGS service and cannot easily afford other options while also dis-incentivizing discretionary ridership.

To be fair, there are positive aspects to having a fare. As noted previously, it does provide another transit revenue source. And, it directly links a service cost to the value of service provided. After much thoughtful discussion, the Transportation Commission voted against implementing a fare at this time, with which City Council concurred. Chapter 4 discusses conditions under which a fare should be considered in the future.

Key Issue: Transit Funding Options

RGS, like most transit agencies around the country, relies primarily on sales tax to fund its transit service, along with federal funding and other smaller revenue streams. Given the inherent volatility in sales tax receipts, particularly in economic downturns, alternative transit funding options have received greater focus locally and nationally. Recent national research has focused on such innovative transit funding sources as the gas tax, vehicle miles traveled (VMT) fee, license registration fees, payroll tax, property tax, real estate value capture, carbon tax/fee, parking space fee, multimodal impact fee, and others. However, all of these have significantly limited application in that:

- **They have legal and/or constitutional hurdles.** Though a Colorado-specific legal analysis was not conducted, national research has indicated that many states either have constitutional prohibitions against such funding mechanisms and/or that they would require enabling legislation and often a local vote to implement. Colorado's TABOR provisions likely exacerbate this situation locally.
- **They are long-term in nature.** Whether because of enabling requirements, set-up, implementation, or outcomes, these measures typically take years to generate meaningful revenue. They can be logistically difficult to set-up (such as VMT fees and value capture), and there are also issues with cost (up-front and recurring), equitable assessment vs. allocation issues, and other complicated details.
- **They may not raise enough revenue.** Despite its significant downside, sales tax is the primary transit funding source for a reason: it generates a significant amount of funding and is relatively easy to administer. National research has shown that many creative transit funding options do not generate significant revenue, either in absolute terms or relative to their costs.
- **They may not be suitable locally.** Funding mechanisms like a property tax, payroll tax, or a gas tax/VMT fee are not suitable for application at small scales, particularly in a city the size of Glenwood Springs. These and other mechanisms are best applied at a regional or larger scale to generate enough revenue and to simplify their implementation and administration. On a "per capita" or "per



area” basis, these mechanisms would be logistically infeasible to implement, and would not raise enough meaningful revenue.

- **They may be politically infeasible.** Because Glenwood Springs is a tourist and visitor destination and a hub of economic activity in competition with neighboring jurisdictions, many funding options could be politically infeasible. Property taxes, payroll taxes, parking space fees, and other mechanisms that directly affect commerce or employment may not be palatable, even if they raised enough revenue to meet cost-benefit thresholds.

Finally, it is worth noting that the State of Colorado does not (and arguably cannot) offer much transit funding support. For example, the Colorado Legislature created FASTER (Funding Advancements for Surface Transportation and Economic Recovery) in 2009 to increase capital-only funding for the state’s significant backlog of surface transportation needs. It increases car registration fees and applies a \$2 daily rental car surcharge to raise approximately \$250 million annually, which is allocated to specific capital programs and project types. For transit, \$5 million of the funds will be allocated to the State Transit and Rail Fund for grants to local governments for local transit capital projects. FASTER revenues can only be used for capital investments, not operating. Given the state’s enormous transportation backlog (some estimates indicate \$1.2 billion annually to “catch up” and “keep up”) and the comparatively small amount of FASTER funding, these revenues are highly competitive. The State does not have a mechanism to provide ongoing transit operating assistance. Senate Bill 1 provides limited funding for certain high-priority transit capital projects statewide, but no operating assistance.

Accordingly, there are not easily available new or additional funding sources for transit service, particularly for operating assistance. Over time, however, the mechanisms and concepts noted above may become more feasible or available for RGS. A recovering economy may also facilitate some of these mechanisms becoming more palatable or feasible.

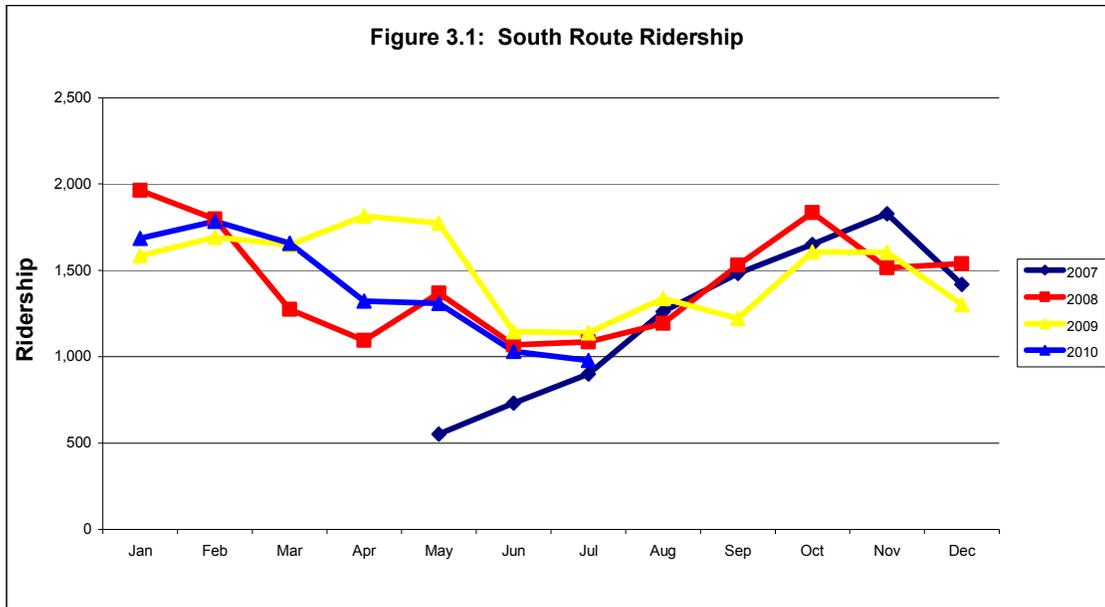
Key Issue: South Route Status & Service Options

One of the primary issues of this TOP was whether the South Route should be continued, and if so, under what conditions. There have been lingering questions about the route’s cost-effectiveness and ridership levels. The route’s operation, service, and reliability have also become a major issue, particularly recently, given an increasing number of incidents and complaints about poor and unreliable service. The situation has deteriorated to the point that RGS terminated the private operator’s contract at the end of December 2010.

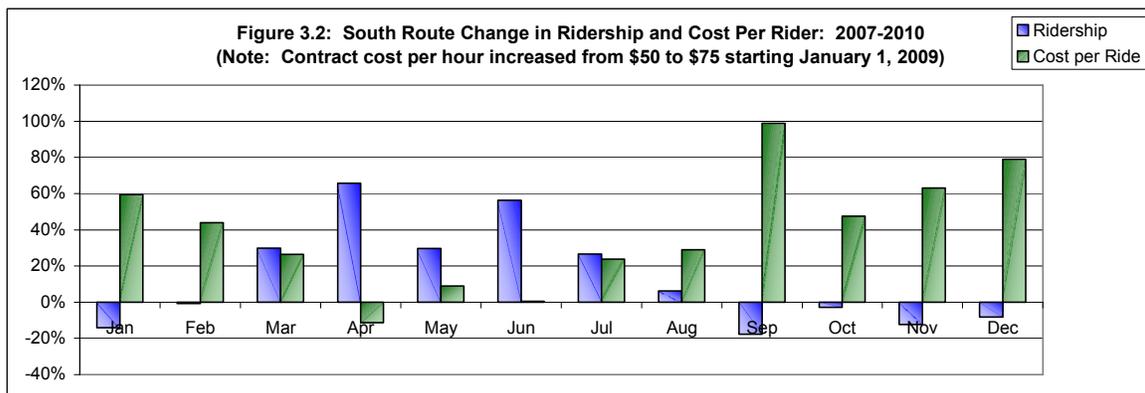
At the beginning of this TOP project, before the transit budget realities became apparent, an analysis was conducted of South Route ridership and cost per ride to understand the route’s performance over time. Annual ridership has generally been in the 15,000-17,000 range, while the cost per ride has ranged from \$7 to \$9 (as compared to approximately \$2 for the Main Route). Figure 3.1 shows South Route ridership by month and year since the route was re-started in mid-2007 through mid-2010.



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As shown, ridership tends to peak in the winter months and ebb in the summer. In contrast, Figure 3.2 compares the percentage change in average ridership and cost per ride by month for the same 2007-2010 period. It was calculated by taking averages of each statistics by month over the three-year period. Viewed this way, ridership has actually increased the most in the spring and summer months, while the average cost per ride has increased the most in the winter months.

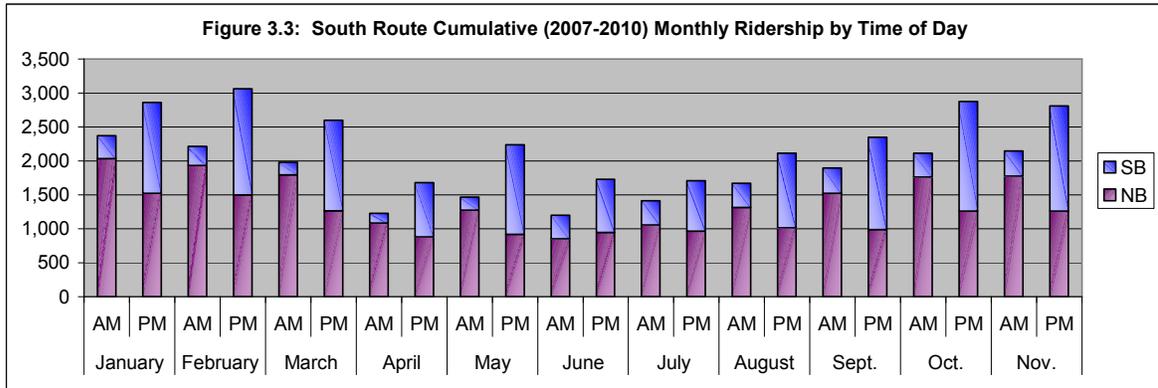


Source: City of Glenwood Springs
 Note: Only partial data for 2007 and 2010. May 2007 data are excluded as outlier.

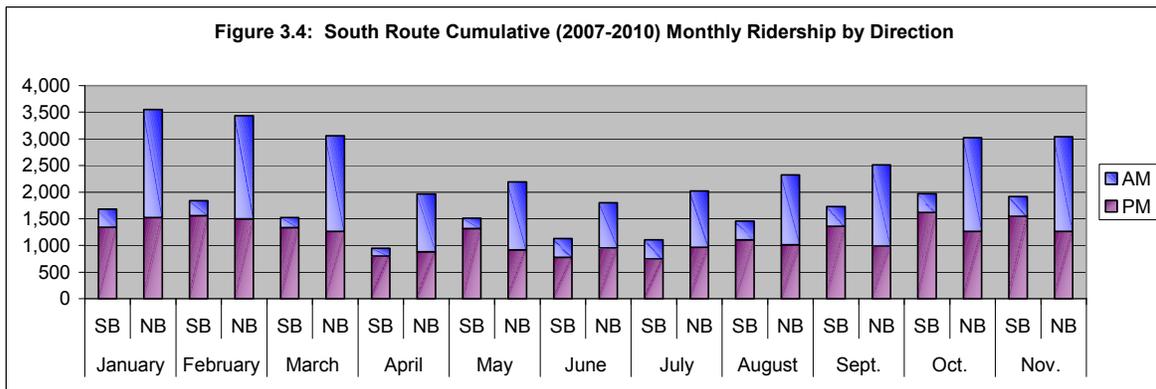
Finally, a sophisticated analysis was undertaken to understand ridership trends by time of day (AM versus PM) and direction (northbound versus southbound). This analysis aggregated cumulative (not average) ridership over the three year period and then categorized it by direction and time of day. Figure 3.3 shows the time of day analysis, while Figure 3.4 shows the directional analysis. Such analysis can generate many interesting observations; the objective is to discover if there are particular route characteristics – time



of day, direction – season, etc. – affecting ridership. This analysis was conducted by creating a simple spreadsheet tool that RGS can use for future service assessment efforts.



Source: City of Glenwood Springs
 Note: December data excluded because out of scale.



Source: City of Glenwood Springs
 Note: December data excluded because out of scale.

Key Issue: Route and Service Planning

Field observation and technical analysis were used to evaluate the current route structure operations, and to consider changes. In doing so, several points became clear. First, the Main Route is already serving the most productive areas in Glenwood Springs. While there have been issues with route time/schedule, especially in the afternoons (see RFTA drivers discussion in Chapter 2), the route works well. Second, options are limited on changing the route structure. Physical route options are already limited in Glenwood Springs, and the existing route is already serving its territory most efficiently given these physical, route time, and frequency constraints. For example, service on Seventh Street was considered to create a loop instead of “doubling back” on Highway 6/24, but this is not feasible. Chapters 1 and 4 do recommend some minor route modifications in accordance with other TOP recommendations.

Third, local transit service and RGS are in a very different context than when the last TOP was completed in 2005. A service and route coverage framework was chosen and has been successfully operating for years. This TOP firmly takes the position that, regarding transit



service, strategic depth (excellent service in limited areas) is more successful than broad breadth (broad route coverage with less service). The success of the Main Route (strategic depth) and ongoing challenges of the South Route (broad breadth) bear this out.

Finally, while there may be other neighborhoods in Glenwood Springs worth considering for future transit service, the reality is that such service will be unaffordable during the timeframe of this TOP. And, any new service would likely have to be in the form of a separate route. It is the position of this TOP that RGS would be best served by concentrating on preserving and, as financial resources allow over time, improving service on the Main Route, rather than spreading itself thin with additional, unproven, unaffordable marginal routes, at least until the economy significantly recovers. Fifteen minute frequency (or better) on the Main Route would be more cost effective and “ridership effective” than increased route coverage with less service.

Key Issue: Safety and Security

Though perhaps a lower priority issue than those already discussed, safety and security was raised by City staff, the Transportation Commission, and RFTA for consideration. As discussed in the RFTA drivers interviews section of Chapter 2, the specific issue involves the homeless riding the bus cursing, screaming, kicking, vomiting, and urinating. This is viewed as a safety and liability issue, and one that may be “scaring away” other riders.

It has been suggested that charging a fare would be one way to address this issue. However, this has proven ineffective at curbing homeless ridership as this issue is just as common for fare-charging transit systems. It is also an unsavory policy objective to discourage lawful ridership by targeting a specific population through fare levies.

The primary and most comprehensive reference for bus safety and security is the publication “Improving Transit Security – A Synthesis of Transit Practice (Synthesis Report #21, 1997), published by the Transportation Research Board through the Transit Cooperative Research Program. This report discusses specific safety and security measures and their application through a survey of 45 transit agencies across the United States and Canada. While mostly surveying “big city” agencies, the report is still useful for an agency such as RGS because of its comprehensiveness in identifying and discussing potential safety and security measures.

The report singles out 23 strategies by surveyed transit agencies as most effective in addressing safety and security concerns. These strategies are organized into the following eight categories:

- Technological
- Uniformed Officer Patrols
- Nonuniformed Officer Patrols
- Employee Involvement
- Education and Information



- Architectural and Design
- Community Outreach
- Diagnostic and Support Practices

Within these eight broad categories are 30 specific measures. Of those, the following measures are briefly summarized that are most applicable to the particular concerns raised by RGS. RGS and RFTA already use several of these strategies; others may have varying applicability levels.

Emergency Phone/Intercom/Radio

Telephone and radio communications devices allow passengers to seek assistance from transit personnel, local police, and security officers. These devices typically include intercom systems at transit stations and on buses. Some transit agencies have emergency phones at transit stops with direct lines to the local police department, along with other 911 services. Two-way radios on vehicles and in the hands of transit personnel are also widely used, and are effective safety and crime prevention strategies.

Closed Circuit Television/Video Cameras

These devices are often used to monitor and record activities in and around transit facilities, on vehicles, at transit stops, platforms, and at transfer centers. Together, these devices can effectively reduce transit crime – their presence alone can discourage criminal activity.

Alarms

Alarms and public address systems are popular and cost-effective means of deterring criminal activity and protecting passengers and property. Alarms can be automated to call the police or other law enforcement when triggered. Although often used to protect transit facilities, alarms are also used on buses. Passenger assist alarms, often silent, used on buses and at transit stops, are vital to the safety of passengers and employees.

Bus and Train Boardings

Boardings are used to enforce fare payment, guard vehicles, deter crime, protect revenue, and familiarize law enforcement with regular riders. Officers can establish relationships with drivers and better understand issues and patterns along a particular route and/or at certain times of day. This strategy can also involve trailing surveillance in marked police cars that follow buses along particular routes and/or at particular times of day. RGS and RFTA use this strategy, but have only limited funding to do so.

Bicycle and Foot Patrols

The focus of these patrols is to prevent transit crime at stops and along routes. This strategy, and the resources to implement it, can be leveraged with local law enforcement as part of their neighborhood or comprehensive area patrols. In addition, the TRB report notes that non-motorized patrols also promote “neighborhood revitalization through increased business activity and enhanced security.”



Special Problem Patrols

These patrols are deployed to prevent specific problems at specific locations, such as gang activity, vandalism, juvenile misbehavior, and truancy. Such patrols can establish mini-stations at particularly troublesome locations, or conduct random/regular sweeps.

Canine Patrols

As with special problem patrols, canine patrols are usually focused on high crime areas. These patrols often move frequently to project the appearance of a larger patrol force. These require specialized canine breeds, such as Malinois, to be effective.

Plainclothes Patrols

Plainclothes and undercover officer patrols are similar to uniform patrols except that the former specifically target high crime areas, habitual or repeat offenders, and to identify/prevent minor crimes that often lead to more serious ones.

Surveillance

Surveillance is often conducted by nonuniformed officers and includes the use of audio and visual recording equipment. In general, it is used to investigate frequently-occurring crimes such as vandalism and theft. This form of surveillance is often carried out in unmarked cars and vans.

Civilian Deployments

Civilian deployments are useful to identify criminal patterns, analyze incidents, and propose solutions to recurring problems. It should be noted that the “civilians” are typically agency supervisors who work closely with law enforcement in such deployments.

Crime Prevention and Self-Defense

Such training is geared towards transit operators/drivers, and can also include robbery/assault prevention training and techniques taught by local law enforcement. Transit employees who work in an environment with gang activity are encouraged to familiarize themselves with local gang culture to help prevent incidents between gang members, passengers, and employees.

Pamphlets/Posters/Films

This strategy consists of multimedia literature that focuses on crime prevention. Such literature is educational, providing passengers and employees with safety tips and advice. Such efforts can include brochures, posters, even videos, on vehicles, at facilities, and distributed throughout the community.

Presentations and Programs

Crime-prevention and education presentations can be made at locations within the transit system, at high-profile community events, and directly to specialized audiences/organizations. Sessions can be conducted by transit agency employees or by local law enforcement.



Reward Programs

This strategy is aimed at encouraging passengers and employees to report and provide information on criminal activity. Rewards are typically given when such information results in arrest and conviction, though they can also be used simply to encourage reporting information. This strategy typically leverages existing reward programs, such as Crime Stoppers.

Crime Prevention Through Environmental Design (CPTED)

The concept of CPTED is to reduce the opportunity and motivation to commit crime by creating environments where criminal activity or behavior is strongly discouraged or simply not tolerated. This can involve everything from the design and layout of facilities to materials, access points, cameras, and other variables. By creating the perception of increased risk to the criminal, such activity is reduced. A corollary concept is the community policing strategy of “broken windows,” which holds that vigorously enforcing minor crimes (broken windows, vandalism, graffiti, etc.) reduces the incentive for and incidence of more serious crimes.

School Programs

These programs are geared towards education and awareness, as well as training students to avoid violence and confrontations. They are often conducted in concert with other student character-building and drug-prevention programs, such as D.A.R.E. One side benefit of such programs is to encourage proactive communication between students and law enforcement in a positive setting. Students can also design educational materials, tour transit facilities, and build awareness and a positive mindset regarding transit use and the transit system.

Community Programs

These programs, like community presentations, focus on education, information, and creating community partnerships. These partnerships generally consist of local schools; community organizations, senior citizen organizations, neighborhood watch groups, and other organizations. They can include such innovative features as “adopt a shelter” (similar to adopt a roadway programs) that encourage community collaboration and ownership in the appearance and attractiveness of transit facilities. This builds positive relationships between a transit agency and the community it serves.

Crime Analysis

This strategy uses data to discern criminal activity and behavior patterns to inform prevention and security efforts and resource allocations.



Chapter 4: TOP Recommendations

Introduction

The planning, analysis, and community and stakeholder input documented in previous chapters serves as the foundation for the TOP’s five-year transit plan recommendations. The transit plan has two components: FY 2011, and FY 2012 through FY 2015. This timeframe distinction is made for several reasons.

The City does not estimate its sales tax collections or other transit revenues beyond the next fiscal year, nor does it prepare general budget estimates beyond the next fiscal year. Particularly given current economic volatility, this is understandable. Similarly, RFTA also does not estimate its costs to operate RGS’ Main Route beyond the next fiscal year.

Collectively, this means that the first year of the TOP is based on solid costs and revenues data. Though such data are estimates, they are official data provided by the relevant stakeholder entities (the City and RFTA). In contrast, outer-year data are necessarily unofficial projections that will change over time, perhaps significantly.

Another important reason for this timeframe distinction is that FY 2011 will represent an unfortunate but necessary recalibration of RGS service and funding compared to existing conditions. FY 2011 will serve as the base condition for future year revenues, costs, and service, so it is important to distinguish FY 2011 conditions first, especially given that they will be so different from FY 2010 and previous years.

FY 2011 Service Plan

As was clear from Chapter 3, the City’s significant FY 2011 transit budget shortfall dictates eliminating the South Route and reducing service on the Main Route. Table 4.1 quantifies the magnitude of the shortfall in terms of transit “service hours,” as well as showing other unit and annual service cost data.

Working with the Transportation Commission and City Council, several Main Route service reduction options were considered, such as eliminating Sunday service, hourly weekend service, and others. In the end, consensus formed around eliminating the first morning and last two evening daily service runs. This is discussed further below in the recommendations section.

Table 4.1: Main Route Service & Cost Data

	Main Route
2011 City Budget Service Shortfall	(\$204,030)
RFTA Cost per Service Hour (1) (2)	\$83.88
2011 Unaffordable Service Hours	2,432
Service Hours per Day (3)	29.5
Unaffordable Transit Days (4)	82
Cost per Day (Approx.)	\$2,475
Annual Weekday Service Hours	7,700
Annual Weekday Cost	\$645,906
Annual Weekend Service Hours	3,068
Annual Weekend Cost	\$257,356
Total Annual Service Hours	10,768
Total Annual Cost	\$903,261

NOTES

- (1) Estimated by Consultant based on 2011 total service cost estimate in Table 3.2
- (2) A service hour is one complete vehicle "run" along the entire Main Route
- (3) From RFTA, using the definition in (2) above
- (4) Using (2) above, a "transit day" is 15 hours with 0.5 hour headways (one service hour)

Source: RFTA and City of Glenwood Springs data



Five Year Transit Operations Plan (2011-2015)

This service reduction forms the basis of the recommended FY 2011 transit plan budget. Recalling the budget shortfall of \$204,030 and the need to eliminate the South Route, both discussed in Chapter 3, this is unfortunately the best-case scenario. Consider:

- The bus tax fund is currently carrying a \$102,000 deficit from the prior year which will be mitigated by other, non-bus tax fund revenues.
- The estimated \$50,000 cost to continue the South Route through the 2011 winter season (which may be higher – see recommendations discussion below) will also be funded with other, non-bus tax fund revenues.
- A significant portion of contingency funds will be used to minimize Main Route service reductions in FY 2011.

It is in this context that the recommended FY 2011 transit plan budget is shown in Table 4.2.

Table 4.2: FY 2011 Recommended Transit Plan Budget

	Main Route	South Route (1)	Associated Costs (2)	Total
2011 City Transit Budget (3)	\$699,231	\$50,000	\$113,215	\$862,446
RFTA Service Cost (4)	\$903,261	\$50,000		\$953,261
Budget Shortfall	(\$204,030)	\$0		(\$204,030)
Recommended Service Reductions (5)	\$65,429			\$65,429
Total Service Cost	\$837,832			\$837,832
Beginning Contingency	\$190,027			\$190,027
Contingency Balance	\$51,426	\$0	\$0	\$51,426

NOTES & Sources

- (1) Cost shown is low-end estimate; to be paid for through non-Bus Tax Fund revenues
- (2) Staff, paratransit service, bus passes, interfund transfers, other support costs
- (3) COGS FY 2011 Bus Tax Fund (Transit) Budget
- (4) Main Route: est. by Consultant based on historical cost data; South Route: est. by City staff
- (5) Eliminate three least-productive Main Route daily (weekday and weekend) service runs

The recommended Main Route service reductions will save approximately \$65,000 in 2011. As with eliminating the South Route, these reductions would not start until RFTA’s Spring 2011 schedule on April 16th. This budget relies on using approximately \$140,000 of the \$190,000 contingency to minimize service cuts further, but does maintain a positive contingency balance of \$51,000. Table 4.3 shows corresponding transit service levels.

Table 4.3: FY 2011 Recommended Transit Service

Main Route Service	Service Hours (1)	Frequency (Minutes)	Total Cost (2)
Weekdays (3)	26.5	30	\$580,476
Weekends (3)	26.5	30	\$257,356
			\$837,832

NOTES & Sources

- (1) Reflects 30 minute frequency for approximately 13 hours daily.
- (2) Estimated by Consultant based on 2007-2010 RFTA cost data.
- (3) Eliminate three least-productive daily service runs.



FY 2011 Recommendations

The TOP's FY 2011 recommendations are described below and illustrated in Maps 1-2 at the end of this section. Map 1 shows existing local and regional transit service continued through the 2011 winter season (through April 15th, 2011). Map 2 shows recommended transit service for the remainder of 2011 and until VelociRFTA begins operations.

Specific FY 2011 recommendations are to:

- **Eliminate the South Route in Spring 2011:** As directed by City Council, the South Route would continue service (and be operated by RFTA) through RFTA's winter schedule (through April 15th, 2011). This provides current riders an approximately four month transition period to make other transportation arrangements. The \$50,000 estimated cost to do so discussed at the December 2nd City Council meeting is based on one fourth (one quarter) of RFTA's estimated annual cost to operate the South Route. Since RFTA would actually operate the South Route through April 15th (3.5 months) – the end of its winter service schedule – the cost may be higher, perhaps closer to \$60,000. As noted above, this cost will be paid for through non-Bus Tax Fund revenues.
- **Reduce Main Route Weekday Service:** After much analysis and discussion involving City Council, the Transportation Commission, staff, and RFTA, the TOP recommends eliminating the three least-productive daily (weekday and weekend) service hours on the Main Route to help close the FY 2011 transit budget funding shortfall. Based on ridership count analysis, these three service hours would be the first service hour in the morning and the last two service hours at night. These three service hours are also the only 60 minute-frequency service hours in the schedule, meaning all remaining service hours would continue to operate at 30 minute frequency.

Three aspects of this recommendation should be noted. First, the Transportation Commission felt strongly that this is the least painful way to enact necessary service reductions to address the transit budget deficit. Given the magnitude of the deficit, other, non-daily, service reduction options of equal budget savings would be more painful, such as eliminating Sunday service entirely, for example. Second, the City (RGS) and RFTA should preserve the flexibility to reduce service by reducing operating hours and maintaining frequency, as discussed above, or by reducing frequency and maintaining operating hours. While ridership is lowest at the margins – early morning and late night – those passengers tend to be transit-dependent and for whom early/late transit access is more important than frequency. Finally, these reductions would also start on April 16th, 2011, in tandem with RFTA's Spring 2011 service schedule.

- **Implement Minor Main Route Modifications:** This recommendation addresses City Council's request to try aligning the Main Route in a one-way loop



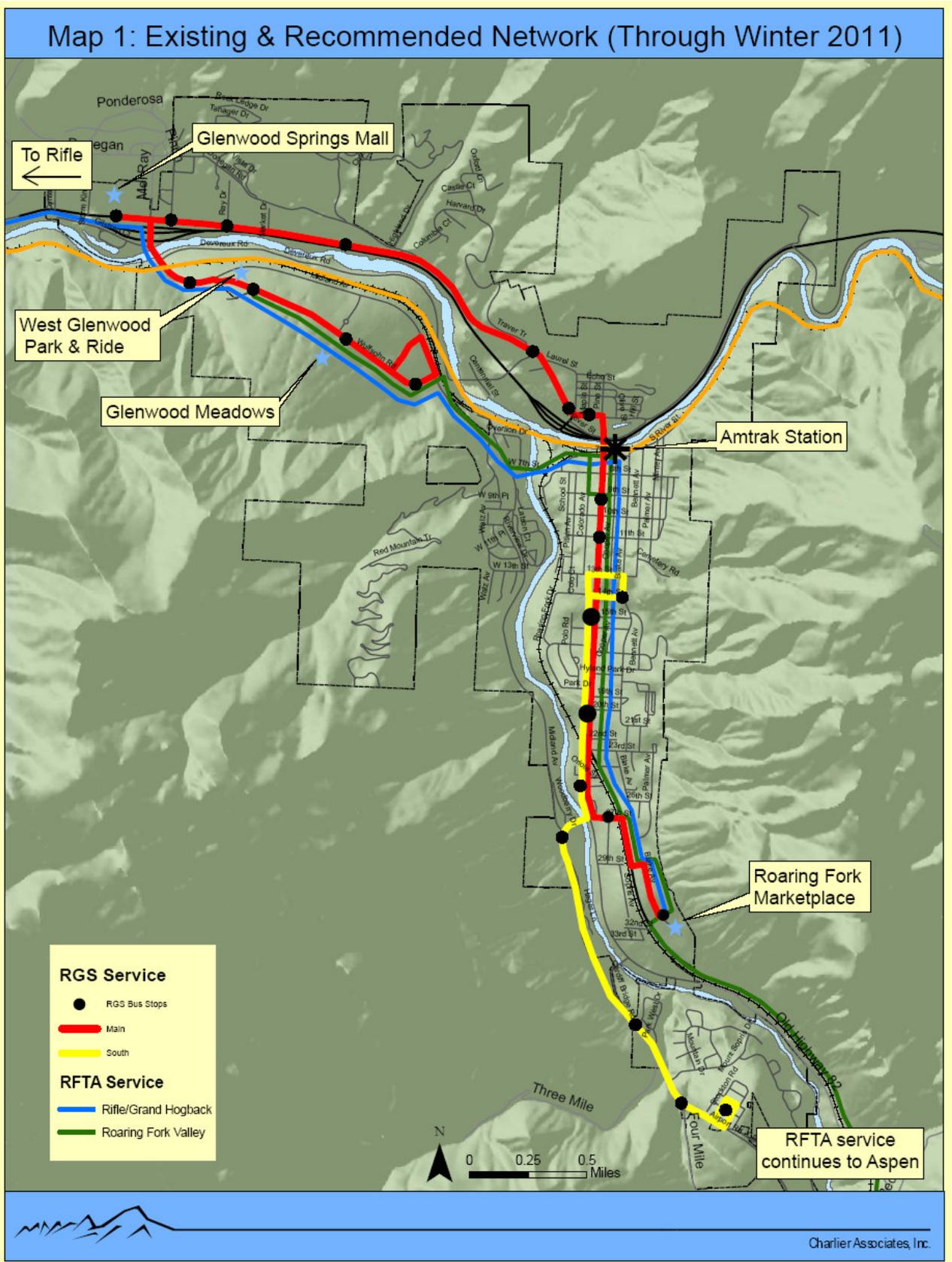
southbound on South Grand Avenue, eastbound on 27th Street, and returning northbound on Highway 82 from Roaring Fork Marketplace. This configuration is intended to maintain transit service west of Highway 82 in this area once the South Route is eliminated, and to try to save time in the Main Route schedule, which has become a significant service concern. This recommendation is predicated on the following conditions being met:

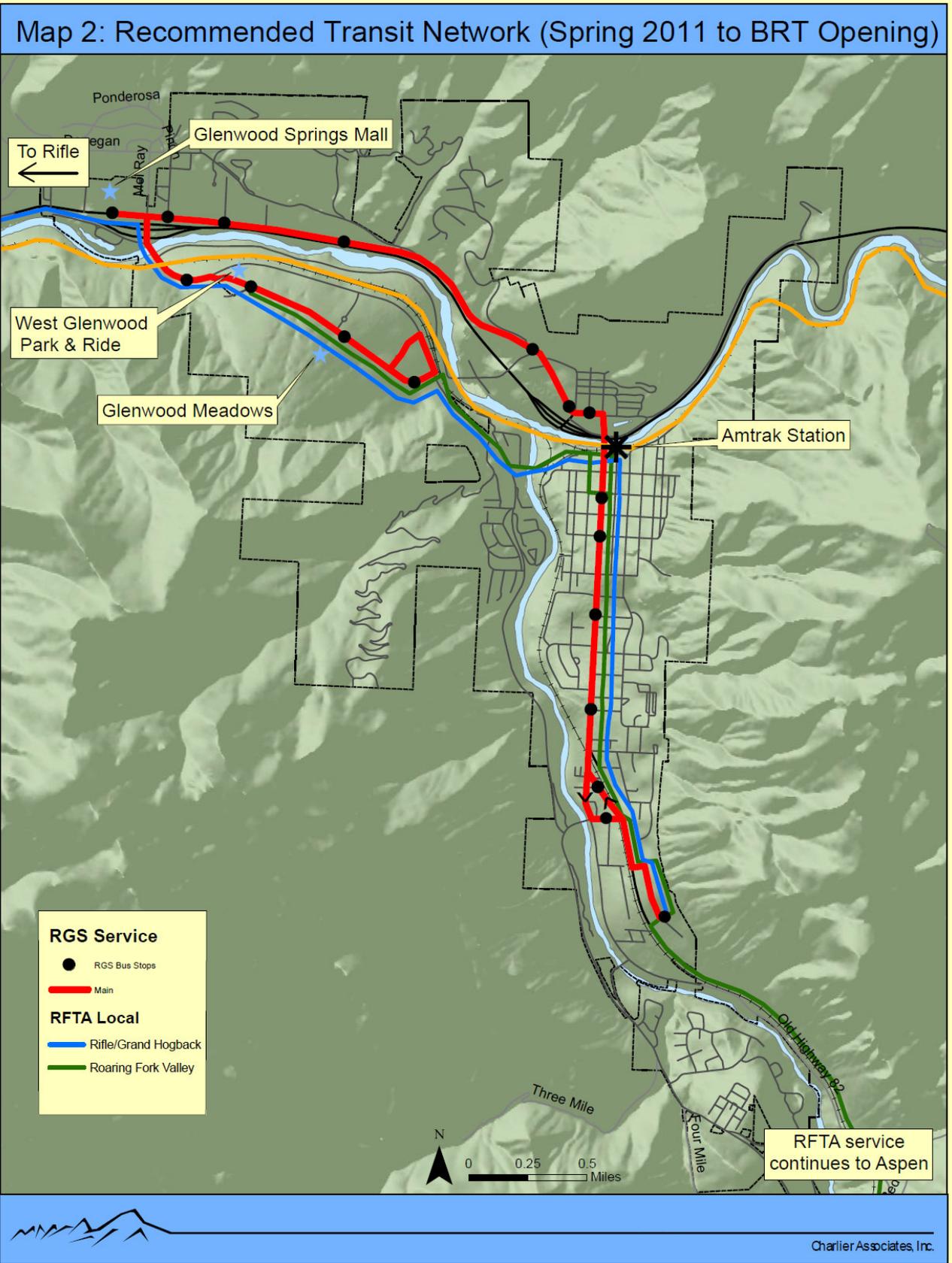
- The re-routing does not increase route time, and hopefully saves time
 - The change is tested before the South Route is eliminated and then, presuming its success, is implemented in tandem with eliminating the South Route
 - A new northbound stop is located along Highway 82 between 23rd Street and 27th Street to address the loss of the South Route Cisar Court stop and to preserve bi-directional mobility for transit passengers in the area of one-way routing; otherwise, a “transit void” is created between 20th Street and Roaring Fork Marketplace until RFTA’s BRT system starts operations with its stop at 27th Street.
- **Create a Financial Contingency:** As noted previously, the bus tax fund has been carrying a deficit and suffering declining sales tax revenue. The City’s FY 2011 budget purposefully and strategically provides for a contingency in the bus tax fund to help buffer against lower revenues, higher costs, or other unanticipated adverse conditions affecting transit service.
 - **Remain Fare-Free in 2011:** Charging a reasonable fare – large enough to generate net revenue after administrative and operational costs – would exacerbate declining ridership and would not generate enough revenue to preserve the South Route. The appealing perception of “shared sacrifice” would actually harm the Main Route without saving the South Route. Charging a fare on the Main Route is counter to RGS’ mission as a Transportation Demand Management solution for Highway 82. The Transportation Commission also voted against implementing a fare at this time.

In summary, these recommendations address the immediate budget funding shortfall, provide a financial buffer for FY 2011, and preserve RGS’ ability and flexibility to make other service changes (increases or reductions) over time as conditions warrant.

The City has committed to continuously monitor financial conditions through FY 2011 and adjust service reductions accordingly. This approach is intended to “inflict least harm” to transit service unless/until constantly-changing economic conditions dictate even more cutbacks.







FY 2012-2015 Service Plan

Given ongoing economic instability, it is difficult if not impossible to accurately forecast costs, revenues, and other detailed service plan elements to the same level of detail as for FY 2011. Indeed, the City, normally on a two-year budget cycle, has not developed budget estimates beyond 2011 for this very reason.

To provide as much quantitative guidance as possible, budget scenarios were developed comparing transit revenues to service costs, illustrated in Table 4.4. It should be noted that these scenarios are only for Main Route service, use only the major revenue categories in the bus tax fund, and do not incorporate a contingency. And, because not every revenue, transfer, or miscellaneous line item is used here to provide some simplicity, the calculations are very different from the full bus tax fund (transit) budget shown in Table 3.1.

Table 4.4: Revenue & Cost Projections

Category/Growth Rate	2011	2012	2013	2014	2015	
Sales Tax	3%		\$795,528	\$819,394	\$843,975	\$869,295
	0%	\$772,357	\$772,357	\$772,357	\$772,357	\$772,357
	-3%		\$749,186	\$726,711	\$704,909	\$683,762
Use Tax (0%)	\$5,648	\$5,648	\$5,648	\$5,648	\$5,648	
Advertising (0%)	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	
Grants (0%)	\$209,500	\$209,500	\$209,500	\$209,500	\$209,500	
High Range	\$994,505	\$1,017,676	\$1,041,542	\$1,066,123	\$1,091,443	
Low Range	\$994,505	\$971,334	\$948,859	\$927,057	\$905,910	
Service Cost (1%)	\$903,261	\$912,294	\$921,417	\$930,631	\$939,937	
Assoc. Cost (1%)	\$113,215	\$114,347	\$115,491	\$116,646	\$117,812	
Total Cost	\$1,016,476	\$1,026,641	\$1,036,908	\$1,047,277	\$1,057,749	
Balance (High Range)	(\$21,971)	(\$8,965)	\$4,634	\$18,847	\$33,693	
Balance (Low Range)	(\$21,971)	(\$55,307)	(\$88,049)	(\$120,219)	(\$151,839)	

These scenarios presume various growth rates for both costs and revenues as shown in the table. For sales tax, the varying growth rates are intended to bracket a range of possible financial outcomes, since sales tax receipts are the primary transit funding source. Other revenues and costs are either held steady or grown slightly based on recent and historical performance.

The major implication of this analysis is that Main Route service should be able to be maintained at current (FY 2011 recommended) levels if sales tax receipts hold steady or start rebounding. It would take three percent annual growth for revenues to start exceeding costs. Conversely, if sales tax receipts continue to decline, more service cuts may be needed starting in 2013 if the City cannot budget for more than a \$50,000 (approximate) contingency.



TOP Recommendations (2012-2015)

The longer-term TOP recommendations are intended as strategic policy and planning actions that will necessarily take longer to implement given the ongoing economic climate. Specific recommendations are discussed below, with route-based ones illustrated in Map 3 at the end of this section. Specific recommendations are to:

- **Work Towards Increased Ridership:** The City should continue its efforts to educate, advocate, and promote RGS as a meaningful transportation option, especially for local residents, employees and others who would potentially ride the bus on a regular, recurring basis as a means to increase and solidify ridership over time. Visitors, tourists, and others should also continue to be targeted, particularly given RGS' objective as a Transportation Demand Strategy to help manage and reduce vehicle traffic on SH 82.
- **Work Towards Enhanced Weekday Service:** The Transportation Commission has prioritized implementing 15-minute weekday frequency on at least a portion of the Main Route, and ideally the entire route, to maximize convenience and ridership potential. This objective may not be feasible until economic conditions – and transit funding – improve, but should be prioritized to strategically improve the RGS system. Frequent service in concentrated areas (strategic depth) is more productive over time than spreading less-frequent service across a greater coverage area (broad breadth).
- **Reconsider Implementing a Fare:** Implementing a fare is the most direct way to diversify RGS's funding sources, but would come with significant ridership decline. Accordingly, improved economic conditions and higher RGS ridership over time are the pre-conditions under which a fare could be reconsidered to minimize its ridership impacts and maximize its potential net revenues. Once ridership returns to 2008 levels (above 500,000 annual passengers), a fare becomes more viable – if absolutely needed for revenue purposes – in terms of absorbing the accompanying ridership loss while still generating meaningful revenue towards service operations. Improved ridership will likely reflect improved economic conditions, but both conditions should be met.

If a fare is implemented at some point in the future, it should start as a \$1.00 base fare. This is reasonable for the level/amount of service RGS provides and is the amount that will cause the least delay time in the route schedule since it requires a single dollar bill and no change. Finally, it also provides room to raise the fare over time if needed within a reasonable range, and will help to minimize ridership loss instead of starting at a higher fare.

- **Change and Grow Service Carefully:** Any major change to transit service – whether instituting a fare or adding or reducing routes or service – can be a “shock to the system,” both to actual ridership as well as broader community perceptions about RGS. Coupled with current economic volatility, any major changes should be implemented carefully and thoughtfully. Given the significant



and difficult service reductions already recommended, it will be most important to “hold the line” on preserving as much existing service as possible rather than risk both reducing and adding service. By reducing and enhancing service at the same time, RGS risks having to cut back on the new enhanced service or reduce even more service if financial conditions continue to deteriorate. This scenario should be avoided.

- **Diversify Transit Funding Sources:** RGS, like most transit providers, relies primarily on sales tax to fund transit service. Besides implementing a fare, additional transit funding options are more limited, particularly in the short-term. However, other possibilities should be considered, particularly over a longer-term timeframe.
- **Integrate with VelociRFTA:** RFTA’s regional Bus Rapid Transit (BRT) service, VelociRFTA, is anticipated to begin service during this TOP timeframe (currently estimated to start in 2013). VelociRFTA’s down-valley terminal (last) station will be at 27th Street and Highway 82 in Glenwood Springs. Once BRT service starts, RGS should fully integrate its route and service as financially feasible to ensure seamless connections between both systems. This will primarily mean more frequent RGS service to match VelociRFTA’s headways, as well as route and stop modifications to serve the BRT station.

Regarding the former (more frequent service), it will be important for the Main Route to “meet” each VelociRFTA bus at the station. Since the BRT station will not be the end of the Main Route as it will be for VelociRFTA, transferring implications will need to be carefully analyzed. The Main Route will be traveling both to/from downtown and to/from Roaring Fork Marketplace. Accordingly, it will be important to match “trip directionality” appropriately since a “double transfer” – meaning the same RGS bus meeting the same VelociRFTA bus once inbound and outbound – will likely not be possible.

Regarding the latter, this will likely mean keeping the Main Route on Highway 82, though this will depend on the best way to access (ingress and egress) the BRT station. Factors to consider include station layout, signal timing, turning maneuvers, intersection operations, traffic flow, and others.

Conclusions

This five-year Transit Operations Plan (TOP) provides specific and strategic service, operations, budget, planning, and policy direction to the City of Glenwood Springs for its Ride Glenwood Springs (RGS) transit service for the period 2011-2015. It particularly focuses on FY 2011 given the unprecedented and difficult budget environment the City is in, which dictates eliminating the South Route and reducing service on the Main Route. The TOP also attempts to persuasively articulate the rationale behind its recommendations. In this way, it provides needed guidance and flexibility to the City/RGS and the Transportation Commission to strategically adapt as conditions change over time while still ensuring successful transit service.



