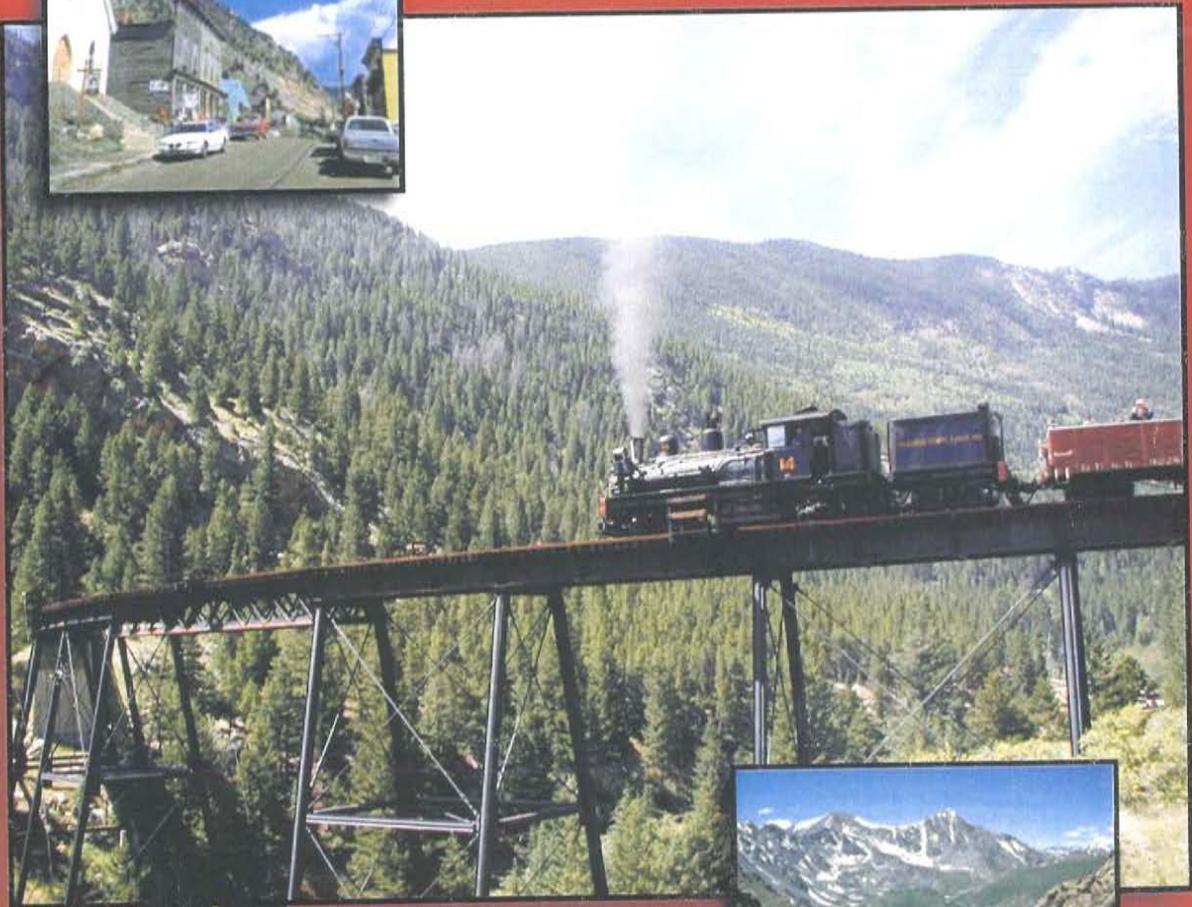
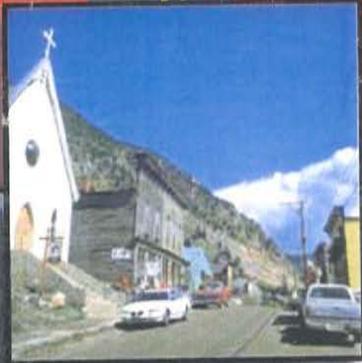


Silver Heritage Area Internal Transit Plan



CLEAR CREEK COUNTY

Silver Heritage Area Internal Transit Plan

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June 19, 2002

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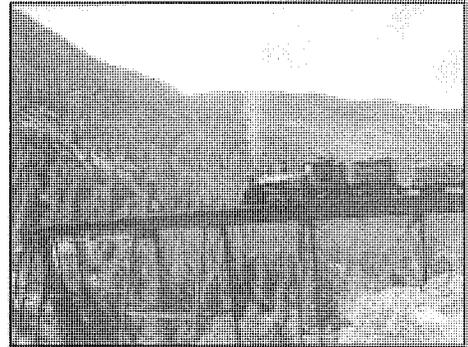


CHAPTER I

Introduction

OVERVIEW

Clear Creek County contracted with LSC Transportation Consultants and Winston Associates to develop an Internal Transit Plan and Strategic Land Use Plan as part of the Clear Creek County Silver Heritage Area Project. The Internal Transit Plan focuses on the feasibility of providing public transit services in the Upper Clear Creek corridor from Georgetown to the Eisenhower Tunnel, and provides a recommendation for implementing appropriate services. The Strategic Land Use Plan effort focuses on the area surrounding the Bakerville interchange and development of a land use plan for this area considering ownership patterns, potential uses, access to recreation, and sensitivity to the surrounding environment.



PURPOSE OF THE REPORT

The purpose of this report is to analyze and recommend strategies for responding to changes in the community which will affect the delivery of public transportation services over the next few years. This Internal Transit Plan describes the existing conditions in the Clear Creek County Silver Heritage Area related to public transit services, discusses service and other alternatives for meeting needs into the future, identifies the locally-preferred set of alternatives, and presents the implementation plan.

As in many regions, Clear Creek County is taking a close look at public transit services and is seeking to find the most effective means of providing those services. One important step toward providing an integrated communitywide trans-

portation system is involving key players such as the towns, County Planning and Engineering Departments, and community residents of Clear Creek County.

Currently, Clear Creek County does not have an internal transit system and there is a **lack of** general public transportation within the study area. This Plan takes into consideration the future of the I-70 Corridor and the alternatives that have been developed to provide transit alternatives that would both maximize the benefits to the area, as well as preserve the historic and natural resources of the area and the privacy of the residents who live in the area.

This report incorporates the first technical memorandum presented to the Silver Heritage Area Advisory Committee. The first technical memorandum discussed the community setting, including socioeconomic trends in the area, and reviewed the existing transportation services in the study area, as well as surrounding areas. Technical Memorandum #1 also provided a preliminary set of land use and alternative travel recommendations to the Advisory Committee. The preliminary recommendations were reviewed and a preferred plan developed by the Silver Heritage Advisory Committee and the LSC Team. The preferred plan is presented as the Strategic Transit Plan in Chapter VII.

STUDY AREA

The Clear Creek Silver Heritage Area is located in central Colorado along Interstate 70 west of Denver. This Plan focuses on transportation needs in the corridor from Georgetown to the Loveland Ski Area and the Eisenhower Tunnel at the Continental Divide of the Rocky Mountains. A primary factor in the study area will be the preferred alternative recommended for the I-70 Mountain Corridor by the Programmatic Environmental Impact Study (PEIS), which is being conducted by the Colorado Department of Transportation. This Plan provides direction for Clear Creek County to coordinate local transit services with plans for the I-70 corridor.

Although this study area is specifically defined, the remaining areas of Clear Creek County are discussed throughout the Plan. Clear Creek County is discussed within the context of this Plan, as this study should be incorporated into the countywide vision for public transportation. Although the Plan focuses on trans-

portation needs of the Silver Heritage Area, these needs must be seen in the larger context of the entire county and the adjacent counties. There are significant transportation issues in the study area, but most of these relate to transportation links outside the study area. Therefore, the related needs for the surrounding areas are also incorporated into this Plan.

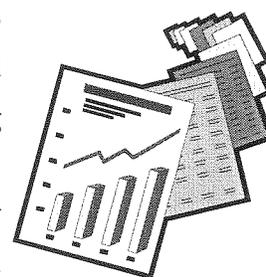
TRANSPORTATION ISSUES

During initial meetings held in Clear Creek County, the Advisory Committee addressed the major issues and concerns for the Silver Heritage Area that would have an effect on public transportation. Issues which were identified throughout the study process include:

- Coordination with the current I-70 corridor project and other modes;
- Environmental impacts, specifically with regard to water quality and habitat impacts on local wildlife;
- Funding for future service;
- Economic development within the county to include diversification of economic base to replace lost revenues;
- Citizen privacy, and;
- The protection of historic and natural resources of the area.

ORGANIZATION OF THIS REPORT

Chapter II includes a discussion of public transportation goals and objectives, as identified by the Advisory Committee and public input. Chapter III provides a discussion of the existing community conditions of the study area, as well as a presentation of current conditions in Clear Creek County. Chapter IV introduces the existing transportation providers within the Silver Heritage Study Area, within Clear Creek County, and providers in nearby counties. Chapter V describes the needs assessment for the area including I-70/US 40 corridor travel demand, visitor, and resident demand estimation.



Chapter VI offers transit service options for meeting the future demands. The alternatives range from a demand-response service to a fixed-route service, as well

Introduction

as the potential use of existing resources. Each alternative is evaluated in terms of its anticipated costs, ridership, and performance.

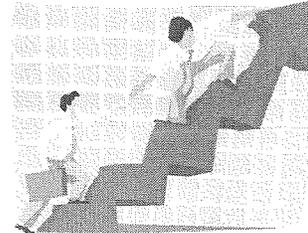
Finally, Chapter VII presents the Strategic Transit Plan, developed based on the transit service options in Chapter VI. The Plan is presented with the larger concepts and future goals set into specific action steps.



Public Transportation Goals and Objectives

OVERVIEW

The Clear Creek Silver Heritage Area Advisory Committee met with the LSC Team to establish a set of Public Transportation Goals and Objectives for the Internal Transit Plan. These Goals and Objectives reflect the local community's desires for future public transportation within the Silver Heritage Area of Clear Creek County.



Goals and Objectives

The following are the Goals and Objectives for the Internal Transit Plan gained through consensus building workshops held in Clear Creek County:

GOAL # 1

Provide a strategy for a public transportation system which meets the needs of visitors to and residents of the Silver Heritage Area.

Objectives:

- a. Provide service to and from recreation areas including the Georgetown Loop Railroad, Bakerville trailhead, Herman's Gulch Trailhead, Guanella Pass, and Loveland Ski Area.
- b. Provide service to and from lodging areas in Georgetown, Empire, and Idaho Springs.
- c. Serve residents in the I-70 corridor from Idaho Springs to Bakerville.
- d. Public transportation will be multimodal with connections to other modes including private auto, intercity bus, van services, bicycle, and pedestrian trails.

GOAL #2

Public transportation services should enhance the environmental quality and quality of life in the Silver Heritage Area.

Objectives:

- a. Minimize the visual impact of transit vehicles and transit facilities.
- b. Public transportation will protect the privacy of property owners.
- c. Public transportation service will provide an alternative to parking of private automobiles at trailheads and other recreation facilities.
- d. New parking sites will consider visual and air quality impacts.

GOAL #3

Public transportation services will be coordinated with multimodal transportation services in the I-70 and US 40 corridor.

Objectives:

- a. Public transportation in the Silver Heritage Area will make use of existing transportation resources and services to the greatest extent possible.
- b. Planning for public transportation services will be coordinated with plans for the I-70 and US 40 corridor.

GOAL #4

Public transportation services will support economic development in the Silver Heritage Area.

Objectives:

- a. Provide connections to and from Jefferson County and the west Denver metro area, Summit County, and Grand County.
- b. Serve local businesses in the Silver Heritage Area.

GOAL #5

Develop a sufficient and sustainable funding base for public transportation through public and private partnerships.

Objectives:

- a. Grants will be pursued from CDOT, local governments, and other potential sources.
- b. Private businesses will be asked to provide funding support for operating expenses.
- c. Support will be sought from the Forest Service.
- d. Operating and capital costs will be minimized through the use of existing resources.
- e. Cooperative efforts will be implemented with Clear Creek County School District and other public and private service providers within the region.



Existing Community Conditions

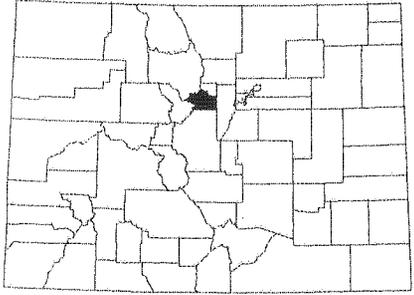
OVERVIEW

Clear Creek County is located in central Colorado along Interstate 70 west of Denver. The Clear Creek County Silver Heritage Study Area extends from the Town of Georgetown to the Eisenhower Tunnel at the Continental Divide of the Rocky Mountains. The study area includes the towns of Georgetown and Silver Plume, as well as the Loveland Ski Area. The study area is shown in Figure III-1.



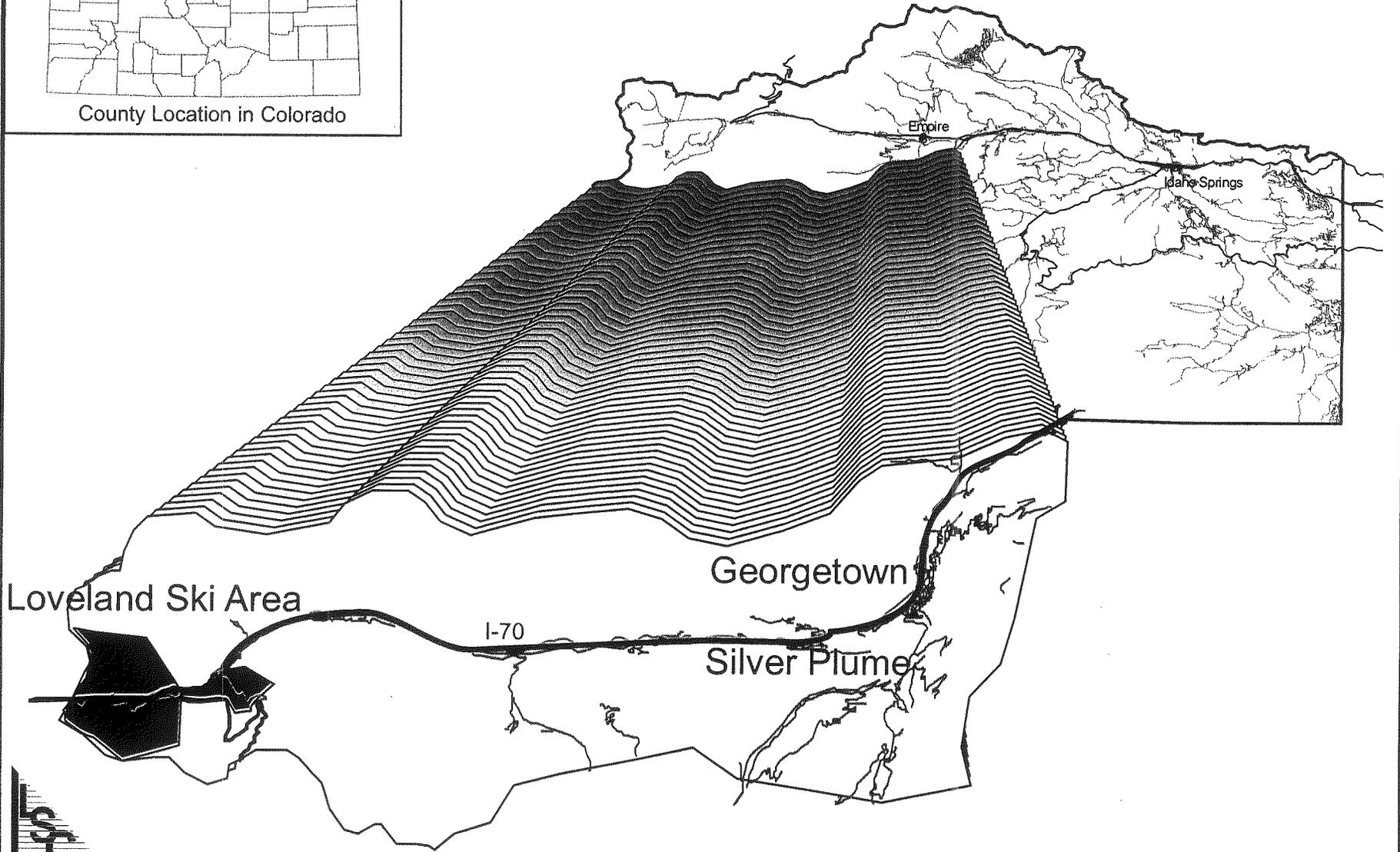
The **Town of Georgetown** began as a mining camp in 1859 with the mining of gold, although it was silver that made Georgetown the most important silver town in Colorado until 1878 when the Town of Leadville surpassed it. Georgetown is almost directly due west of Denver on I-70. Like Empire, Georgetown enjoys the historic small town charm that brings in tourists. The historic Georgetown Loop Railroad, a narrow gauge steam train, traverses Clear Creek and circles over itself at the picturesque Devil's Gate Bridge.

The **Town of Silver Plume** had its beginning in about 1870 with the rise of the Pelican Silver Mine. The dirt streets of Silver Plume take you back in time. Silver Plume is full of picturesque buildings and attractions that create an exciting atmosphere of history and adventure. Silver Plume's community goals for the historic preservation and continuance of its unique character make the town a getaway from "big city" life.



County Location in Colorado

Figure III-1
Study Area



SILVER HERITAGE STUDY AREA

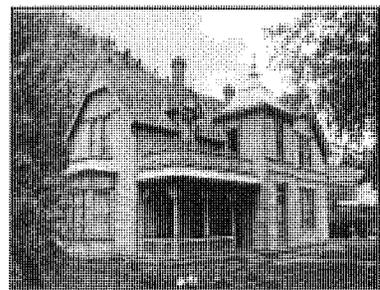
Land Use Summary

The towns within the study area are geographically compact. The size and relationship to the surrounding environment have limited the areas of growth. National forest areas, as well as the natural mountain steepness, limit development considerably in this area.

Georgetown

Although much of the town is developed, over a third of the land in and surrounding Georgetown is available for development. This includes patented mining claims along the surrounding mountainsides. Although some claims and town plats are geographically impractical for construction, others are being developed as new home sites. Since the acceptance of the Georgetown Comprehensive Plan in May 2000, the town is all zoned land. In recent years, Georgetown has experienced slow but steady growth as more and more people move out of Denver into the area. Approximately 90 percent of the housing stock is detached single-family structures and much of the new housing constitutes second-homes for families. Georgetown could see the development of several hundred lots for the expansion of housing.

The Town of Georgetown covers approximately 1.04 square miles. Commercial and retail uses are focused along Argentine Street, between 11th Street and 15th Street, and along 6th Street in the historic downtown. The residential area surrounding the downtown contains many historic single-family structures from the mining era. The housing gives Georgetown a very “Victorian” look and feel.



Silver Plume

Silver Plume’s relationship to the environment defines how the town has been developed. To the east, outside the town limits, lies the Colorado State Historical Society’s Georgetown Loop railroad tracks, a historic mining area, and a short

Existing Community Conditions

distance away, the Town of Georgetown, which currently has limits on development toward Silver Plume. To the north and south lie steep hillsides and national forest areas which limit development. Development is possible to the west, but at this time, it is very limited.

Silver Plume can be broken into six separate areas of town with the commercial district located on Old Main Street and adjacent to the I-70 westbound off-ramp. East Silver Plume is a residential area with a mix of old and new single-family housing, with the exception of Old Main Street. This area has some of the original mining houses with much of the new development occurring on the north slope. Access to this area is primarily from Jefferson and Daily Streets. Currently, an open space is located east of Charles Street where development could occur.

Central Silver Plume is defined from Gay Street west to Hancock and north of I-70. This area is characterized by mixed-use single- and multi-family, commercial, and public spaces.

West Silver Plume is referred to as the area from Hancock Street to the Mill Tailings north of I-70. Much of this land is comprised of historic residences which are entirely single-family homes. Infill is possible in this area.

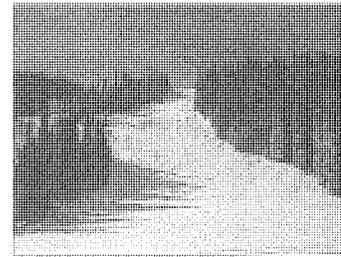
The Mill Tailings area is comprised of the slopes of mine tailings which could be developed if a need arose. This area is possibly located on unstable ground and is very prone to flooding.

The Woods area, between I-70 and the town limits and west of the underpass and train station along Mountain Street, is a wooded sloped area. A few houses exist, but there is currently no city sewer servicing the area.

The Brooklyn Heights area south of the interstate highway and east of the underpass is comprised of single-family homes.

Loveland Ski Area

The ski area is located entirely in the Arapaho National Forest. This area is comprised of approximately 1,365 acres of varied terrain for skiers and snowboarders.



This area, at the far west edge of the study area adjacent to I-70 and the Eisenhower Tunnel, is a major tourist and winter season attraction for thousands. Approximately 225,896 persons visited the Loveland Ski Area during 1999-2000. Hours of operation are between 9:00 a.m. and 4:00 p.m. Monday through Friday, and 8:30 a.m. to 4:00 p.m. on weekends and designated holidays. The ski area is open mid-October through mid-May, depending on the seasonal weather.

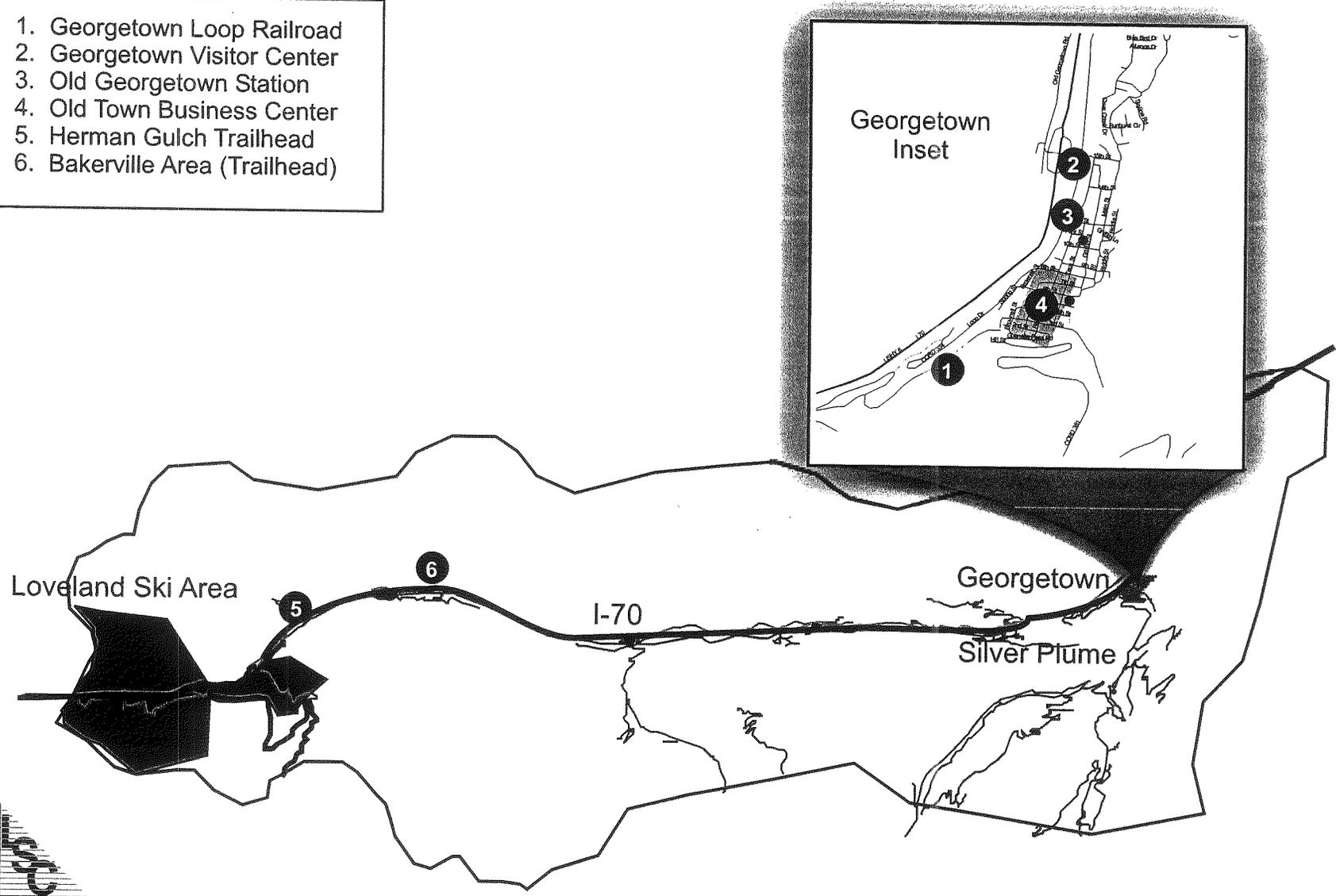
Parking is free at both Loveland Basin and Loveland Valley, and there is a free shuttle between the two areas between 8:00 a.m. to 4:15 p.m. Transportation from Denver is available through Denver Mountain Express, Airlink Shuttle, Greyhound Lines, and Vail Transportation Services. The services will stop by request, except Greyhound, at the Loveland Ski Area from either DIA or the Denver downtown area. These transportation options are available traveling to the ski area. However, travel is limited after being dropped at the ski area. The ski area typically suggests renting a car if traveling from outside the area.

Silver Heritage Area Major Activity Centers and Future Land Development

There are several major activity centers within the Silver Heritage Study Area. These areas have the ability to draw a large number of people, such as shopping centers or major park and recreation areas. One area of particular attention is the Bakerville interchange area. Concurrent with the Internal Transit Plan, Winston Associates is preparing a Strategic Land Use Plan for the Bakerville area. The Bakerville interchange has been identified as an area for possible future development. Figure III-2 illustrates the major activity centers including the Bakerville area within the study area.

Figure III-2
Study Area Activity Centers

1. Georgetown Loop Railroad
2. Georgetown Visitor Center
3. Old Georgetown Station
4. Old Town Business Center
5. Herman Gulch Trailhead
6. Bakerville Area (Trailhead)



Summary of the Bakerville Land Use Plan

The Bakerville Land Use Plan (“Plan”) focuses on providing methods for Clear Creek County to take advantage of and provide facilities needed to increase/support accessibility and improve recreational use of the area. The consultant team was provided base mapping and ownership by Clear Creek County. The team, in concert with the county, invited public comment to assist in identifying issues and concerns about future land use of the Bakerville neighborhood. Based on an analysis of the pattern of land ownership, environmental opportunities and constraints, and the input of the public and involved agencies, four alternatives were prepared describing a range of possible land use plans for Bakerville. The four alternatives spanned the gamut, from creating a new “village” that would include residential and commercial development to allowing very low-density residential development without municipal services.

The preferred Plan proposes a mix of recreation-oriented lodging, retail, and commercial to serve the large numbers of enthusiasts accessing Grey’s and Torrey’s through Steven’s Gulch. This includes a potential space for a US Forest Service facility. These uses are focused on the flat terrain in close proximity to the Bakerville exit off I-70 and would provide an excellent location for a transit connection that would link the county along its east/west axis.

The remainder of the private land within the study area is proposed to remain residential. The density of the residential development would remain similar to existing homes in the area and comply with the existing County R-1 zoning resulting in approximately one home per three acres.

The county land, acquired from the US Bureau of Land Management, is proposed for a variety of related uses. The site offers a valuable amenity by constructing a water storage reservoir. The county property is adequately sized to accommodate the reservoir, provide additional recreation potential through the inclusion of developed camping, as well as provide additional parking for visitors. There are currently few options for obtaining a developed camp site adjacent to I-70 with the county or parking for the volume people currently attempting to recreate in the Bakerville neighborhood.

The preferred Plan is consistent with the county’s amendment to their Comprehensive Plan and along with zoning changes will direct the future development of Bakerville.

Silver Heritage Area Demographics

2000 Population

Table III-1 shows 2000 population estimates by census block group for the study area. Estimates for year 2000 are based on 1990 and 2000 census data. There are slightly more males in the study area than females—1,047 males and 918 females for year 2000. The change from the 1990 to the 2000 Census has been the combination of block groups. In 1990, the study area was comprised of three block groups, where currently there are two. These block groups cover a very large area, approximately 190 square miles, of the county’s approximately 400 square miles.

Table III-1					
2000 General Population for the Clear Creek Silver Heritage Study Area					
Census Tract	Census Block Group	Land Area sq. ml.	2000 Total Population	2000 Population by Gender	
				Male	Female
149	2	129.4	1,318	696	622
149	3	60.4	647	351	296
Study Area Totals		189.8	1,965	1,047	918
<i>Source: Census Bureau, 2002.</i>					

This translates to a study area population density of approximately 10.4 persons per square mile, compared to the State of Colorado’s population density of 41.5 persons. Figure III-3 illustrates the Silver Heritage Area’s percent of population within Clear Creek County.

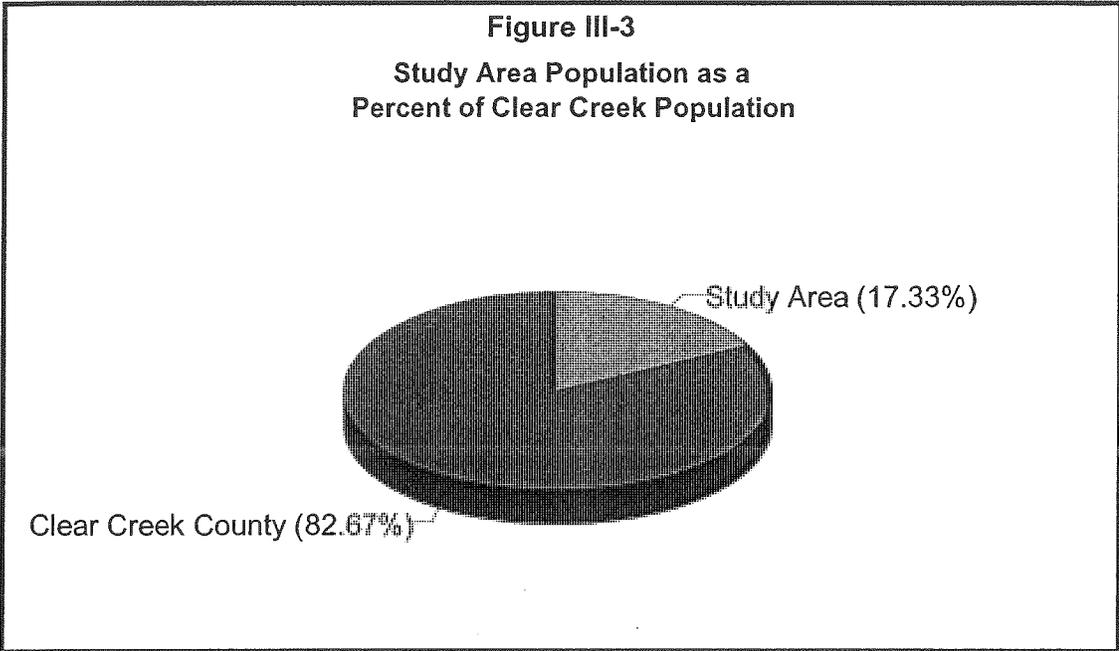
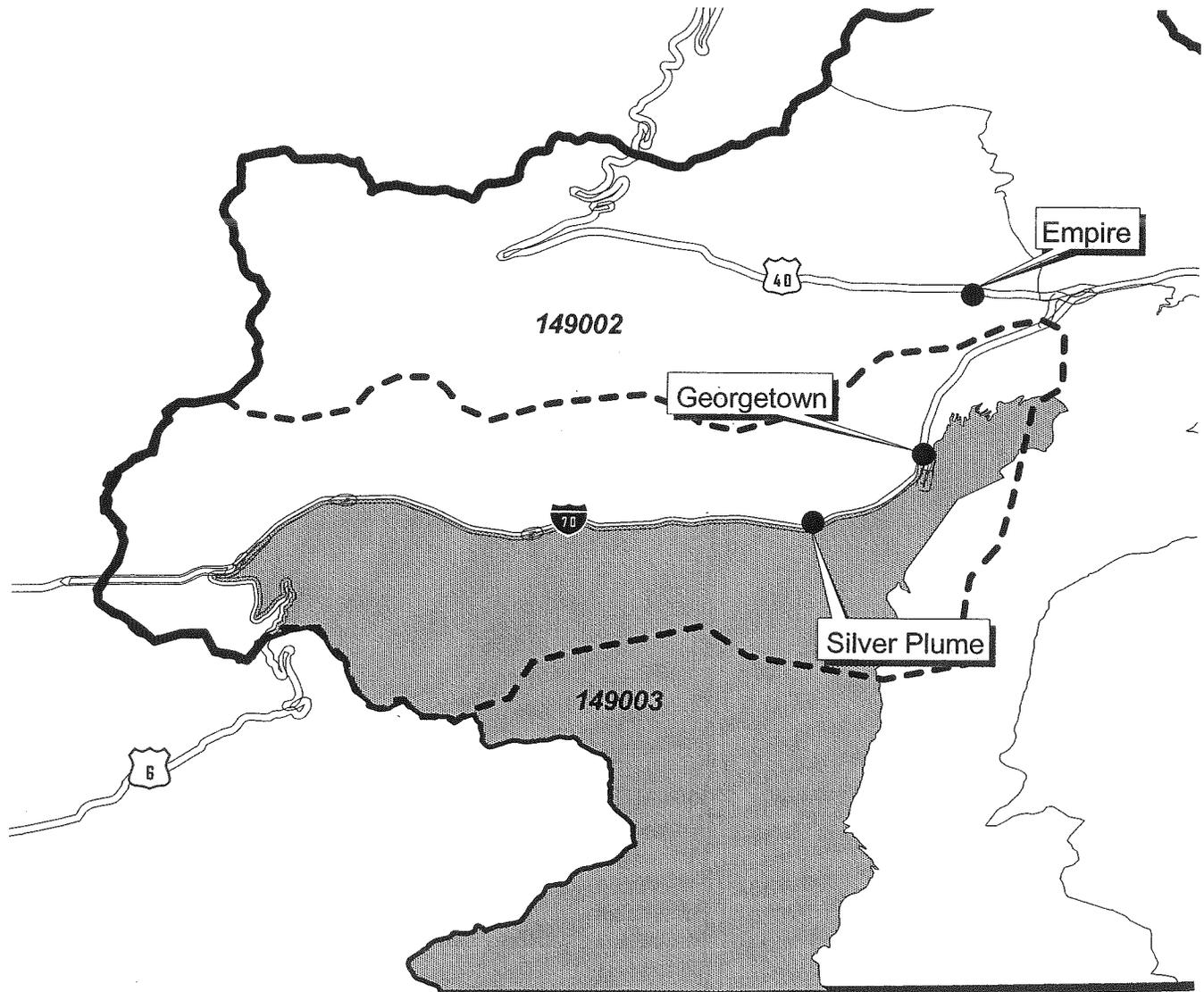


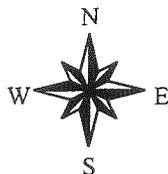
Figure III-4 illustrates the 2000 population density by census block group for the study area.

Figure III-4
 2000 Study Area Population Density
 by Census Block Group



- Clear Creek Roads
- Study Area
- Clear Creek Towns
- 2000 Population Density**
- 9 persons per sq. mi.
- 10 or more person per sq. mi.
- County Boundary

Source: 2000 Census



Transit-Dependent Population Characteristics for Silver Heritage Area

This section provides information on individuals considered by the transportation profession to be dependent upon public transit. In general, these population characteristics preclude most such individuals from driving and increase the dependence on other friends and relatives for transportation.

The four types of limitations which preclude persons from driving are: (1) physical limitations, (2) financial limitations, (3) legal limitations, and (4) self-imposed limitations. Physical limitations may include everything from permanent disabilities such as frailty due to age, blindness, paralysis, or developmental disabilities, to temporary disabilities such as acute illnesses and head injuries. Financial limitations essentially include those persons unable to purchase or rent their own vehicle. Legal limitations refer to such limitations as persons who are too young (generally under age 16) or those persons whose privileges have been revoked (DUI, etc.). The final category of limitation includes those people who choose not to own or drive a vehicle (some or all of the time) for reasons other than those listed in the first three categories.

The census is generally capable of providing information about the first three categories of limitation. The fourth category of limitation is currently recognized as representing a relatively small proportion of transit ridership. Table III-2, on the following page, presents the regional census statistics including zero-vehicle households, youth population, elderly population, mobility-limited population, and below-poverty population. These types of data are important to the various methods of demand estimation presented later in Chapter V.

**Table III-2
2000 Transit-Dependent Population Estimates for Clear Creek Study Area Census Block Groups**

Census Tract	Census Block Group	Land Area (sq.mi.)	Zero-Vehicle Households		Total Number of Households	Total Number of Youth Aged 0-15		Total Number of Elderly 60 & over		Mobility-Limited Population		Below-Poverty Population		Total Population (Persons)
			#	%		#	%	#	%	#	%	#	%	
149	2	129.38	40	6.8%	588	254	19.3%	118	0.0%	7	0.5%	191	14.5%	1,318
149	3	60.40	12	4.0%	310	80	12.4%	101	15.6%	0	0.0%	147	22.7%	
Silver Heritage Study Area		190	52	5.8%	898	334	17.0%	219	11.1%	7	0.3%	338	17.2%	1,965

Source: 2000 Census Estimates & LSC, 2001.

Youth/Elderly Population

The total estimated population of youth aged one to fifteen years within the study area was 334 persons in 2000, representing 17 percent of the total study area population. In the study area, elderly persons (age 60 and older) represent 11 percent (219) of the total population. Figure III-5 graphically illustrates the distribution of elderly persons across the study area. The areas of high elderly concentration are important areas for senior service programs. A general trend across the United States is that the elderly population has been increasing as a proportion of the total population.

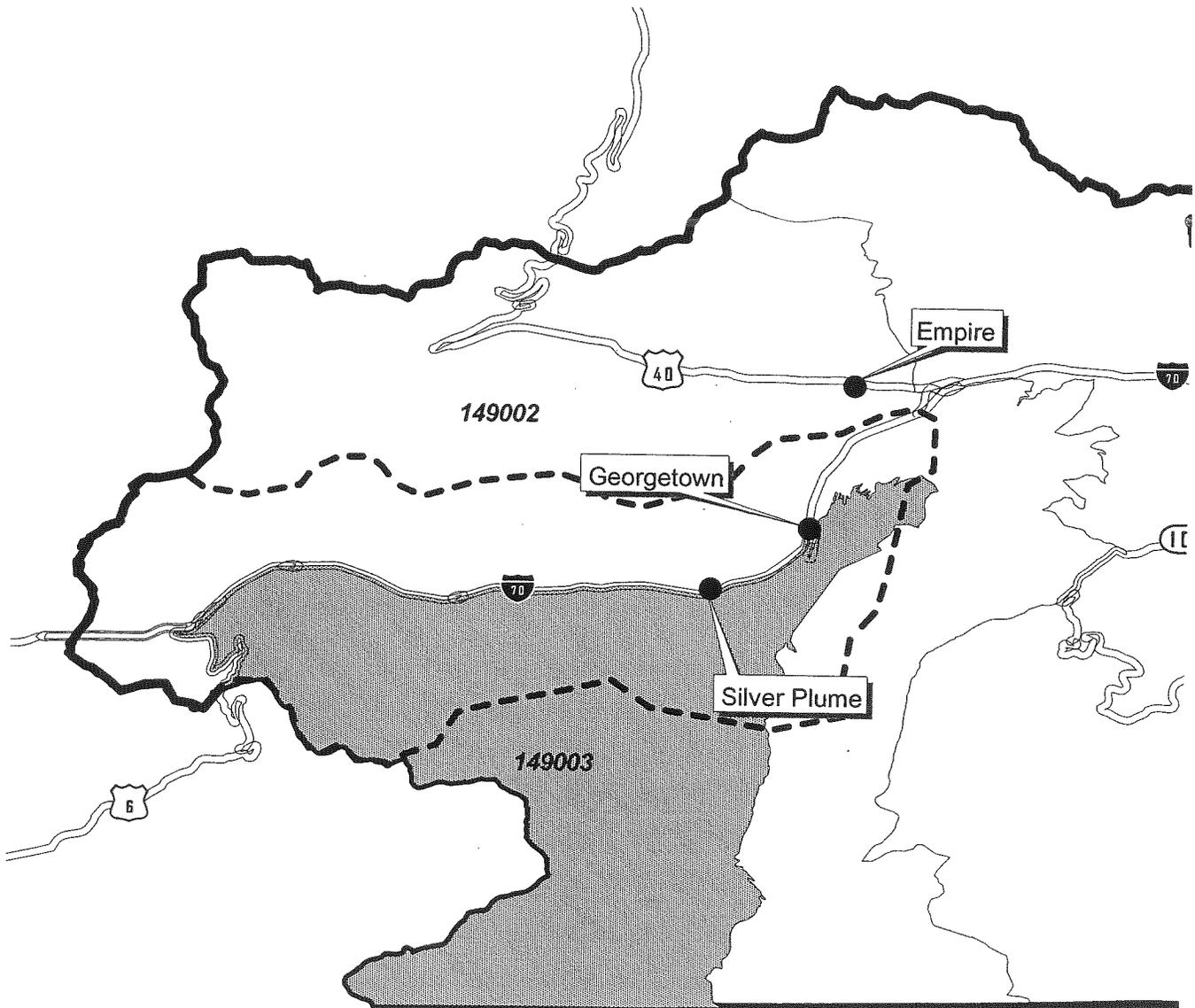
Mobility-Limited Population

The mobility-limited population, as a whole, represents less than one percent (0.3 percent) of the area's total population. Figure III-6 shows the distribution of the mobility-limited population in the study area. The highest density of mobility-limited population is located in Tract 149 Block Group 3 in southeastern Clear Creek County.

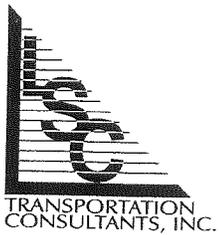
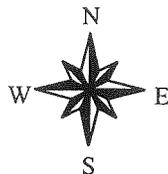
Tourist Market

An additional transportation-dependent market segment is the tourists who are forced to rent a vehicle from the Denver metropolitan area because public transportation options in the county are limited. Currently, data are not collected to track the numbers of persons affected, nor would this be very feasible. However, it is important to recognize this factor as overall transportation issues are discussed. Many people that visit the area are also forced to drive their personal automobiles within the study area if they wish to travel the relatively short distances between Georgetown, Silver Plume, and the recreation areas within the study area, although the Georgetown Loop Railroad is available during summer months.

Figure III-5
 Elderly Population Density
 by Census Block Group

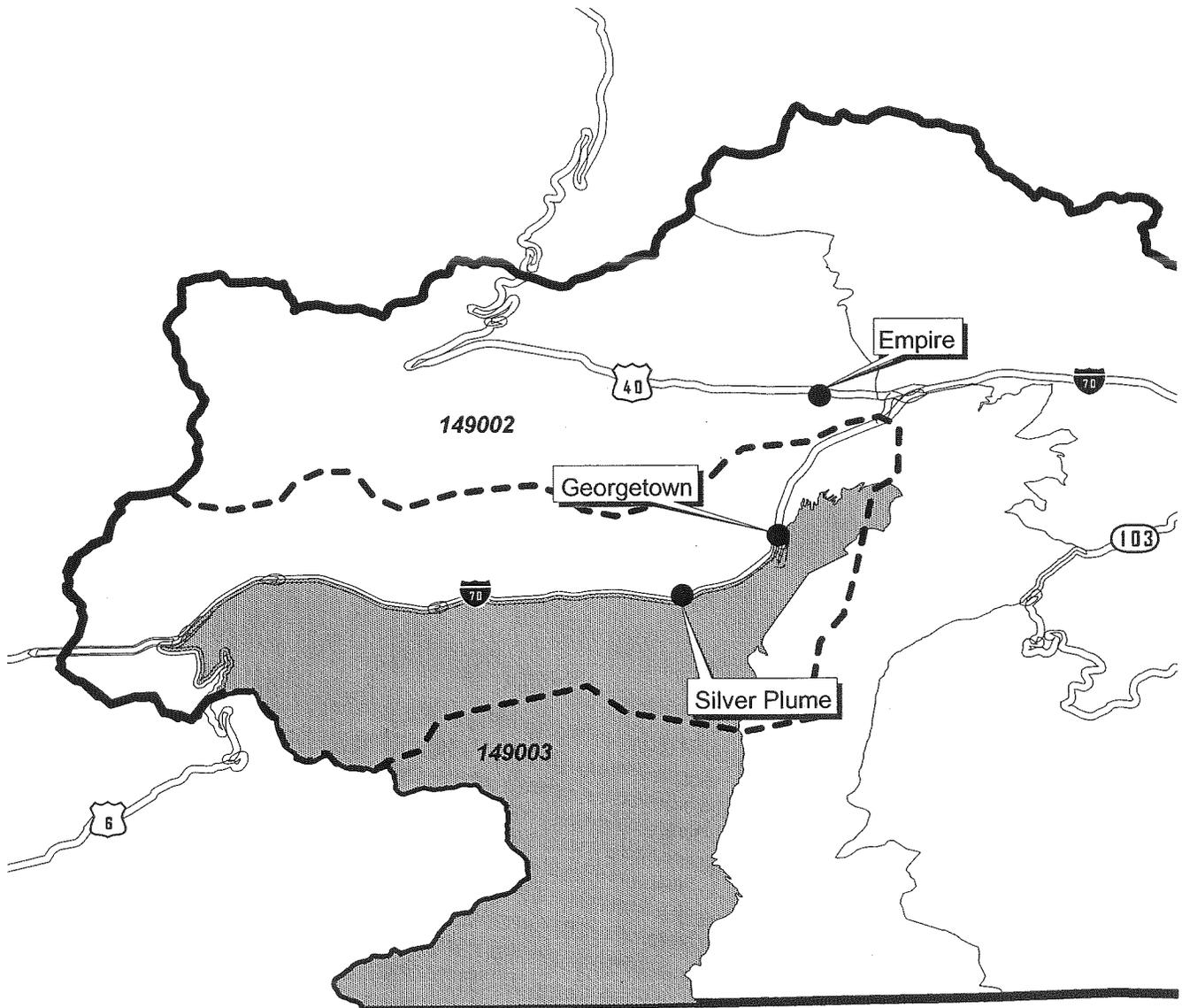


- Clear Creek Roads
- Study Area
- Clear Creek Towns
- Elderly (60+) Population Density**
- 0.9 persons per sq. mi.
- 1 or more persons per sq. mi.
- County Boundary



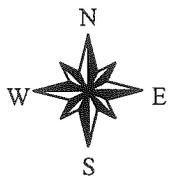
Source: 2000 Census

Figure III-6
 Density of Mobility-Limited Persons
 by Census Block Group



- Clear Creek Roads
- Study Area
- Clear Creek Towns
- Mobility Limited Population**
- 0.023 persons per sq. mi.
- 0.05 or more persons per sq. mi.
- County Boundary

Source: 2000 Census Estimates



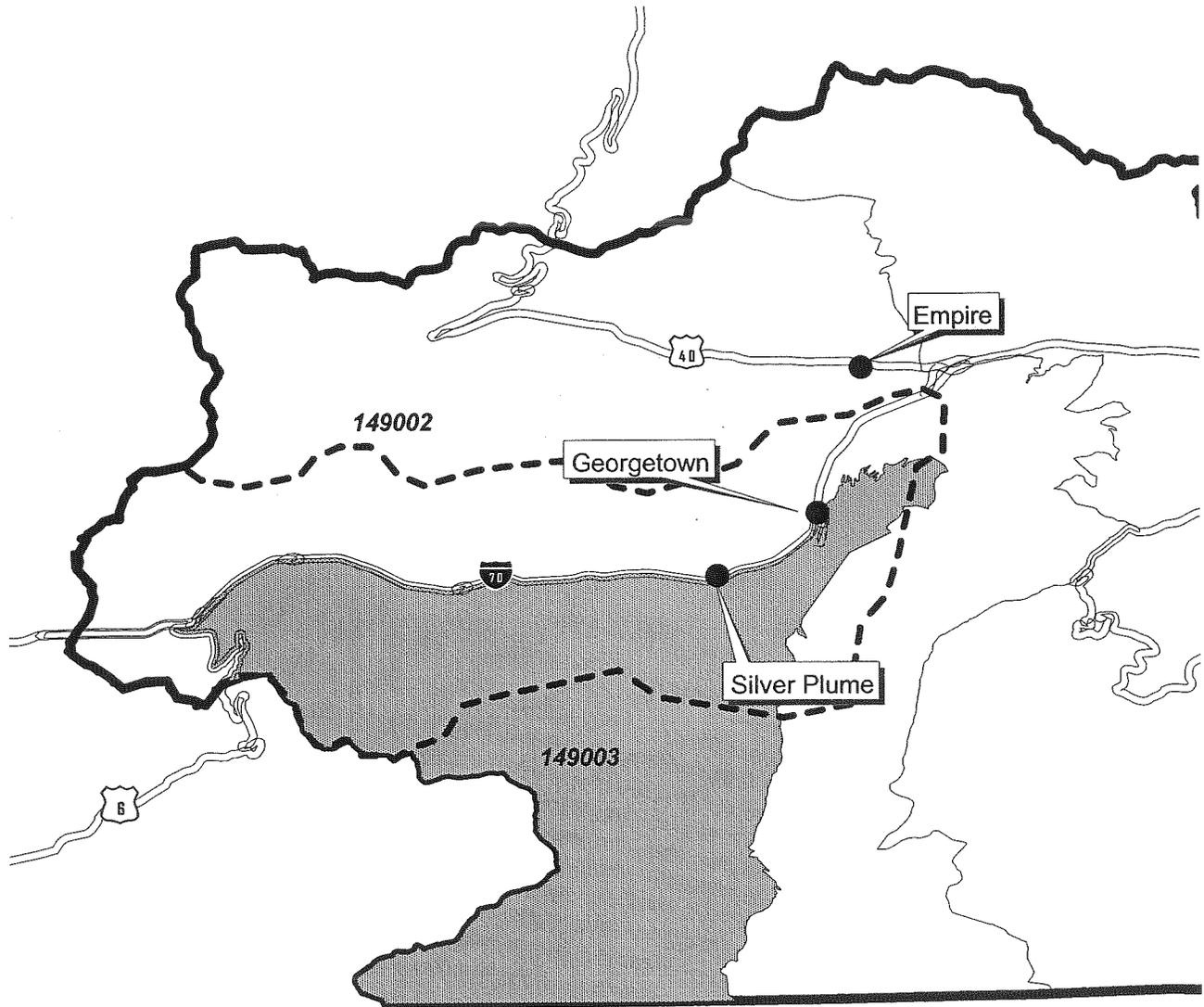
Low-Income Population

Low-income persons tend to depend on transit to a greater extent than persons with a high level of disposable income. 2000 Census estimates indicate 17.2 percent (338) of the population ranked below poverty level. Figure III-7 presents the density of below-poverty persons within the study area. The area of highest density occurs in Tract 149 Block Group 3 in southeastern Clear Creek County.

Zero-Vehicle Households

The final census information related to the “transit-dependent” is the distribution of households without their own vehicle. That distribution is shown for the study area in Figure III-8. The 2000 census estimates indicates that 52 of the area’s 898 households did not have a vehicle, representing about 5.8 percent of the total households.

Figure III-7
 Density of Persons Below Poverty Level
 by Census Block Group



- Clear Creek Roads
- Study Area
- Clear Creek Towns
- Below Poverty Population Density**
- 0.6 persons per sq. mi.
- 0.7 or more persons per sq. mi.
- County Boundary

Source: 2000 Census Estimates

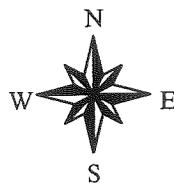
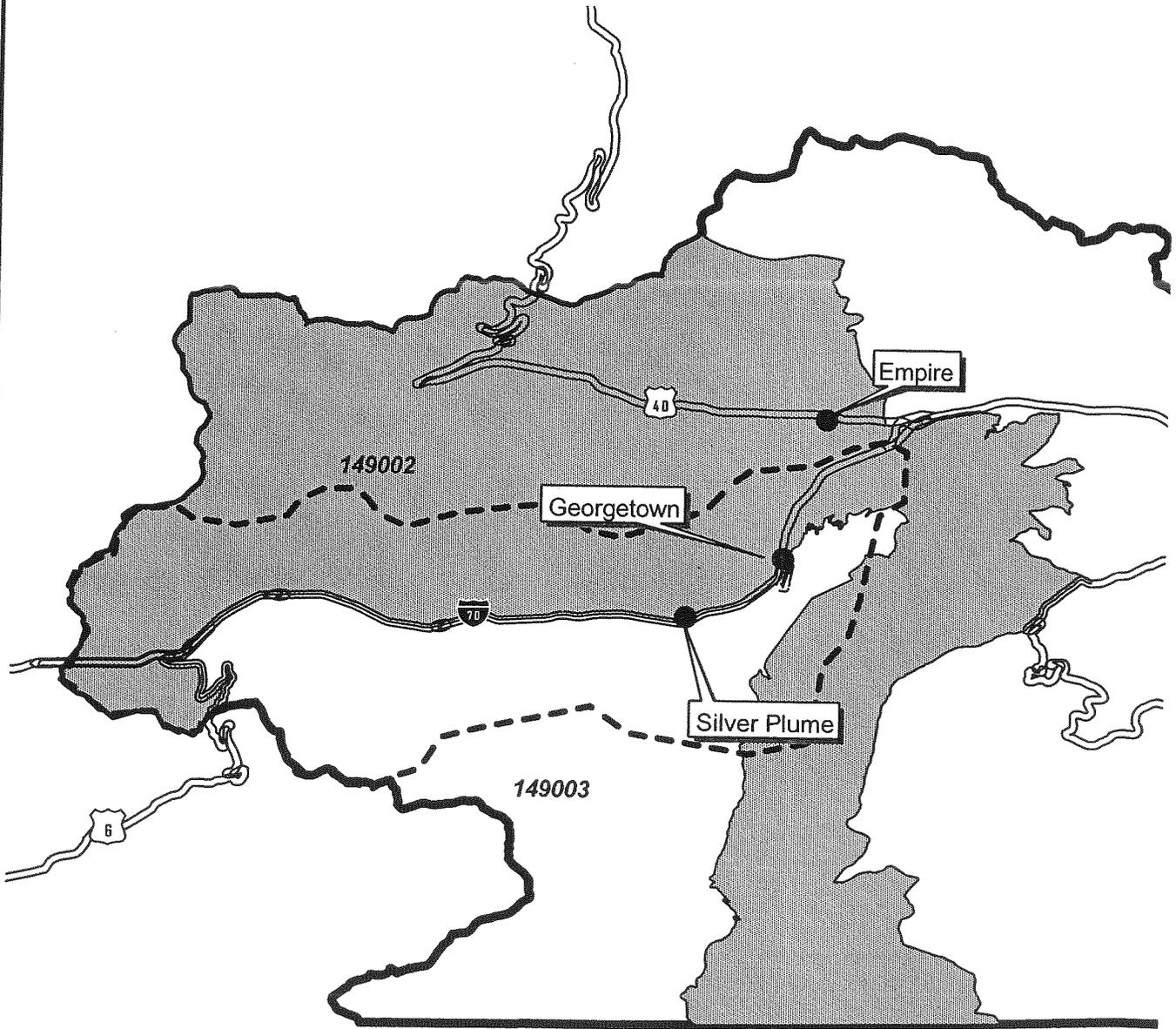
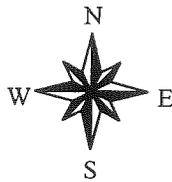


Figure III-8
 Density of Zero-Vehicle Households
 by Census Block Group



- Clear Creek Roads
- Study Area
- Clear Creek Towns
- 2000 Census Block Groups
- 0.099 households per sq. mi.
- 0.099 or more households per sq. mi.
- County Boundary

Source: 2000 Census Estimates



Silver Heritage Area Economy

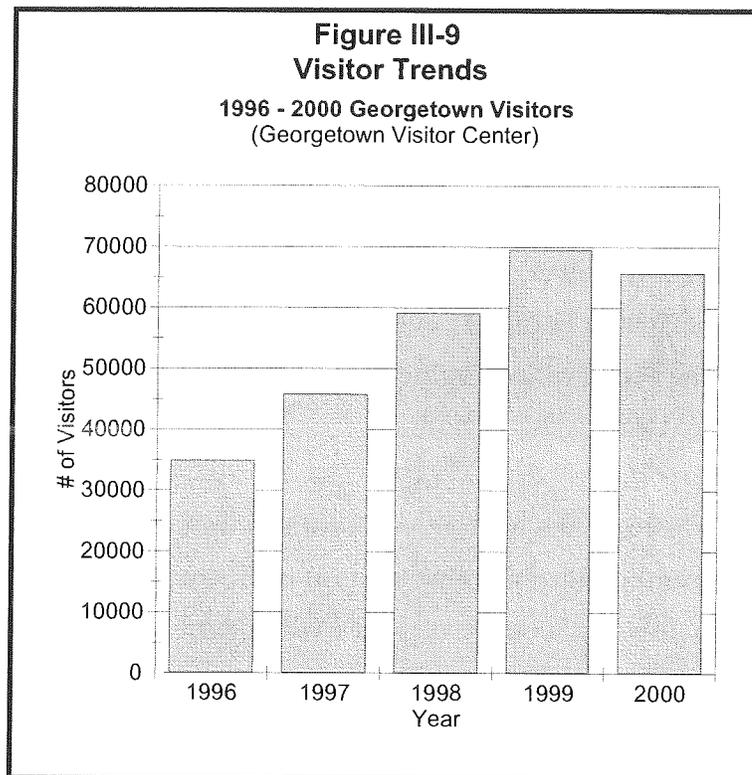
The Silver Heritage Area of Clear Creek, which is comprised of Silver Plume and Georgetown, is largely dominated by three principal industries: tourism, mining activity in nearby areas, and local government. An important fourth industry, but one that is dependent upon the other three, is serving the residents within Georgetown and Silver Plume. The diversity of businesses in Georgetown has remained relatively constant over the last ten years. Generally, Georgetown has supported a core of retail businesses, but many retail businesses have tended to come and go during the period.

Georgetown's tax base is largely dependent on sales tax revenue. Sales tax revenues have remained relatively constant over the past five years, with only a slight increase in the last couple of years while other communities along the Front Range have seen large increases in sales tax generation.

Approximately 25 percent of the jobs within the study area are related to tourism, with retail trade dominating the industry. In 1990, 26 percent of the employed persons in Georgetown, and 22 percent in Silver Plume, were working in the retail trade industry. The dependence on, and growth of, the retail trade and tourism industry is very evident by the recent visitor trends to Georgetown. In Fiscal Year 2000-2001, approximately 65,696 visitors were recorded at the Historic Georgetown Visitor Center. Figure III-9 shows the trends in visitors to the Center from 1996 through 2000.

Georgetown has been seeing a steady increase in visitors to the area. This growth, to approximately 120,000 visitors in 2001, is the reason why the retail trade and tourism industry have been the largest industry market within the study area.

The visitor population within the study area has been increasing in recent years. Many times, the visitor population can exceed that of the resident population during peak tourism season. Typically, the tourism population is from the Denver metropolitan area, and many times tourists come for a day trip to Georgetown and Silver Plume.



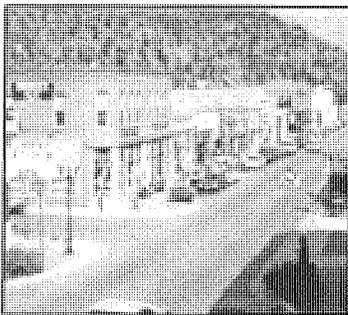
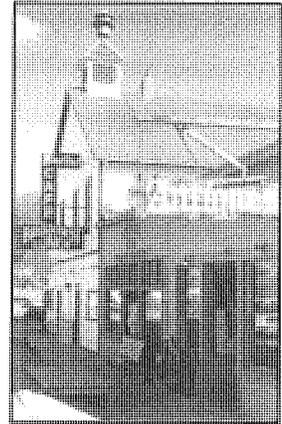
CLEAR CREEK COUNTY

Land Use Summary

Clear Creek County encompasses 396 square miles. Within the county, the US Forest Service manages 170,092 acres of the Arapaho and the Pike National Forests. The central part of the county includes the Mount Evans Wilderness Area and the Mount Evans State Wildlife Area. The Continental Divide forms the western and part of the northern boundaries. Because of its location near the Denver metropolitan area, the area along the county's I-70 corridor is subject to increasing residential demands.

In 1994, Congress enacted a legislative transfer which conveyed over 7,000 acres of land from the Bureau of Land Management to the county. This is the first transfer of this kind. Before being transferred to Clear Creek County, the land had been in federal ownership since the Louisiana Purchase. In 1998, Clear Creek County adopted a new set of zoning regulations.

The **Town of Empire** began as a gold mining camp in the 1860s and was called Valley City until 1882, when it was incorporated as the Town of Empire. Early prospectors traveled over old Union Pass in the early 1860s to get to Empire. The town became an important stage and supply town feeding the booming cities over the pass. Just off of I-70, Empire enjoys a blend of history, beauty, and the small town character inherent to this area.



The **Town of Idaho Springs** was founded in January 1859 when George Jackson was on a hunting trip. He was working his way up the Clear Creek when he spotted a mist rising from a nearby canyon. Believing he had come across an Indian encampment, he crept up the slope through waist-deep snow and peered over the ridge where he found the hot springs. The following day, he pushed further west to the junction of Chicago Creek and Clear Creek to do some prospecting. Using his drinking cup, he had quickly panned \$9 worth of gold. Shortly thereafter, Idaho Springs and surrounding Clear Creek County became a booming center for mining and milling, with a population of nearly 40,000 when the mining operations were in full production. Idaho Springs was incorporated in 1885.

The downtown area of Idaho Springs is listed in the National Historic District Registry. It is one of the best preserved towns in Colorado due to the fact that it has not lost its buildings to a major fire like many other historic towns.

Clear Creek County Major Activity Centers

Major activity centers are important in terms of land use, trip generation rates, and their ability to be served by public transit. Figure III-10 illustrates the major activity centers identified within Clear Creek County. These activity centers range from grocery stores to recreational destinations and businesses. The activity centers do not include all of those that are also illustrated in Figure III-2 of the Silver Heritage Area activity centers.

Existing Community Conditions

There are very few major activity centers within Clear Creek County. Most of these areas constitute recreational sites within the county.

Clear Creek County Demographics

General Population

The 1990 permanent population for Clear Creek County was reported by the US Census Bureau to be 7,169 persons. The 2000 Census data reported an increase in population to approximately 9,400 persons. Table III-3 presents current population and projections for Empire, Idaho Springs, and Clear Creek County.

Table III-3 Population and Projections				
	2000	2005	2010	2020
Empire	355	389	435	575
Idaho Springs	1,889	2,068	2,317	3,058
Clear Creek County	9,373	10,272	11,482	15,098

Source: Colorado Department of Local Affairs & LSC, 2002.

Figure III-11 illustrates the 2000 population density in Clear Creek County.

- 1. Idaho Springs
 - 2. Guanella Pass
 - 3. Georgetown Loop Railroad
 - 4. Echo Lake Park
 - 5. Herman Gulch Trail
 - 6. Gray's & Torrey's Peaks
 - 7. Empire
 - 8. Mt Evans
- Arapaho/Roosevelt National Forest

Figure III-10
Clear Creek County Activity Centers

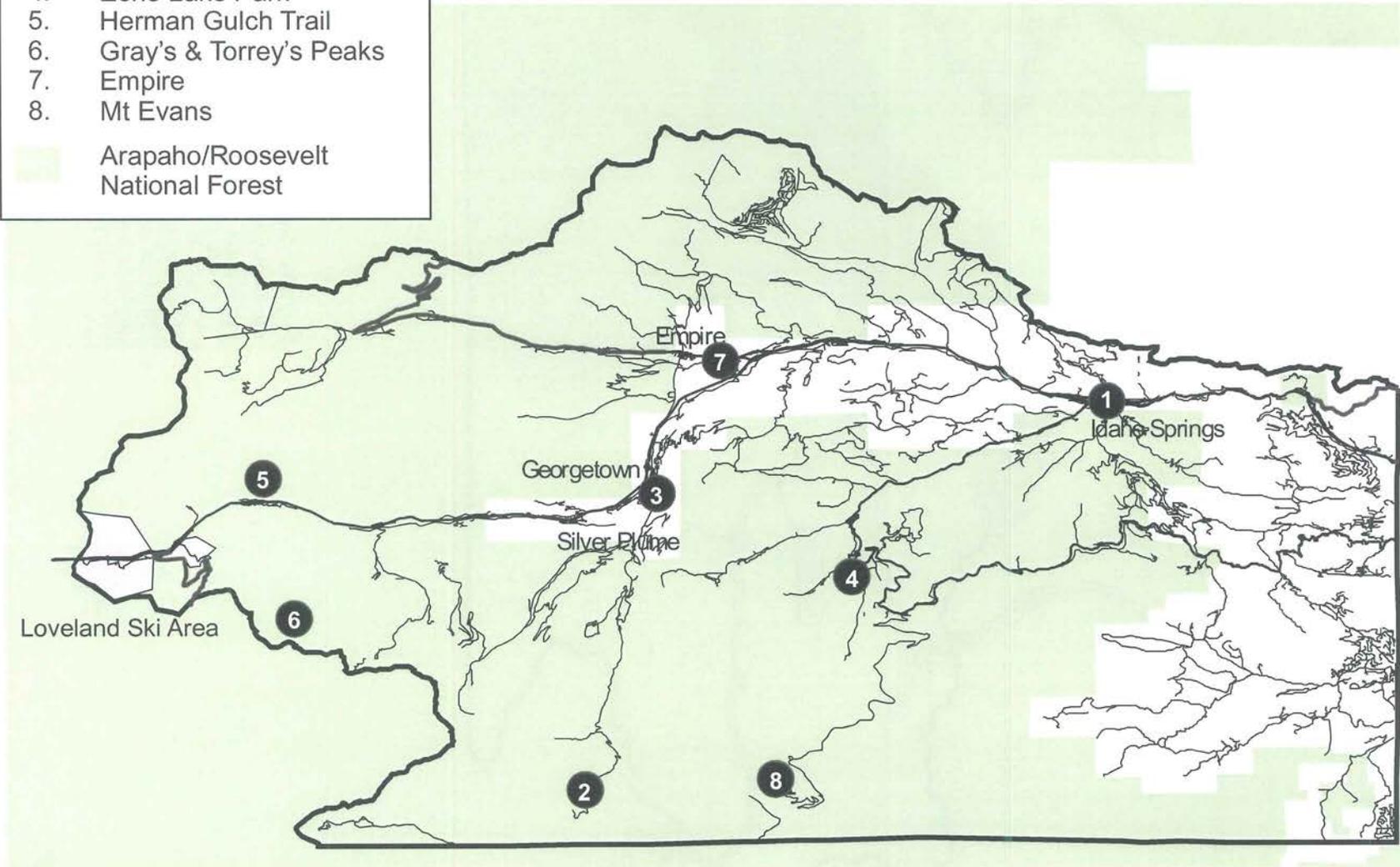
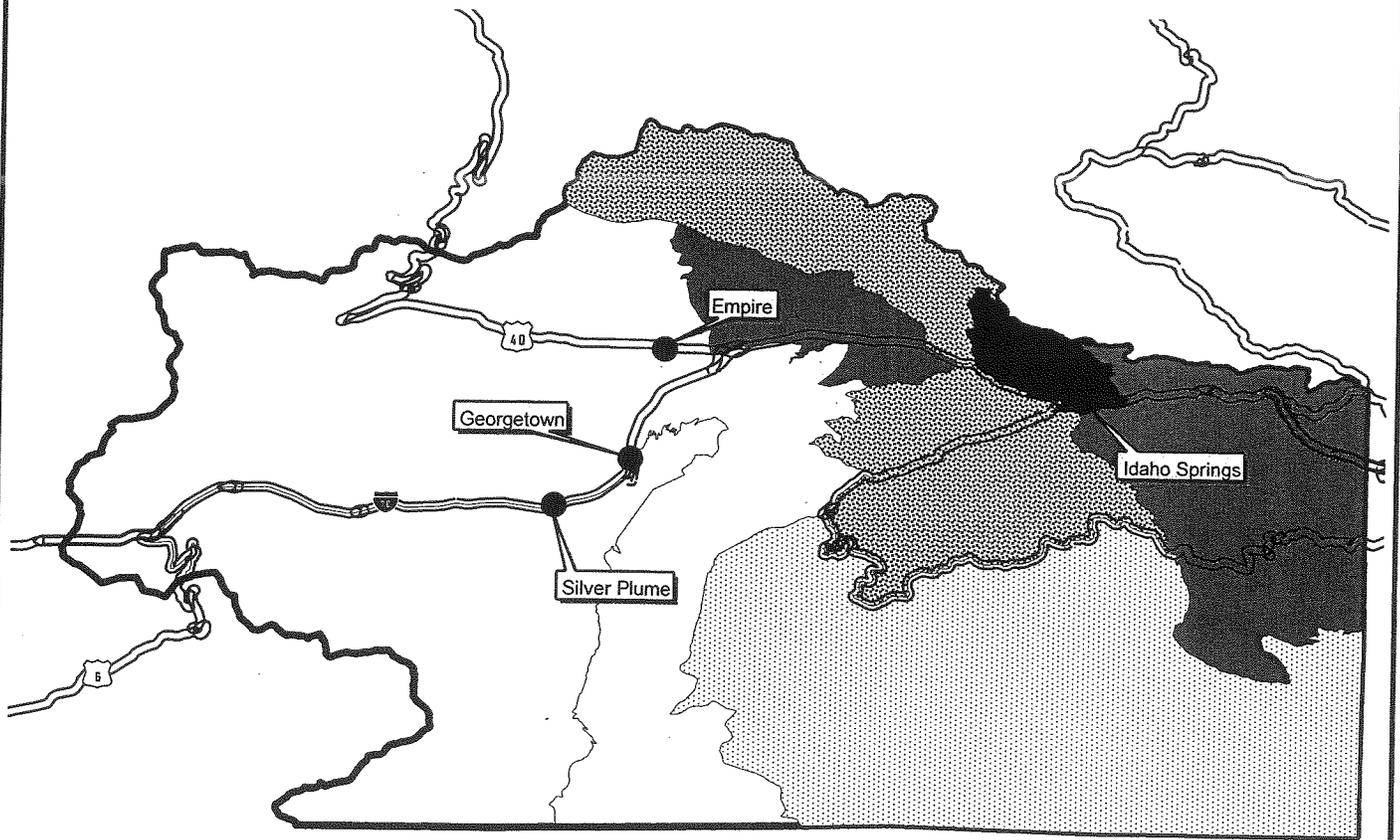
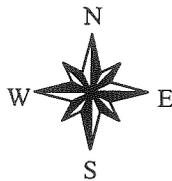


Figure III-11
 2000 Clear Creek County Population Density



-  Clear Creek Roads
-  Clear Creek Towns
- 2000 Population Density
-  10 - 10.7 persons per sq. mi.
-  10.7 - 14 persons per sq. mi.
-  14 - 20 persons per sq. mi.
-  20 - 61 persons per sq. mi.
-  60 or more persons per sq. mi.
-  County Boundary



Source: 2000 Census

Clear Creek County Economy

Table III-4 shows the available 2000 information on employment for Clear Creek County. Based upon the number of employees, Clear Creek County is dominated by the retail and service industries. These two sectors accounted for 55 percent of the total wage and salary jobs. The tourism-related industry in Clear Creek accounted for approximately 19 million dollars in 2000.

Sector	%
Agricultural Products and Services	>1%
Mining	13%
Construction	7%
Manufacturing	2%
Transp., Comm., Utilities	2%
Wholesale and Retail Trade	24%
Financial, Insurance, Real Estate	4%
Services and Miscellaneous	31%
Government	17%
TOTAL	100%
<small>Source: Colorado Department of Local Affairs, 2001.</small>	

The average wages in Clear Creek County are approximately \$31,049 annually according to the Bureau of Economic Analysis, US Department of Commerce. In 2000, the labor force in Clear Creek County was 5,016, with 4,865 persons employed. This represents an unemployment rate of approximately 3 percent compared to the state unemployment rate of 2.75 percent.

Clear Creek County Major Employers

Table III-5 presents Clear Creek County's largest employers with 20 or more employees. The largest single employer within the county is the Loveland Ski Area, with approximately 525 peak season (mid-October through mid-May) employees. Henderson Mine is the second largest employer with 320 employees, but continues to reduce the number of employees. The Clear Creek School District is the third largest employer with 175 employees.

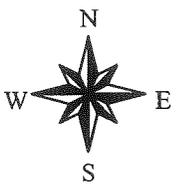
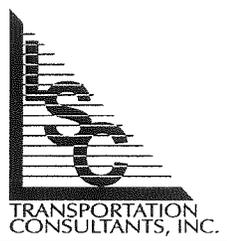
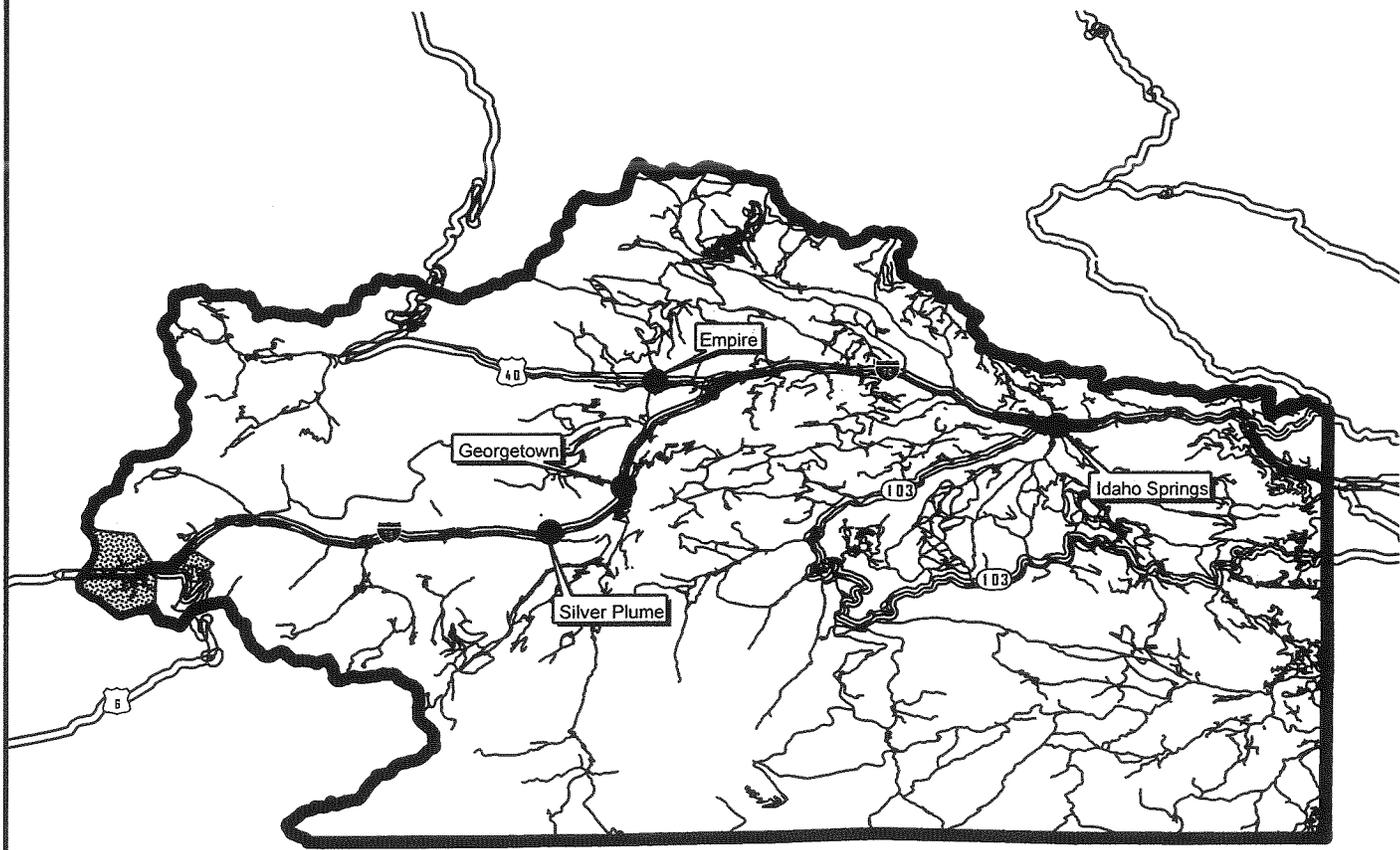
Table III-5 Major Employers in Clear Creek County	
Major Retail and Service Employers	Avg. # of Employees
Rocky Mountain Express	60-65
Beau Jo's Pizza	55
Clear Creek Rafting	54 Peak / 3 Off-Peak
Georgetown Loop Railroad	50 Peak / 12 Off-Peak
Tall Grass Spa	50
Safeway Grocery	50
Al Frei Sand and Gravel Quarry	33
Trails Illustrated	28
McDonalds	27
Public Service Company	20
Major Private Sector Employers	Avg. # of Employees
Henderson Mine	320
Loveland Ski Area	525 Peak / 40 Off-Peak
Tommyknockers Brewery	55
Major Public Sector Employers	Avg. # of Employees
Clear Creek School District	175
Clear Creek County Offices	121
US Forest Service	50-70 Peak / 22 Off-Peak
<i>Source: LSC, 2001.</i>	

TRANSPORTATION SYSTEMS OVERVIEW

Highways

Interstate 70 is the major highway in the study area, which runs east/west near Georgetown and Silver Plume, and continues to the Eisenhower Tunnel. Interstate 70 extends nationally from Baltimore, Maryland to Interstate 15 in Utah. Figure III-12 illustrates the major highways in the county. The US Highway 40 junction with I-70 is approximately four miles east of Georgetown and leads to Empire and the Winter Park area. The other highway in the study area is US Highway 6, which is south of the Loveland Ski Area and travels over Loveland Pass to Arapahoe Basin Ski Area, Keystone Ski Area, and eventually loops back to I-70 at Dillon.

Figure III-12
Clear Creek County Transportation System

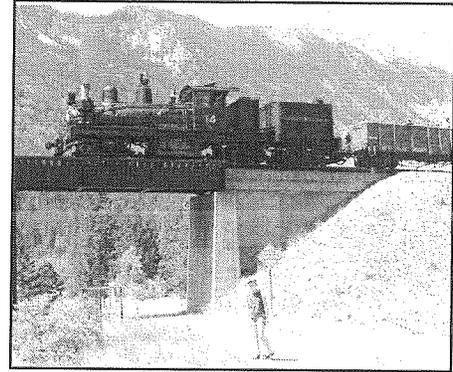


-  Major Highways
-  Roads
-  Clear Creek Towns
-  Loveland Ski Area
-  County Boundary

All hazardous materials vehicles use US 6 because they are not permitted to travel through the Eisenhower Tunnel.

Railroads

The only railroad in the study area is the Colorado State Historical Society's Georgetown Loop Railroad. In 1877, the railroad reached Georgetown with the intention of extending to Leadville, but the line did not reach its goal. The rail served the mining camps between Denver and Silver Plume, providing freight and passenger service. With increased automobile use and the collapse of the mining industry, the "Loop" became obsolete. In 1939, the track and bridges of the line were dismantled and sold for scrap. In 1975, the State Historical Society returned the Loop Railroad to operation. The train now travels between the towns of Georgetown and Silver Plume. Chapter IV of this report provides more details on the Georgetown Loop Train. No other passenger or freight rail activity exists in the study area.



Airports

Clear Creek County does not have any existing airports. The airport closest and used most often is Denver International Airport.

RELATIONSHIPS TO SURROUNDING COUNTIES

The proximity of Clear Creek County to the Denver metropolitan area, as well as nearby recreation areas in central Colorado, make the county susceptible to growth from commuters working outside of the county. Estimates for 2000 indicate that approximately half of working residents in Clear Creek County commute daily to the Denver metropolitan area. With average housing prices at approximately \$200,000, this area is sure to see extensive growth in coming years. Clear Creek County is expected to reach approximately 17,000 persons by 2025, with as many as two-thirds of the workers commuting outside of the area for work.

With the growing population, comes the need to accommodate travelers' needs in a variety of ways. While there are no public transportation providers serving the Silver Heritage Area of Clear Creek County, many providers in surrounding counties (discussed further in Chapter IV) are willing to provide transportation to the greater Clear Creek County area. Although this is not the inexpensive general public transportation seen in larger cities, or rural areas with established public transportation systems within Colorado, they do offer transportation through the area to the Denver area.

There is also a significant tourism market in the Denver area related to conferences, conventions, and meetings. Transportation services are needed to link this population with destinations in the Silver Heritage Area.

Much of the transportation demand is through Clear Creek County in the I-70 and US 40 corridors. Although these are major transportation corridors with various transit services, there are very few services which provide transportation to the study area or to any location in Clear Creek County.



Existing Transportation Resources

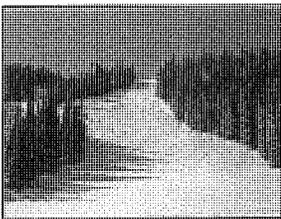
INTRODUCTION

This chapter reviews the existing transportation resources within, or which pass through, the Silver Heritage Study Area. This chapter also reviews the various types of transportation services available in Clear Creek County and resources that operate in nearby counties.

Any agency that operates a public or private transportation system through the study area was contacted by the LSC Team. This included taxi services, shuttle services, historical transportation services, and private agencies that offer transportation services to clients. These agencies were asked about operating times, ridership, annual budgets, areas of service, etc.

SILVER HERITAGE AREA TRANSPORTATION PROVIDERS

Loveland Ski Area



The Loveland Ski Area transports employees at no charge to and from work. The employee shuttle makes stops in the morning and evening at Dumont, Georgetown, Idaho Springs, and Silver Plume. The shuttle service is provided to employees only on days they work at the ski area. The area operates three 25-passenger buses ranging in year from 1987 to 1996. Loveland Ski Area has a transportation operating budget of between \$20,000 and \$25,000 per year.

Two shuttles operate during the ski season. Table IV-1 provides the December 2001 bus schedule.

Table IV-1 Loveland Ski Area – Employee Bus Schedule December 2001		
Shuttle Bus #1		
Stop	Location	Departures
Idaho Springs	Ride Stop	7:10 a.m.
Dumont	Next to Conoco	7:20 a.m.
Loveland	Bus loading area	7:50 a.m.
This shuttle leaves the base area at 4:40 p.m. and the Valley at 4:45 p.m.		
Shuttle Bus #2		
Stop	Location	Departures
Georgetown	Old Georgetown Station	7:25 a.m.
Silver Plume	Buckey's	7:30 a.m.
Loveland	Bus loading area	7:50 a.m.
This shuttle leaves the base area at 4:40 p.m. and the Valley at 4:45 p.m.		

Golden West Commuter



Golden West Commuter, founded in 1980, recently acquired an operating license through Colorado Public Utilities Commission (PUC) to serve portions of Clear Creek County, west to Georgetown. Golden West Commuter historically served passengers between Golden, Lakewood, Wheat Ridge, and the southern portion of Arvada. Golden

West Commuter obtained the PUC from Superior Shuttle Services. The agency is in the application process for obtaining a license to serve the entire Clear Creek County area.

Golden West Commuter operates 24 hours each day, Monday through Friday, year-round including holidays. Prior to September 11, 2001, Denver International Airport was served every half-hour from 3:00 a.m. until 12:00 midnight. Currently, the service operates hourly until air travel resumes its former levels. The agency currently makes on-request stops in Idaho Springs at the city parking lot on the north side of I-70 (Exit 240), as well as at the Georgetown Visitors Center on the

south side of I-70 (Exit 228). Golden West Commuter has expressed interest in providing countywide transportation in Clear Creek County to alleviate traffic congestion as well as providing a needed service to residents in the county and the growing tourist populations.

Charter and contract service is also operated by Golden West Commuter. Current contractual relationships include Coors Brewing, Qwest, and Specialty Tours and Travel. Golden West Commuter currently has a fleet of 22 vehicles which can carry between 10 and 14 passengers. Two other vehicles serve local short distance needs within the Golden area. Other vehicles include six buses which can carry from 17 to 25 passengers, of which one is equipped with a wheelchair lift.

Greyhound

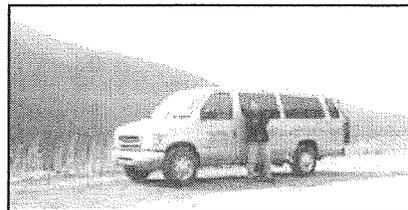


Greyhound Lines, Inc. is the largest provider of intercity bus transportation, serving more than 2,600 destinations across the country. The 45-minute bus trip from Denver to Idaho Springs costs approximately \$5.00 one-way. There are three daily scheduled routes from Denver, along I-70, to Idaho Springs. There is one scheduled route from Grand Junction to Idaho Springs. Table IV-2 shows the Greyhound schedule.

Table IV-2 Greyhound Lines Bus Schedule		
From	To	Arrival
Denver	Idaho Springs	9:30 a.m.
Denver	Idaho Springs	2:45 p.m.
Denver	Idaho Springs	6:45 p.m.
Denver	Fraser	10:30 a.m.
Denver	Fraser	7:45 p.m.
Grand Junction	Idaho Springs	9:40 a.m.

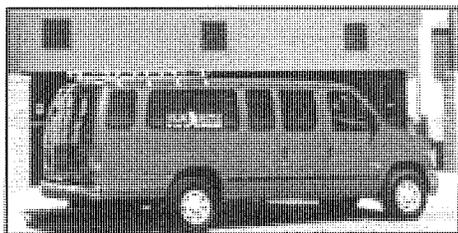
Denver Mountain Express

Denver Mountain Express offers demand-responsive transportation services from major hotels in downtown Denver and Denver International Airport on I-70. The vehicles travel through Clear Creek County west to the ski areas.



A one-way ticket from downtown Denver to Breckenridge costs approximately \$65. Denver Mountain Express will make a stop at the Loveland Ski Area upon request, although a passenger will have to pay the full \$65 for the trip.

Airlink Shuttle



Airlink Shuttle offers private charter van service for families and groups, as well as door-to-door shuttle service to and from Colorado airports. Airlink Shuttle departs hourly from the Denver International Airport between the hours of 10:00 a.m. and 9:30

p.m. Airlink Shuttle serves Vail, Beaver Creek, Eagle, Denver, and neighboring resorts. The shuttle service from Denver International Airport to Vail would cost approximately \$60 per person. The shuttle will stop upon request at the Loveland Ski Area. However, as mentioned with the Denver Mountain Express, the full fare would be charged to the passenger.

Vail Transportation Service

Vail Transportation Service provides *private* van services for individuals, groups, or families using 14-passenger vans. Areas served include: Vail/Beaver Creek, Summit County, and Aspen. Services are offered from both Denver International Airport (DIA) and the Vail/Beaver Creek Jet Center. Transportation costs vary, but one to three people can travel from DIA to the Vail/Beaver Creek/Edwards area for \$275 one-way, seven days a week. Vail Transportation Service would make stops at the Loveland Ski Area upon request.



TRANSPORTATION RESOURCES IN CLEAR CREEK COUNTY

Idaho Senior Citizens Center

The Idaho Senior Citizens Center in cooperation with Volunteers of America provides demand-response service and scheduled trips for persons age 60 years and older. Scheduled trips include service to Safeway in Idaho Springs twice a week (Tuesdays and Fridays). They also provide transportation to medical appointments, beauty shops, funerals, and occasionally to visit other senior centers outside the county.

The agency currently has four vehicles which includes one vehicle with a lift that meets the Americans with Disabilities Act accessibility requirements. The other vehicles include a back-up vehicle that requires a Commercial Drivers License (CDL) to operate, an eight-passenger mini-van, and a four-passenger car. One full-time and a part-time driver transport passengers for the senior center. The service is offered at no cost to seniors, although there is a donation box at the senior center where residents may donate money if they wish to help support this service.

Rocky Mountain Village

Rocky Mountain Village, an Easter Seals camp, is a fully-accessible facility and is used by more than 500 children and adults with disabilities for summer camp sessions. The remainder of the year, campers enjoy respite weekends, providing a brief getaway while giving their families a rest from constant caregiving. The camp provides limited transportation for staff using a 1996 bus and a 1991 van. Rocky Mountain Village budgets approximately \$3,000 per year on transportation.

Other Resources

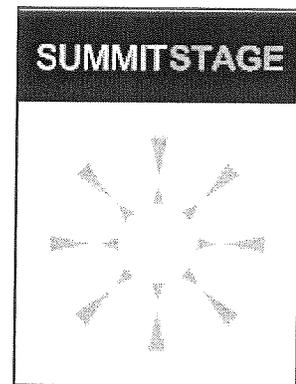
Other resources within Clear Creek County include the local Emergency Response Service, Clear Creek County School District, Clear Creek Rafting, and Trailhead Wilderness School. These agencies have vehicles and storage facilities. The school district budgets approximately \$350,000 per year on transportation.

OTHER REGIONAL TRANSPORTATION RESOURCES

Clear Creek County's location presents the area with additional transportation resources which are located nearby or travel *through* the study area between the Denver metro area and ski areas to the west of Clear Creek County. Several transportation providers are listed below and may be used as additional transportation resources within the county.

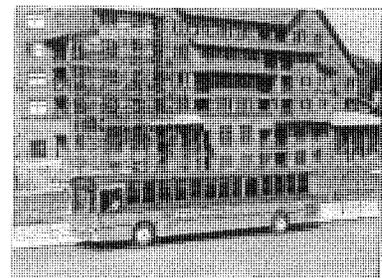
Summit Stage

Public transportation in Summit County is provided free by the Summit Stage. Summit Stage provides scheduled, fixed-route buses and advance reservation paratransit service. Bus service is available to most ski areas, shopping centers, medical centers, and some residential areas in Summit County. Bus service is available seven days a week, 365 days a year. Buses depart Frisco Station at 30 minutes after the hour, 6:30 a.m. to 11:30 p.m. Buses serve stops every hour. At peak travel times, extra buses serve stops every 30 minutes.



Winter Park Ski Area

The Lift was established in 1975 by the Winter Park Resort/Winter Park Chamber of Commerce for the purpose of shuttling residents, workers, and visitors between the ski areas and the lodging areas in the valley.



The Lift provides free transit service during the day (8:00 a.m. – 5:00 p.m.) and nights (5:00 – 11:00 p.m.) during the ski season. In the winter, a total of eight fixed routes are provided during the day, plus the shuttle to Mary Jane from the Winter Park Village. Day service focuses on transporting skiers staying in the valley from their residences to Winter Park and Mary Jane base areas. Normal headways are 30 minutes for all routes, although there is more frequent, unscheduled service to handle peak periods. Night service is reduced to four fixed routes,

which focus on circulation between residential developments and commercial establishments in Winter Park and Fraser.

The Lift also provides a Summer Fun Bus for Winter Park with limited service. Approximately 2,500 patrons ride the bus during the entire summer season. Bus service is not provided during the fall and spring season. Other services provided by Winter Park include shuttles from the park-and-ride areas. Two routes are used at the Resort—Old Town Park-and-Ride and Village Park-and-Ride.

The Lift also provides employee shuttles between the ski area and Granby (via US 40) and Grand Lake (via US 34) twice daily during the peak Alpine ski season. A few employee shuttles on particular routes at certain times of the day are available for use by the general public—non-skiers and non-employees. However, due to overcrowding, six of the routes are designated for employees only. The following list describes the employee shuttle times. The shuttle times in bold are available to the general public.

- Fraser shuttle leaves at 7:08 a.m. (not available to general public).
- Grand Lake shuttles leave at 5:45 a.m. (not available to general public), 6:30 a.m. (not available to general public), and 8:00 a.m.
- Granby Shuttle leaves at 7:00 a.m. (not available to general public).
- Winter Park to Grand Lake leaves at 4:45 p.m. (not available to the general public), 5:45 p.m. (not available to the general public), 7:00 p.m., and 10:00 p.m.

Regional Transportation District (RTD) – El Rancho Park-and-Ride

The RTD runs a regional route between downtown Denver and the El Rancho park-and-ride lot in Jefferson County, which can accommodate 36 vehicles. The regional route schedule is shown in Table IV-3. The route runs on weekdays with six stops heading into downtown Denver during the morning hours and four stops from Denver during the evenings. The fare is \$3.00 from the park-and-ride lot to downtown Denver. Figure IV-1 shows the El Rancho Park-and-Ride lot and El Rancho Route.



Morning Eastbound	Evening Westbound
5:55 a.m.	4:52 p.m.
6:27 a.m.	5:17 p.m.
6:39 a.m.	5:45 p.m.
6:55 a.m.	6:20 p.m.
6:59 a.m.	
7:11 a.m.	

Source: RTD, 2001.

Home James Transportation Services

Home James operates luxury door-to-door transportation services serving Winter Park, Silver Creek, SolVista, and Grand Lake. Home James has 11 daily departures from DIA to the Winter Park area during the winter months. One-way fares from DIA range from approximately \$40 to \$60, depending on the specific destination. Home James can transport one to five persons from Winter Park to Clear Creek County, specifically the Loveland Ski Area, for between \$125 and \$150 one-way. The agency will provide charter services from DIA to Clear Creek County on a case-specific basis.

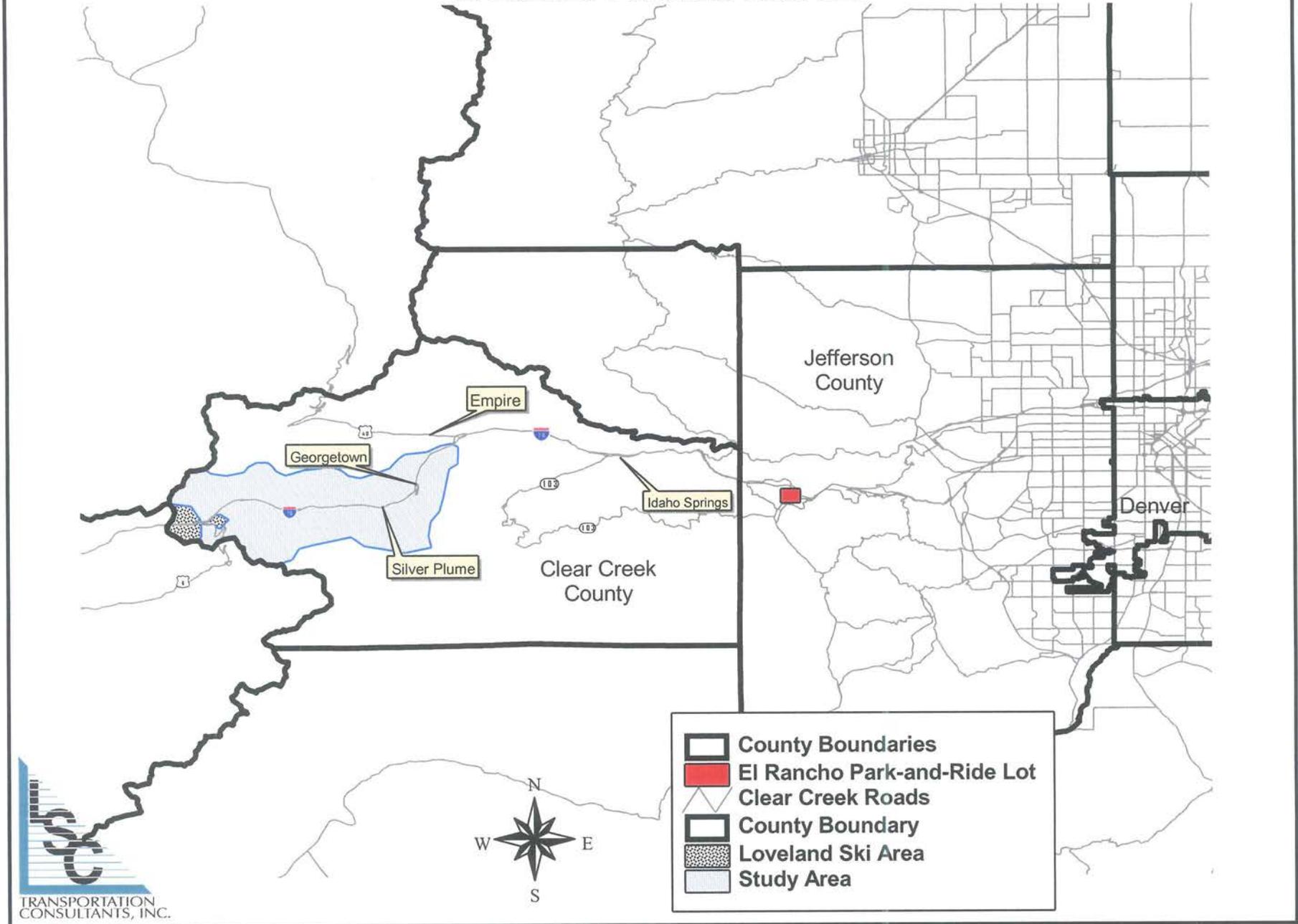
Alpine Taxi

Alpine Taxi offers five daily shuttles in the winter and three daily shuttles in the summer between Steamboat and DIA. The agency offers “door-to-door” pickup and delivery in Steamboat. A 15-minute “pit stop” is made each way in Silverthorne. The shuttle costs approximately \$45 for a one-way trip from DIA to Silverthorne. A private charter service for up to five persons is available from the Denver area to Clear Creek County at a cost of \$400 one-way.

Other Transportation

Several transportation providers from the Denver metro area and the Black Hawk/Central City area provide service through Clear Creek County. Some of these agencies include Casino Transportation Inc., Ramblin Express, Casino Coach, Inc., Yellow Cab, and others. The agencies with this authority are allowed to dispute PUC licenses within Clear Creek County.

Figure IV-1 El Rancho Park-and-Ride Lot



SUMMARY OF PROVIDERS

While there is a limited number of existing providers within Clear Creek County, several transportation resources mentioned previously *could* provide transportation, although this may be at a higher price than most people may be willing to pay. Several options are available to the county, including the possibility of Golden West Commuter providing countywide transportation. Each of the transportation resources currently provide transportation to the ski slopes and resorts of the western Rockies by traveling through Clear Creek County. Current costs from Denver to Clear Creek County range from \$5 dollars for a Greyhound Bus ticket to \$400 for a private shuttle. Table IV-4 summarizes the area providers.

**Table IV-4
Area Service Provider Descriptions**

	Service Provider	Service Area	Service Type	Fare Information	Days Per Week	Number of Buses/Vans
1	Idaho Senior Citizens Center	Idaho Springs/Clear Creek County	Demand-response Scheduled	Donation	7	4
2	Loveland Ski Area	Clear Creek County	Employee Shuttle	Free	7	3
3	Rocky Mountain Village	Clear Creek County	Employee Used Vehicles	N/A	N/A	2
4	Summit Stage	Summit County	Fixed-route and paratransit	Free	7	N/A
5	Denver Mountain Express	Denver to Beaver Creek, Vail, Copper Mountain, Frisco, Dillon/Silverthorne, Breckenridge, and Keystone	Demand-response	\$65 One-way	7	N/A
6	Airlink Shuttle	Vail, Beaver Creek, Eagle, Denver, & neighboring resorts	Demand-response, Charter	\$60 One-way	7	N/A
7	Greyhound	Nationally, Stops in Idaho Springs from Denver and Grand Junction	Fixed-route	\$5 One-way from Denver \$26 One-way from Grand Junction	7	N/A
8	Vail Transportation Service	Vail, Beaver Creek, Eagle, Denver, & neighboring resorts	Demand-response, Charter	\$275 for 1-3 Persons from Denver Airport to Vail/Beaver Creek/Edwards	7	5
9	Winter Park Ski Area -- The Lift	Winter Park Ski Area, Granby, Grand Lake, and Fraser	Fixed-route, skier shuttle, and employee shuttle	Free	7-winter various summer days	41
10	Golden West Commuter	Georgetown, Idaho Springs, Golden, Lakewood, Wheat Ridge, and the southern portion of Arvada	Demand-response	Varying Fares: \$86 Round-trip (RT) from DIA to Idaho Springs, \$106 RT from DIA to Georgetown	7	30
11	RTD	El Rancho Park-and-Ride Lot east to downtown Denver	Regional Fixed-route	\$3.00 from El Rancho Park-and-Ride to downtown Denver	5	976 Buses 169 Vans
12	Home James	Winter Park, Silver Creek, SolVista, Grand Lake	Charter	\$125-\$150 one-way from Winter Park to Clear Creek County	7	NA
13	Alpine Taxi	Denver to/from Steamboat	Shuttle, Charter	\$125-\$150 one-way from Winter Park to Clear Creek County	7	NA

N/A = Information not available

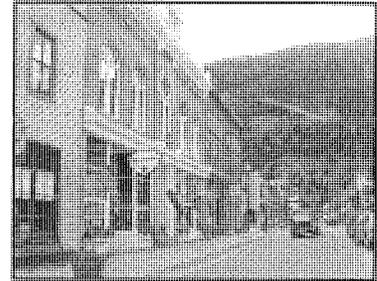
Source: LSC, 2001



Transit Needs Assessment

INTRODUCTION

A key step in developing and evaluating future transit plans is a careful analysis of the mobility needs of various segments of the population and the potential ridership of transit services. Transit demand analysis is the basic determination of demand for public transportation in a given area. There are several factors that affect demand, not all of which can be forecast.



However, as demand estimation is an important task in developing any transportation plan, several methods of estimation have been developed in the transit field. The analysis makes extensive use of the demographic data, visitor counts, and trends discussed previously.

This chapter presents an analysis of the demand for transit services in the Clear Creek study area based upon standard estimation techniques. A detailed analysis of demographic data of the Clear Creek study area is used along with trends to quantify the scope and characteristics of the current and future transit demand within the study area. Four methods are used to estimate the potential transit trip demand in the Clear Creek study area:

- Visitor Transportation Needs
- Resident Transportation Needs using the Rural Transit Demand Methodology
- Transit Needs and Benefits Study - Used for Resort Area Transit Needs
- Commuter Trends

The provision of effective transit service is dependent on a thorough understanding of the demand for service within a community. Total transit demand may be estimated by a transit demand model which reflects the characteristics for the study area.

I-70/US 40 CORRIDOR TRAVEL DEMAND

Travel demand within the I-70 corridor within the study area and the US 40 corridor in Clear Creek County will have a dramatic effect on transit demand both within the study area and Clear Creek County. The Programmatic Environmental Impact Statement process is evaluating a number of alternatives for the I-70 corridor to provide for the future growth in travel demand. Among the alternatives are those which include public transit service components. The transit service components are bus transit and fixed-guideway systems.

Projections of future travel demand have not yet been developed for the I-70 corridor. All alternatives will include increases in travel demand within the corridor. However, the transit service options have the potential to create significant demand for local transit services within the study area and Clear Creek County. The fixed-guideway systems may have stations at Idaho Springs, Empire (the US 40 junction), Georgetown, and Loveland Ski Area. Passengers will need access to destinations other than the transit stations. Access to locations such as historic Georgetown, Bakerville, and Herman Gulch from the transit stations will require local transit services.

Although the transit demand within the I-70 corridor has not been quantified, any planning for services in the study area must recognize the potential demand which may occur. Clear Creek County must continue to be involved in the I-70 study process and incorporate the planning for the corridor into planning for local transit services.

VISITOR TRANSPORTATION NEEDS

Visitor transportation needs are estimated using a variety of ways. The Transit Benefits and Needs Study, discussed later in this chapter, provides an estimate for resort transportation needs. Additional resort area information used in this study includes visitor use counts from the Arapaho National Forest Ranger District in Clear Creek County and also the number of skier visits to the Loveland Ski Area.

The visitor use count for Grays and Torreys trailhead at Bakerville was 25,000 annual visitors in 2001. Approximately 22,000 visitors used the trail during the summer for hiking, and 3,000 people used the trail in the winter for skiing, snowboarding, and snowshoeing. The Arapaho National Forest Ranger District also reported approximately 20,500 annual visitors to the Herman Gulch Trail in 2001. Approximately 18,500 of the visits are during the summer for hiking. Approximately 2,000 of the visitors use the trail in the winter for skiing and snowshoeing. These estimates from the Ranger District are based on vehicle counts in parking lots and trailhead register logs in the park. These counts most likely underestimate the actual visitation as some visitors do not register their activities on the visitor logs.

The organization *Colorado Ski Country USA* provided annual skier visit information for the 1999-2000 ski season. Loveland Ski Area reported 225,896 annual visits to the resort area.

Assuming that visitors have an average vehicle occupancy of 2.5 passengers per vehicle (based on typical vehicle occupancy for recreational activities), there would be 109,000 vehicles accessing these three locations. If 25 percent of these people were to use a transit service, the transit demand would be about 70,000 passenger-trips per year. In addition to these visitors, there are visitors to Guanella Pass which could provide additional potential transit demand.

There is also potential demand for visitors from Jefferson County and the Denver area to Clear Creek County. The potential demand may be quantified as part of the I-70 corridor demand analysis.

RESIDENT TRANSPORTATION NEEDS

Rural Transit Demand Estimate

The most recent research for rural transit demand estimation was completed in 1996 as part of the Transit Cooperative Research Program (TCRP). The TCRP research is the focus of demand estimation in this chapter.

An important source of information regarding demand generated by programs is the Transit Cooperative Research Program (TCRP) Project A-3: Rural Transit Demand Estimation Techniques. This study, completed by SG Associates, Inc. and LSC, represents the first substantial research into demand for transit service in rural areas and small communities since the early 1980s.

The TCRP study documents present a series of formulas relating the number of participants in various types of programs in 185 transit agencies across the country. The TCRP analytical technique uses a logit model approach to the estimation of transit demand, similar to that commonly used in urban transportation models. This model incorporates an exponential equation which relates the quantity of service and the demographics of the area. (See Appendix A for the TCRP demand estimation model equations.)

As with any other product or service, the demand for transit services is a function of the level of supply provided. To use the TCRP methodology to identify a feasible maximum demand, it is necessary to assume a high supply level, as measured in vehicle-miles per square mile per year. This high supply level is the upper-bound “density” of similar rural service provided in this country. This assessment of demand for the rural areas, therefore, could be considered to be the maximum potential ridership if a high level of rural service were made available in the Clear Creek study area. The TCRP methodology is based on the permanent population.

For the Clear Creek study area, a reasonable maximum level of service would be to serve every portion of the county with four round-trips (eight one-way trips) daily, Monday through Friday. This equates to 2,400 vehicle-miles of transit service per square mile per year. This is the upper range of observed rural systems.

The input data for this model are shown in Table V-1, including land area and 2000 population data by census block group. Applying this feasible maximum service density to the population of the rural cities and unincorporated areas comprising the study area yields the 2000 estimated transit demand for the general population, as well as the elderly and mobility-limited populations as shown in Table V-2. The existing maximum potential demand for elderly transit service

is 1,500 trips; disabled demand is 30 trips; and general public demand is 1,730 trips. The total estimated demand for 2000, using the TCRP method, is 3,260 annual trips.

Demand estimates for 2010 are provided in Table V-3. Total demand for the year 2010 is estimated to be 3,990 one-way passenger-trips. The estimates for 2000 and 2010 use the population projections to calculate the demand.

The TCRP method of demand estimation is especially sensitive to elderly and disabled demand. Put another way, the TCRP model recognizes that elderly and disabled persons are more likely to rely on public transit in rural areas than the non-elderly and non-disabled general population, all other things being equal.

Table V-1 2000 Input Data for TCRP Method - Study Area						
Census Tract	Census Block Group	Land Area (sq.mi.)	Total Population (Persons)	Total Number of Elderly 60 & over	Mobility-Limited Population	Below-Poverty Population
149	2	129.38	1,318	118	7	191
149	3	60.4	647	101	0	147
Study Area Totals						
<i>Source: LSC, 2002 Population Estimates based on 1990 and 2000 Census</i>						

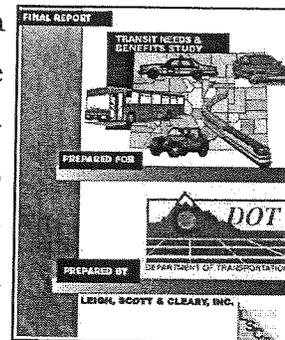
Table V-2 2000 Estimated Public Transit Demand - TCRP Method									
Census Tract	Census Block Group	Estimated Annual Passenger-Trip Demand					Estimated Daily Transit Demand		Daily Demand Density (Trips per Sq. Mile per Day)
		Elderly	Mobility Limited	Elderly + Mobility Limited	General Public	TOTAL	#	%	
149	2	810	30	840	980	1,820	7	55.8%	0.1
149	3	690	0	690	750	1,440	6	44.2%	0.1
Study Area Totals		1,500	30	1,530	1,730	3,260	13	100%	0.15
<i>Source: LSC, 2001.</i>									

Table V-3 2010 Estimated Public Transit Demand - TCRP Method									
Census Tract	Census Block Group	Estimated Annual Passenger-Trip Demand					Estimated Daily Transit Demand		Daily Demand Density (Trips per Sq. Mile per Day)
		Elderly	Mobility Limited	Elderly + Mobility Limited	General Public	TOTAL	#	%	
149	2	990	40	1,030	1,200	2,230	9	55.9%	0.1
149	3	840	0	840	920	1,760	7	44.1%	0.1
Study Area Totals		1,830	40	1,870	2,120	3,990	16	100%	0.18

Source: LSC, 2001.

TRANSIT NEEDS AND BENEFITS STUDY (TNBS)

The Colorado Department of Transportation completed a Transit Needs and Benefits Study (TNBS) for the entire state in 1999. An update of the existing transit need was performed in 2000 using 1999 data, which replaced the 1996 data from the original study. Transit need estimates were developed for the entire state, for each region, and on a county-by-county basis.



The unmet need estimates in the TNBS incorporated needs related to households without transportation, seniors, persons with disabilities, and resorts. The TNBS methodology was used to measure the resort area transportation needs within Clear Creek County.

The TNBS approach researched many variables to calculate the resort need, such as seasonal lodging units, land use patterns, annual visitors, bed base, retail sales, peak occupancy rates, general funds, property taxes, highway trips, and others. However, due to data inconsistencies, two variables were found to have a good correlation with transit ridership in resort areas—lodging units and airplane enplanements. A transit trip rate was developed for each variable and applied to the existing data. The trips rates were 2.75 per lodging unit and 18.1 for the enplanement trip rate. This methodology was used for each resort area across the State of Colorado. The annual transit need estimates for the Clear Creek County resort areas were 128,000 annual trips, as reported in the TNBS Final Report.

Due to the statewide nature of the Transit Needs and Benefits Study, the resort transit need reported above should be used as a guideline to the level of resort need and as a comparison for the other methodologies.

Commuter Trends

The 1990 Census also provides useful information regarding employee trip-making patterns within and between counties in the study area. To date, these data have not been released from the Census Bureau for 2000. Table V-4 shows approximately 50 percent of all employees live and work in Clear Creek County. However, approximately 48 percent of the working residents commute to the Denver metropolitan area. Approximately 24 percent commute to Jefferson County, 5 percent to Arapahoe County, and another 19 percent commute to Denver County. Approximately two percent of the working Clear Creek population commutes to Summit County.

Residence	County of Work											
	Clear Creek		Arapahoe		Denver		Gilpin		Jefferson		Summit	
	#	%	#	%	#	%	#	%	#	%	#	%
Clear Creek	1,872	50%	182	5%	697	19%	7	.2%	911	24%	70	2%
Arapahoe	15	0%	79,639	53%	61,137	41%	n/a	n/a	9,380	6%	5	0%
Denver	35	0%	37,085	18%	148,830	72%	11	.01%	19,511	9%	112	0.1%
Gilpin	55	7%	41	6%	206	28%	361	.01%	435	59%	n/a	n/a
Jefferson	363	0.2%	23,883	12%	72,169	36%	15	33%	104,365	52%	84	0%
Summit	24	0.3%	25	0.3%	129	2%	n/a	n/a	3	0%	7,589	98%

Source: 1990 Census Transportation Planning Package

Less than one percent of the workers from surrounding counties commute to Clear Creek County for employment. The 2000 Census indicated approximately 4,865 persons are employed in Clear Creek County. Assuming past trends are similar, approximately 2,432 employees stay in the county to work and approximately 2,332 workers commute daily to the Denver metro area. Unsubstantiated estimates indicate that the number of people commuting outside the county may be much higher. This commuter information and travel patterns are used in the travel alternatives chapter presented later in this report.

SUMMARY

It is important to clarify the implications of the estimated transit need. Transit need indicates the number of trips which are required by a given population, as mentioned, under optimal transit conditions. Therefore, the need is equal to the number of trips which would be made if transit service were provided at convenient hours and at frequent intervals to all locations within the study area, on comfortable, easy-access vehicles. The total of these conditions can rarely, if ever, be met by public transit because public entities generally do not have the resources to provide this maximum level of service.

Nevertheless, the purpose of transit demand is to predict potential ridership under conditions which are closer to the optimum. The TCRP demand method is recognized by transportation experts to have significant advantages over other techniques and is therefore used for this study in Clear Creek County. The TCRP method was developed specifically for rural demand estimation. It relates demand for transit trips to the supply or “service density” available in a particular area. Lastly, the TCRP method offers several options for adjustments or “calibration” that are less data-intensive than other methods of demand estimation.

There are several categories of potential transit users in Clear Creek County. These include local service workers, the elderly, youth, individuals with mobility limitations, summer visitors, winter visitors, and commuters to adjacent counties. The greatest potential demand is related to visitors traveling to and through Clear Creek County. This chapter has identified an estimate of the needs for each group which is used in the development and evaluation of transit service options.



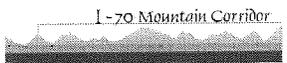
Transit Service Options

INTRODUCTION

The basis for short-range transit alternatives analysis is a careful consideration of realistic service options. Each service alternative must be evaluated using the locally established goals and objectives. Any alternative which does not support the mission of public transportation and the corresponding goals and objectives should not be considered for implementation. Some alternatives may be considered initially, but could be rejected because they do not support the transit goals and objectives. Other alternatives appear to support the goals and objectives and will be given more consideration for service in Clear Creek County.

The term “travel options” encompasses a wide range of alternatives. Traditionally, people think of transit service as vehicles operating on a strict schedule over a predetermined route such as the service in the Denver metro area or in Summit County. A number of other transit service types exist, including route deviation, passenger rail, park-and-ride lots, and user-side subsidies. This chapter explores other travel options besides the single-occupant vehicle for Clear Creek County.

The travel options also look at how future development in the Bakerville area will affect transit options and how the I-70 Mountain Corridor Study will affect transportation in the study area, specifically relating to a fixed guideway system through Clear Creek County.



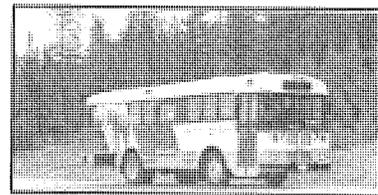
I-70 Mountain Corridor

TRANSIT OPTIONS

Fixed-Route Transit Service

The first transit option discusses fixed-route transit service, which fits the popular description of many bus systems. Vehicles operate on a predetermined route following a set schedule. Specific stops are typically identified for locations where passengers will be picked up and dropped off.

Routes are usually laid out in either a radial or grid pattern. In a radial route structure, all routes originate from a common point and extend to outlying areas. The central location serves as a transfer point and is frequently located at a destination with high transit activity. In many communities, this is the central business district or downtown. In a grid system, transfer points are identified where various routes intersect.



Fixed-route service is particularly convenient for passengers without mobility impairments. Research has shown that fixed-route passengers are typically willing to walk up to a quarter-mile to reach the bus stop. A fixed-route service pattern may be efficiently laid out with routes traveling to and from major activity centers. However, those individuals with mobility impairments may have difficulty in accessing a fixed-route system. The advantages of a fixed-route service are:

- It can be provided at a relatively low cost on a per-passenger-trip basis.
- Schedule reliability is high since buses do not deviate from the route.
- Service does not require an advance reservation.

Fixed-route transit service is seldom attractive for people with automobiles in smaller communities and low-density rural areas. However, remote rural resort areas have unique characteristics and often have traffic congestion problems due to the high number of residents and visitors traveling by automobile to scenic areas. Thus, fixed-route systems have proven successful in many resort areas— such as Summit County, Town of Vail, City of Aspen, Town of Winter Park, and Park City, Utah—due to the coordinated efforts of a reliable and frequent transit system, parking controls, and key signage in the areas.



The private automobile offers flexibility to residents and visitors compared to the rigid schedule of a fixed-route system. The need to walk even a few hundred feet to a bus stop, coupled with waiting for the vehicle and the comparatively slow travel time, makes the option of a private automobile an easy choice. However, as

mentioned previously, in areas with significant congestion or limited and expensive parking, fixed-route transit becomes a more attractive alternative.

Fixed-route service requires that a community provide complementary paratransit service under the Americans with Disabilities Act. The paratransit service must provide service characteristics similar to the fixed-route service. Paratransit service is typically much more costly to operate than fixed-route service because of the characteristics of the service. Fixed routes are established to meet the highest demand travel patterns while paratransit service must serve many origins and destinations in a dispersed pattern.

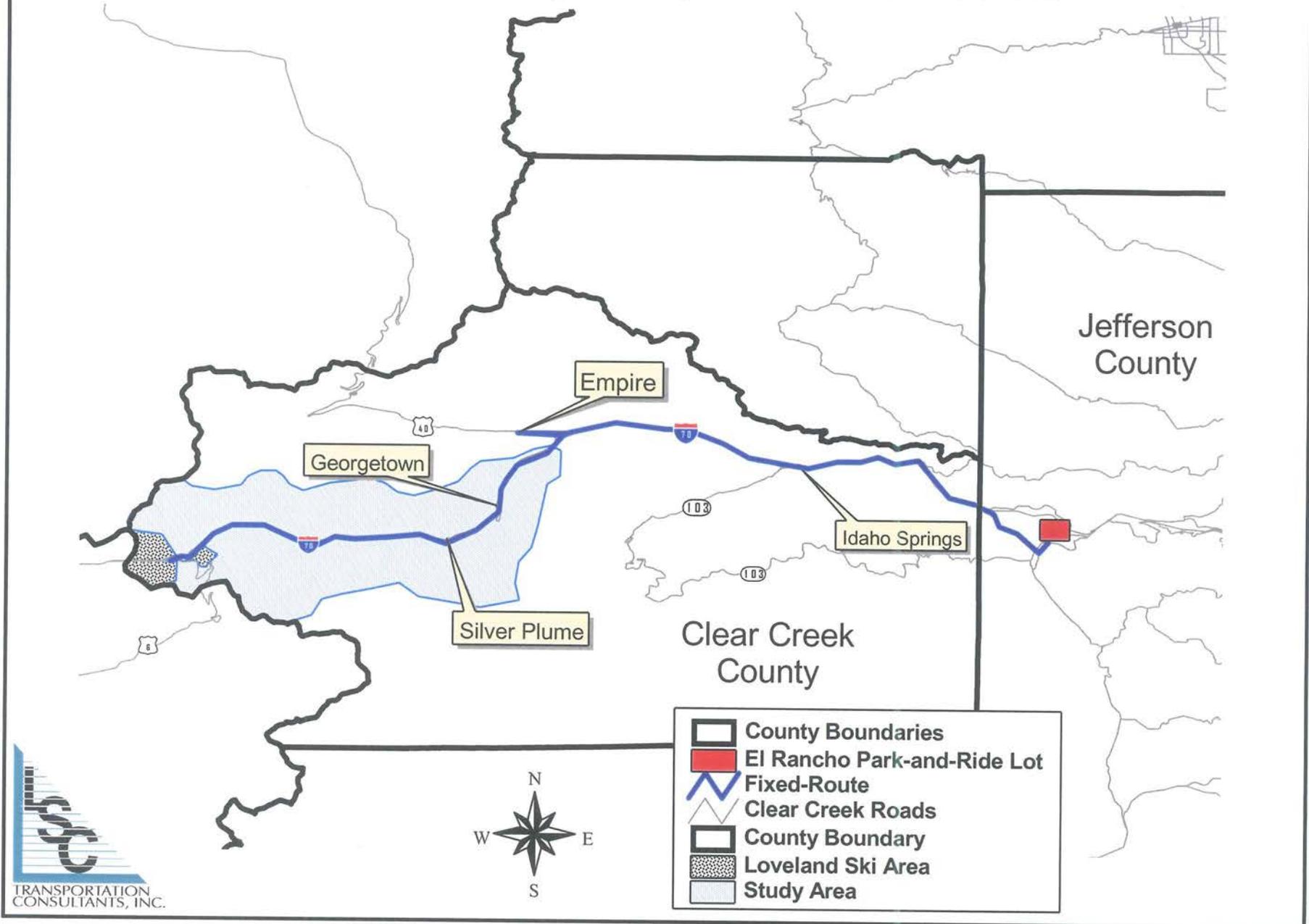
Countywide Fixed-Route Service - Service Characteristics

One fixed-route option would be to provide Countywide Fixed-Route Service along the I-70 corridor with stops in each community and at interchanges along I-70. The fixed-route would also offer peak trips to the El Rancho Park-and-Ride lot, just outside the county line. The Park-and-Ride is served by RTD each weekday for many people traveling into the Denver metro area. Figure VI-1 illustrates the Countywide Fixed-Route Service.

The Countywide Fixed-Route Service would operate seven days per week and would operate on 60-minute headways. Once the service is underway, the fixed-route should look to expanding during peak hours to 30-minute headways along the busy corridors. Two vehicles would operate along the routes for the 60-minute headway. The cost for this service is approximately \$351,000 annually.

- Annual Cost: \$351,000
- Cost per Passenger: \$3.33
- Estimated Passengers per Hour: 12.0

Figure VI-1
Clear Creek County - Countywide Fixed-Route Service



Countywide Fixed-Route Service - Funding Options

 The Countywide Fixed-Route Service has several key players that could potentially fund the service within the county. These players include Clear Creek County; Loveland Ski Area; the towns of Silver Plume, Georgetown, Empire, and Idaho Springs; Regional Transit District (RTD); and the Federal Transit Administration. Other funding options could come from private donations, fares, lodging tax, sales tax, property tax, or development fees. The current lodging tax would go back to the voters for approval of additional funds dedicated to transportation.

The Federal Transit Administration hosts the Section 5311 Program that funds 50 percent of operating costs and 80 percent of capital costs in rural areas providing general public service. These funds, along with RTD district funds, would be the most likely source of funds for the Countywide Fixed-Route Service and would require the local entities to match the operating fund grants dollar for dollar.

As mentioned in the previous paragraph, expansion of the Regional Transit District (RTD) to include Clear Creek County is one viable option for providing the countywide service. The current RTD boundary stops at the Jefferson/Clear Creek County line. Appendix B shows the current RTD service boundaries and several illustrations completed recently by the Denver Regional Council of Governments (DRCOG) in *Metro Vision 2025, Interim Regional Transportation Plan - Fiscally Constrained Element, April 2002* and other studies. The figures in Appendix B show future projects specifically related to Clear Creek County and future transit potential. Appendix C includes conceptual RTD ideas for Clear Creek County. The RTD data are preliminary and in draft form.

If RTD expanded into Clear Creek County, voters would need to approve the expansion of the district boundaries. Monies collected within the district would continue to pay for the transit service.

Using this information, approximately \$176,000 would be needed each year from local entities to operate this service, in addition to 20 percent of the total cost for the purchase of two vehicles at the startup for approximately \$100,000. Therefore,

a realistic cost for local entities for the startup of Countywide Fixed-Route Service is approximately \$196,000.

Georgetown to Loveland Ski Area Shuttle - Service Characteristics

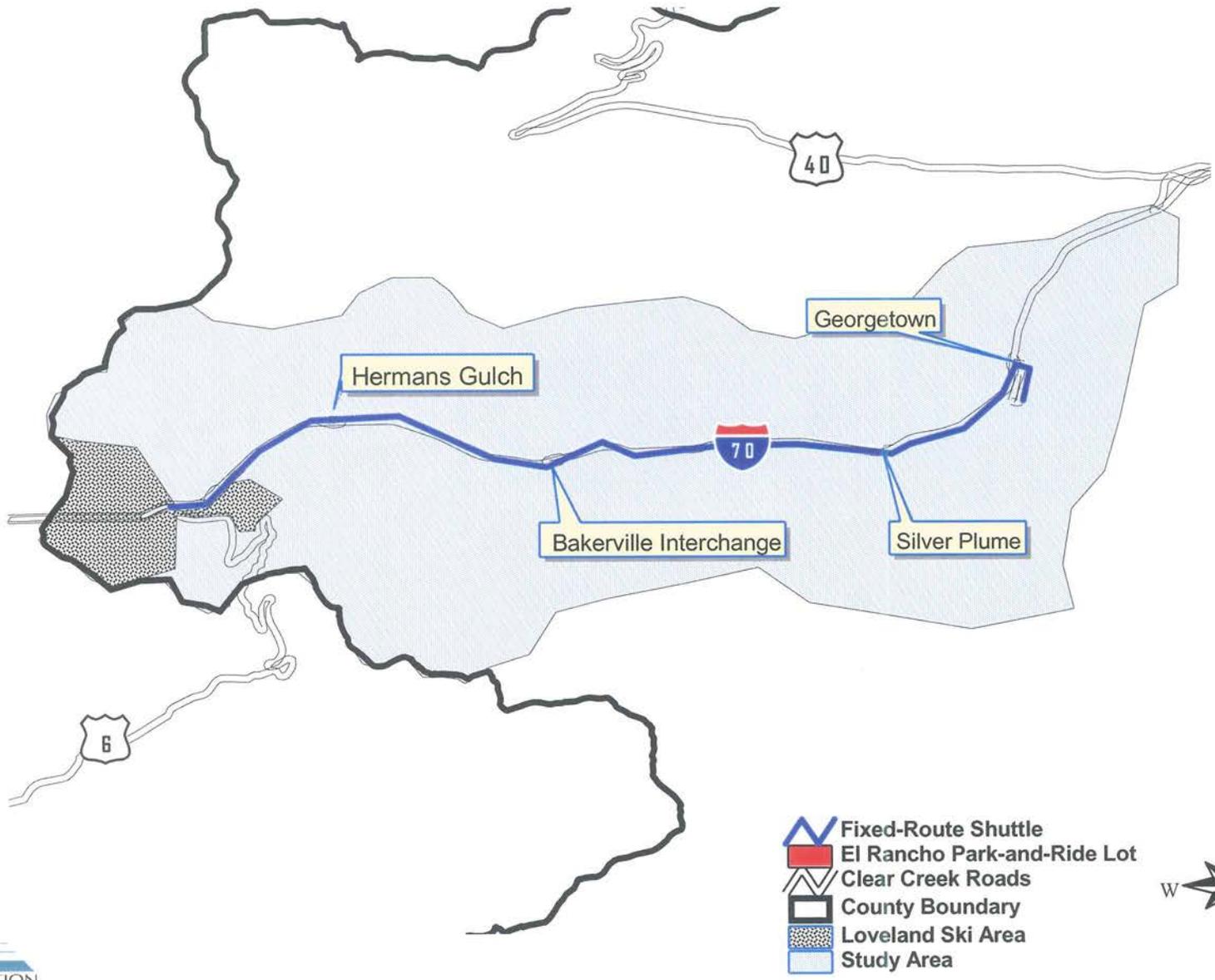
The Countywide Fixed-Route Service described in the previous section could also be modified to serve only Georgetown to the Loveland Ski Area. The Georgetown to Loveland Ski Area Fixed-Route Shuttle would include stops in Georgetown, Silver Plume, the Bakerville area, and the Loveland Ski Area. This route option would not include Idaho Springs. The route would be used primarily in the winter season as a shuttle service from the towns to the ski area, but would also be useful during the summer tourist season as a shuttle between the area attractions, as well as serving the area recreation sites such as the trailheads at Bakerville and Herman Gulch. Figure VI-2 shows the Georgetown to Loveland Ski Area Fixed-Route Service.

The Georgetown bus stop would be located in a convenient area among the developed parcels and the trailheads with easy access for a bus in and out of the site. The Georgetown to Loveland Ski Area Fixed-Route Shuttle would stop once an hour at the Bakerville exit and the Herman Gulch trailhead, and travel between the Loveland Ski Area and Georgetown. Ridership for the fixed-route service would vary significantly from season to season. It is anticipated that the winter season would have a much higher demand than the summer season to the Loveland Ski Area. The ridership at Bakerville and near Georgetown would be higher during the summer due to the number of hikers. Year-round, the weekends would have a higher ridership than weekdays due to the recreational activities in the county. This type of service has been successful in resort areas **with** parking restrictions and good signage.



Controlled parking also plays a key role in each of the transit options due to the number of visitors to the area. The Bakerville area would eliminate some parking for the public, emphasizing use of the public transit services to and from the recreational areas.

Figure VI-2 Georgetown to Loveland Ski Area Fixed-Route Shuttle



The Georgetown to Loveland Ski Area Fixed-Route Shuttle Service would operate from 7:00 a.m. to 7:00 p.m. seven days per week. The shuttle service **could** operate as a summer-only route, a winter-only route, or operate year-round depending on funding availability and transit use. As mentioned previously, parking controls at the activity centers will play a key role in the success of this transit service. One vehicle would operate the route with 60-minute headways. The cost for the year-round service is approximately \$175,000 annually. Table VI-1 provides operating characteristics for the seasonal services.

- Summer-Only Service: \$108,000
- Winter-Only Service: \$67,200
- Total Annual Service: \$175,200

Table VI-1			
Georgetown to Loveland Ski Area Fixed-Route Shuttle Service			
Summer-Winter Operating Characteristics			
Season	Annual Cost	Cost per Passenger	Passenger Per Hour
Summer	\$108,000	\$4.00	10.0
Winter	\$67,200	\$2.67	15.0
Total	\$175,200		

Georgetown to Loveland Ski Area Shuttle - Funding Options

 The Georgetown-Loveland Ski Area Fixed-Route Service also has several key players that could potentially fund the service. These players include Clear Creek County, Loveland Ski Area, the towns of Silver Plume and Georgetown, the US Forest Service, and the Federal Transit Administration. Other funding options could come from private donations, fares, lodging tax, sales tax, property taxes, or development fees.

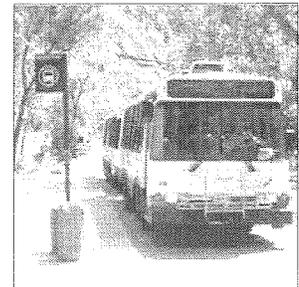
As mentioned previously, the FTA Section 5311 Program funds 50 percent of operating costs and 80 percent of capital costs in rural areas providing general public service. These funds are one likely source of funds for the Georgetown-Loveland Ski Area Fixed-Route Service and would require the local entities to match the operating fund grants dollar for dollar. The Loveland Ski Area would be a likely revenue source to implement the service. There is also a possibility that

the Forest Service could provide funding through a use permit fee program similar to what has been instituted in other national forests with high visitor demand.

Using this information, approximate costs for both winter and summer service were estimated. Approximately \$88,000 from local entities would be needed each year to run year-round service, in addition to 20 percent of the total cost for the purchase of one vehicle at the startup for approximately \$50,000. Both summer and winter service would require the same initial purchase of one vehicle for approximately 20 percent of the total cost of a vehicle, approximately \$10,000 from local entities. Therefore, a realistic cost for local entities for the startup of the Georgetown-Loveland Ski Area Fixed-Route Service is approximately \$100,000.

USFS Shuttle for Arapaho National Forest - Service Characteristics

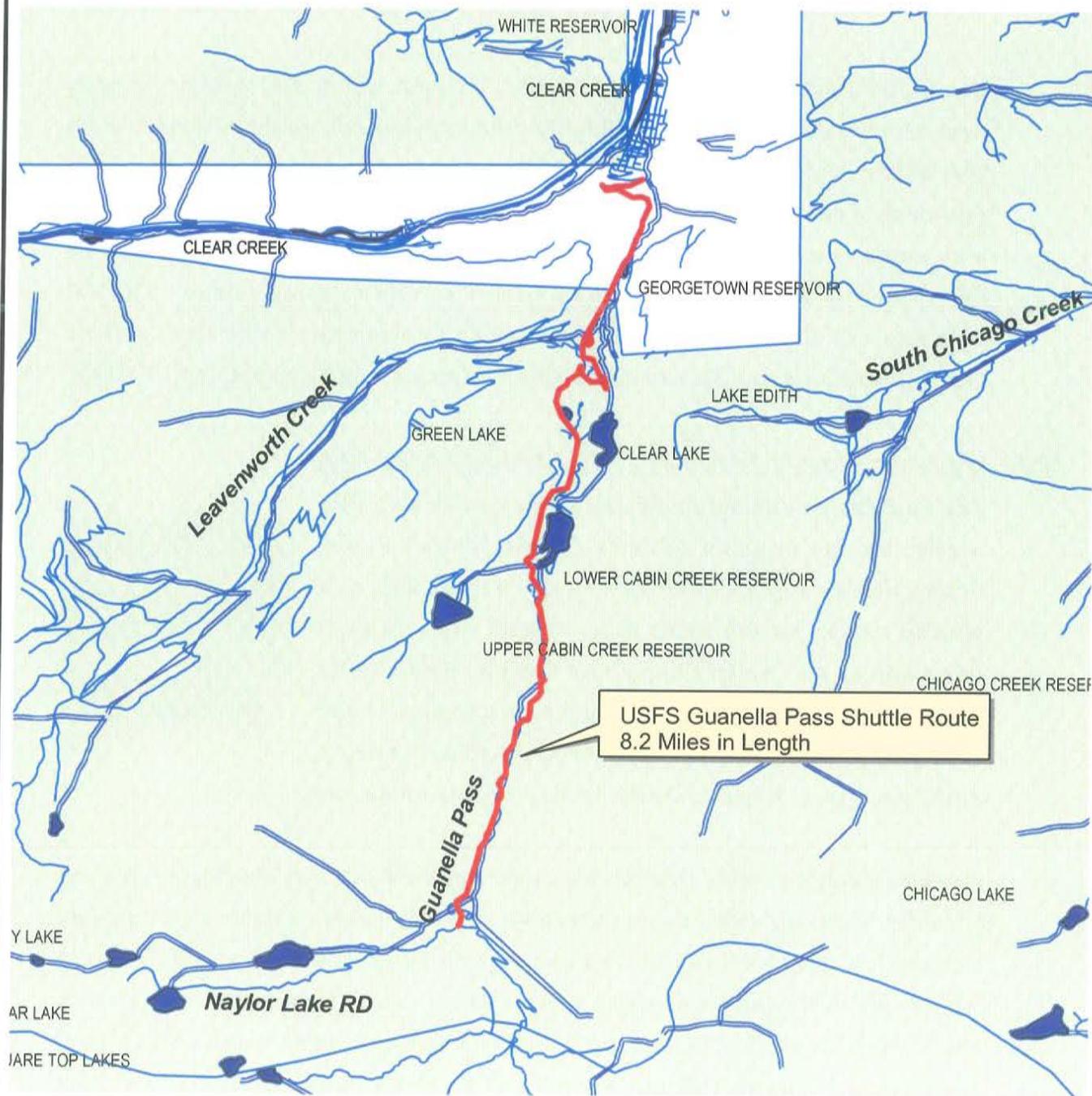
The final fixed-route option for the study area is a shuttle service for the Arapaho National Forest. United States Forest Service (USFS) staff have unofficially talked of a shuttle system for the forest area. Several national park areas across the United States have implemented shuttle systems to relieve congestion along the park roadways and at major trailheads and recreation areas, such as the Grays and Torres Trail, Herman Gulch Trail, and Guannella Pass.



The USFS could provide this service under contract with the county or a private provider. Park-and-ride lots and controlled parking, such as limited parking lots and pay lots, play a key role in the success of the USFS Shuttle. The USFS Shuttle would operate during the summer months (May - August) when demand would be the greatest. The USFS Shuttle would provide service from 8:00 a.m. to 5:00 p.m. by one vehicle. Figure VI-3 illustrates the USFS Fixed-Route Shuttle Service. Cost for this service, operating one vehicle per year, would be approximately \$43,200.

- Annual Cost: \$43,200
- Cost per Passenger: \$4.00
- Estimated Passengers per Hour: 10.0

Figure VI-3
USFS Summer Shuttle Route



-  USFS Shuttle Route
-  Water
-  Rivers
-  Major Highways
-  Roads
-  Parks



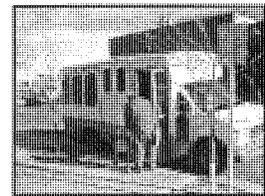
USFS Shuttle - Funding Options

 The USFS Shuttle has several funding options. These include the USFS, Clear Creek County, local towns, and private contributions. The Forest Service has discussed controlled parking lots at trailheads, with use fees which could be used toward the cost of the USFS Shuttle. Other funding options could come from fares, lodging tax, sales tax, property tax, or development fees.

The best funding source for this service is the USFS through a use permit. Local entities should encourage this option due to congestion relief of the local roadways and economic development for the local areas.

Countywide Demand-Response Service

This transit service option would provide demand-response service in all or part of Clear Creek County. Demand-response transit service, frequently termed Dial-A-Ride, is characterized as a door-to-door flexible service and would be scheduled by a dispatcher.



Transportation services would be provided in direct response to specific requests. A demand-response service could meet the needs of the *resident* transit-dependent population, but *would not* be effective for visitor transportation needs. The demand-response service would not have a scheduled route, but would pick up passengers at their door. A 24-hour advance reservation for service is normally required, although some immediate requests may be filled as time permits and if the service is particularly needed.

The concept of demand-response was originally developed in the early 1970s as an alternate form of public transportation for the general public. The original efforts proved to be more expensive than envisioned and did not attract the ridership which was forecasted. As a result, demand-response transit has been used almost exclusively in this country for elderly or disabled passengers. However, many communities are beginning to recognize the advantages of demand-response service for low density areas with low levels of transit demand. Improved technology has led to improvements in dispatching and scheduling which has

Transit Service Options

increased the efficiency of demand-response service and allows for real-time dispatching. Many communities are moving to general public call-a-ride service with no requirement for advance reservations.

Service Characteristics - Demand-Response

The Countywide Demand-Response Service would operate from 9:00 a.m to 4:00 p.m., Monday through Friday throughout the county. The service would be provided using one vehicle for approximately \$73,000 annually. This service could also serve a small portion of the Loveland Ski Area's transit needs. Most of the service would be generated from Empire, Georgetown, Silver Plume, and Idaho Springs due to the location of residences and activity centers. This demand-response service would be most effective as a supplement to a fixed-route type service in Clear Creek County.

- Annual Cost: \$73,000
- Cost per Passenger: \$19.05
- Estimated Passengers per Hour: 2.1

Funding Options - Demand-Response

 The demand-response service has several key players that could potentially fund the service within the county. These players include Clear Creek County; Loveland Ski Area; the towns of Silver Plume, Georgetown, Empire, and Idaho Springs; and the Federal Transit Administration. Other funding options could come from private donations, fares, lodging tax, sales tax, property tax, or development fees.

The Federal Transit Administration hosts the Section 5311 Program that funds 50 percent of operating costs and 80 percent of capital costs in rural areas providing general public service. These funds would be the *most likely* source of funds for the demand-response service and would require the local entities to match the operating fund grants dollar for dollar.

A private provider could also provide the Countywide Demand-Response service. A private provider would not be directly eligible for the Federal 5309, 5310, or 5311 funds unless they provided service under contract with one of the towns or

with Clear Creek County. Some communities, such as the Town of Winter Park, have successfully used private providers to provide local transit service. A private provider would need to apply to the Public Utilities Commission to provide the service.

Using this information, approximately \$37,000 would be needed each year from local entities to operate this service, in addition to 20 percent of the total cost for the purchase of one vehicle at the startup for approximately \$50,000. Therefore, a realistic cost for local entities for the startup of demand-response service is approximately \$47,000.

Flexible Routes

Another alternative to fixed-route and demand-response services is flexible routes—route deviation or checkpoint deviation service. Flexible routes are designated in response to specific requests for service. The flexible routes require an advance reservation for deviations from the standard route, but the routes may be set up to operate on a regular basis for standing trip requests.

With route deviation, transit vehicles follow a specific route, but leave the route to serve demand-response origins or destinations. The vehicles are required to return to the designated route within one block of the point of deviation to ensure that all intersections along the route are served. Passenger onboard travel time is greater than for fixed-route service, and the service reliability is lower.

Under checkpoint service, vehicles make periodic scheduled stops at centers of activity, such as trailheads, major hotels, major restaurants, shopping areas, or residential communities. Specific routes are not established between checkpoints, allowing the vehicles to provide demand-response service. Riders are picked up—typically at a reduced fare—at these checkpoints and taken either to another checkpoint or to a demand-response specific destination. Service between checkpoints does not require advance reservations. However, service to or from any other location on a demand-response basis would require an advance reservation so that the vehicles could be scheduled and diverted between checkpoints.

Vehicle dispatching and scheduling must be done carefully. The dispatcher must be careful to ensure that a vehicle is available to serve designated stops within the specified service time. To provide a reasonable amount of flexibility, a lenient definition of on-time performance is typically used. A reasonable policy for route deviation or checkpoint service is a five- to ten-minute window at each designated stop.

Checkpoint service offers an advantage over route-deviation service because there is no specified route for the vehicles to use. As described under route-deviation service, the vehicles must return to the route within one block of the point where the vehicle left the route. Checkpoint service, on the other hand, requires only that the vehicle arrive at the next checkpoint within the designated time period.

Clear Creek County Checkpoint Service - Service Characteristics

The Clear Creek County Checkpoint Service would provide service along I-70 between the Loveland Ski Area and Idaho Springs, with several checkpoint stops approximately every hour along the corridor. The checkpoint stops in Clear Creek County would be placed at the following locations:

- The Loveland Ski Area
- Herman Gulch Trailhead
- The Bakerville area
- Silver Plume
- Georgetown
- Empire
- Idaho Springs

The stops would be approximately every hour to pick-up passengers at these locations and take them either to another checkpoint or to a demand-response specific destination. Service between these checkpoints does not require advance reservations.

The Clear Creek County Checkpoint Service would operate from 7:00 a.m to 6:00 p.m., seven days per week within Clear Creek County. Figure VI-4 illustrates the Clear Creek County Checkpoint Service area and checkpoint stops. One vehicle would be used for this service at an operating cost of approximately \$161,000 annually.

- Annual Cost: \$160,600
- Cost per Passenger: \$8.00
- Estimated Passengers per Hour: 5.0

Clear Creek County Checkpoint Service - Funding Options

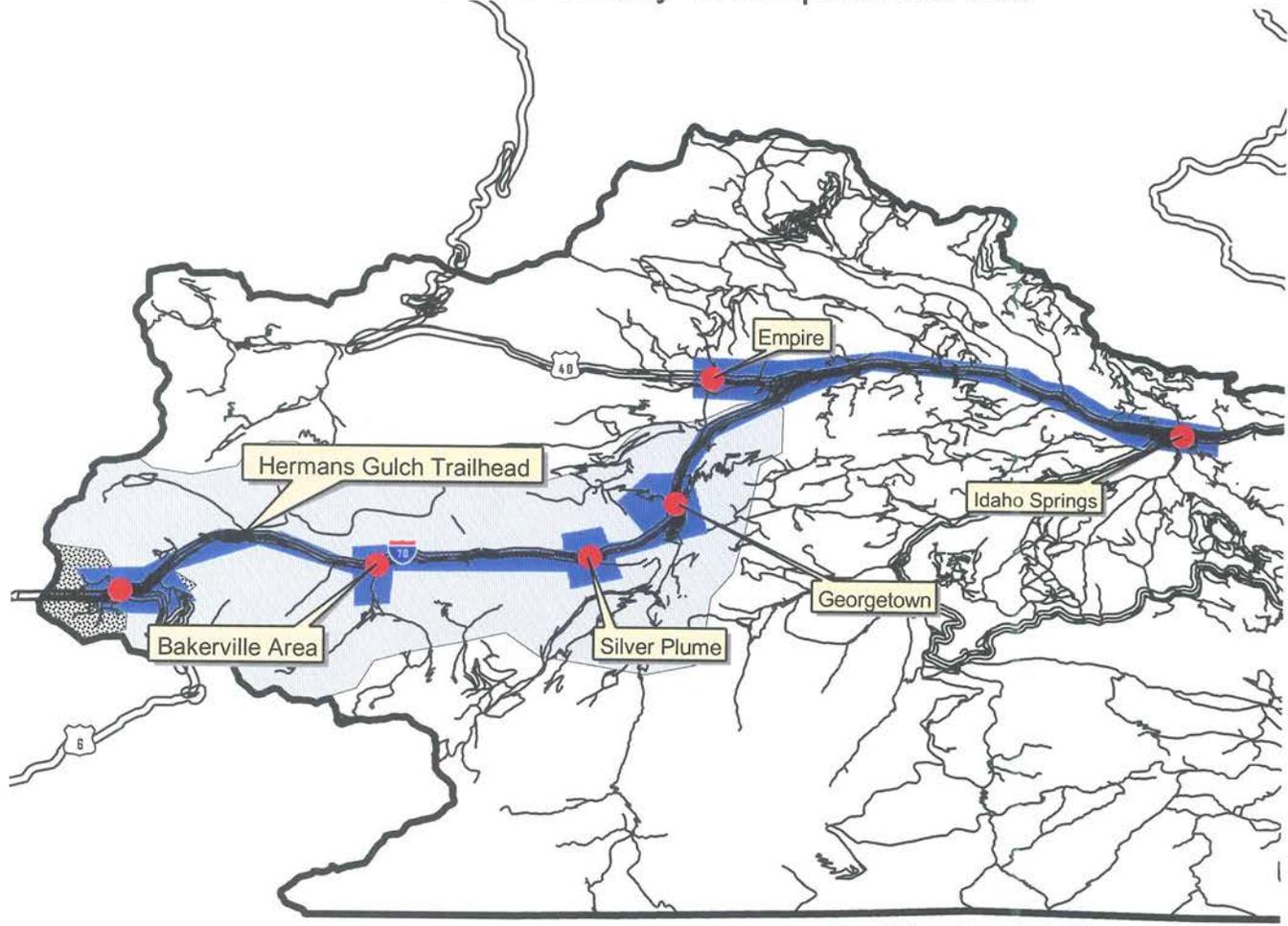


Funding options for the Clear Creek County Checkpoint Service are very similar to the options available for establishing the Countywide Fixed-Route Service. The key players to potentially fund the service include Clear Creek County; Loveland Ski Area; the towns of Silver Plume, Georgetown, and Idaho Springs; and the Federal Transit Administration. Other funding options could come from private donations, fares, lodging tax, sales tax, property tax, Forest Service user fees, or development fees.

As mentioned previously, the FTA Section 5311 Program funds up to 50 percent of operating costs and 80 percent of capital costs in rural areas providing general public service. These funds would be the most likely source of funds for the Clear Creek County Checkpoint Service and would require the local entities to match the operating funds dollar for dollar.

Using this information, approximately \$80,000 would be needed each year from local entities to operate this service, in addition to 20 percent of the total cost for the purchase of one vehicle at the startup for approximately \$50,000. Therefore, a realistic cost for local entities for the startup of the Clear Creek County Checkpoint Service is approximately \$90,000.

Figure VI-4 Clear Creek County Checkpoint Service

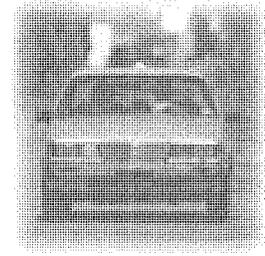


-  Checkpoint Stops
-  Clear Creek Roads
-  Roads
-  County Boundary
-  Clear Creek Towns
-  Checkpoint Service Area
-  Loveland Ski Area
-  Study Area



Rideshare Program

A Rideshare Program has many benefits for Clear Creek County. Employees commuting to the Denver metro area or to Summit County would be able to access other people who may be interested in carpooling or creating a vanpool. An areawide program is most effective because there often are employees of proximate employers who also live near one another.



Chapter IV identified several existing transportation resources in Clear Creek County. One of these existing transportation providers could become a primary broker for the Ridesharing Program. To become the designated Rideshare Program operator, a rideshare software package would need to be purchased by the agency (one that operates within a common database would be the cheapest), and obtain a toll-free number.

The broker would assist as a rideshare matching service helping people participate in the Rideshare Program. A regional rideshare program matches people who have similar work and home locations. The matching service is most effective when combined with other programs such as carpool incentives, vanpools, parking management, and guaranteed rides home.

Real-time rideshare matching is now being used across the United States and should be considered in future planning efforts for Clear Creek County. Persons search a database of pre-qualified participants by using a touch-tone telephone or videotext system. The database can be maintained regionally, along one particular corridor, or within one or more adjacent businesses. Participants arrange the trips directly, not through a third-party ride-matching agency. Occasional trips for work, shopping, or medical purposes can be arranged immediately—that same day or the evening before.

A current resource contact for ridesharing is on the World Wide Web, www.eRideShare.com, and offers nationwide free services for commuters or travelers going the same way. The Internet site offers travelers a way of posting

Transit Service Options

both wanted and available rides based on locations across the United States. Over 1,200 carpools are listed on the current site from across the nation. Users are able to search for available carpools in their area, or offer others the option to carpool to and from desired locations. The service also lists numerous cross-country rides available and posts those that are in need of a ride.

Clear Creek County Rideshare Program

Two sets of costs are associated with the Clear Creek County Rideshare Program—capital and operations/maintenance. In terms of capital costs, the software package costs approximately \$5,000. Based on calls to several long-distance companies, a toll-free number could be established with a minimal setup charge.

Operations and maintenance costs would include staff time and long-distance time. Assuming two staff hours per weekday (10 hours per week) would be required to operate and maintain the Rideshare Program database, the staff cost would be approximately \$85 per week (at \$8.50 per hour) or \$4,420 per year. Long-distance costs for a toll-free number can be conservatively estimated at \$0.20 per minute. Assuming one-third of the staff hours are spent with long-distance calls, the cost would be \$8.00 per day or approximately \$2,000 per year. The total operating and maintenance costs would be approximately \$6,420.

Funding Options - Clear Creek County Rideshare Program



Grants and federal funding are available for administering the Clear Creek County Rideshare Program under the Transportation Equity Act for the 21st Century (TEA-21). Funding could also come from Clear Creek County and the local towns.

Under the amendment to Internal Revenue Code (IRC) Section 132(f)(4) made by Title IX, section 910, of TEA-21, virtually any employer may provide commute benefits to their employees. The change allows employers to offer their employees a choice between current or future compensation and “qualified transportation fringes” which included transit, vanpool, or qualified parking benefits.

Equally important, the change kept transportation fringes out of IRC section 125, relieving employers of many restrictions and filing requirements that are common to such plans. Thus, employers retain the flexibility and informality that is characteristic of the 1992 law that created the commute benefits section of the Code. TEA-21 made the change retroactive to January 1, 1998.

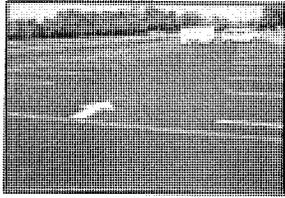
Given the expansion of the tax benefit, employers can now offer the benefits as follows:

1. **Tax Free Benefit:** Employers may give employees free rides on transit or reimbursement for vanpool expenses of up to \$65 a month in addition to current compensation. Employees receive the benefit tax free and employers get a full tax deduction and do not pay any payroll taxes or other costs on the amount provided. Employers can save as much as 30-40 percent over the cost of a similar take home salary increase, incentive, or bonus.
2. **Pre-Tax Benefit:** Employees can use up to \$100 a month (\$1,200 a year) of their gross income before taxes to pay for transit or vanpooling. Thus, an employee who uses the maximum \$1,200 can save over \$400 a year in taxes. Employers can save on payroll taxes and other costs that they would normally pay on the amount set aside by their employees, usually in the range of a 10 percent savings. Since pre-tax use of employee's salary is not subject to cafeteria-type use and plan restrictions, this type of program is very easy to set up and administer.
3. **Share the Fare:** Employers may also combine Options 1 and 2. Thus, an employer may provide a tax-free benefit of \$30 a month and let the employee use \$35 of pre-tax salary to pay for the remaining portion of the tax-free amount. In this case, the employer obtains a tax deduction and exemption from avoiding payroll taxes for the amount set aside by the employee. The latter savings helps offset the cost of the tax-free benefit.

The US Bureau of Labor Statistics reported approximately 4,865 persons are employed in the county for 2000. Assuming less than one percent of those employees called and found a ride through the program, the result would be approximately 12,500 (25 persons x 2 work trips per day x 250 work days) one-way rides shared per year. The performance statistics would be 25 (12,500 rides / 500 annual hours) one-way trips matched per staff hour invested at a cost of \$0.51 (\$6,420/25,000) per one-way ride.

- Annual Cost: \$6,420
- Rides per Staff hour: 25
- Cost per One-way Ride: \$0.51

Clear Creek County Park-and-Ride Lots



Park-and-ride lots are used in many resort and tourist areas to avoid congested traffic and parking conditions near recreational sites, such as trailheads or ski areas. Good signage and incentives (low cost or free parking) to park vehicles at park-and-rides are methods to entice drivers to go to the locations. A good transit system can make park-and-rides a success. The park-and-rides must have good shelter, safe waiting areas with seats, and accurate published schedules for pick-ups.

Park-and-ride lots serve to decrease congestion and improve the environment by providing better access to public transportation. On heavily traveled corridors, one bus can remove up to 40 automobiles from traffic. To make this possible, convenient parking lots and transit stops must be located near residential neighborhoods. Unfortunately, many communities have not explored the value of park-and-ride facilities, and accordingly, have not embraced park-and-ride as a desirable land use. The benefits of a park-and-ride include:

- Reduced traffic congestion
- Economic development
- Improved visitor information

Many park-and-ride programs have been successful in positioning facilities such as multimodal transit centers that benefit the community. Skillful site location combined with supporting services allow park-and-rides to help solve congestion problems. One example just outside Clear Creek County is the El Rancho Park-and-Ride, located just off of I-70, which provides commuters the option to ride the RTD's E and Z bus routes. There are 36 spaces for vehicles to park at El Rancho.

Unit costs for construction and right-of-way acquisition for one small surface park-and-ride facility are estimated in the following text. The costs are based on average construction costs for similar 20-space facilities across the western states. An average cost of \$7,000 per space is used in the calculations. More detailed cost estimates will need to be developed at the time of implementation of future

projects. Total estimated cost for one small park-and-ride facility is approximately \$140,000.

Potential park-and-ride sites within Clear Creek County are in Georgetown, Silver Plume, Bakerville, Empire, Idaho Springs, and the Loveland Ski Area. Park-and-ride efforts in Clear Creek County will coordinate locations with the I-70 Mountain Corridor Study so that residents and visitors could park their vehicles and take transportation east or west, depending on their destination.

Funding Options - Park-and-Ride Lots

 Several funding mechanisms could potentially fund the County Park-and-Ride Lots. These include Clear Creek County, private land owners, donations, and fees derived from parking costs. Other creative opportunities are from highway funds as road improvements are conducted.

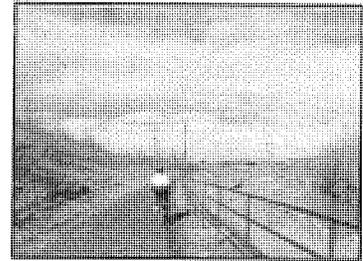
Many communities require that new developments provide minimum amounts of parking based on existing code. Some communities around the country have implemented a philosophy which specifies a maximum number of parking spaces rather than a minimum number. This approach is gaining more favor nationally. When the parking supply is constrained and the cost is significant, there are noticeable mode shifts away from solo driving. Parking management strategies have already been implemented to some extent in Colorado. Parking time limits have been set for parking in some communities.

Park-and-ride lots should be seen as part of a parking management strategy for the county and the local communities. Low cost park-and-ride lots with access to the transit system help to provide an attractive alternative. This approach is seen as a long-term strategy. The community philosophy will have to shift from the orientation which provides ample parking to one which may constrain the amount of available parking in some areas. Until an aggressive parking management program is implemented, many of the other strategies should be expected to have only limited effectiveness.

County-owned lands could be used for park-and-ride lots. These areas would ideally be located along I-70 interchanges in the county. A land donation would be the ideal situation, with development costs coming from impact fees and other private contributions. Some community and Denver area businesses should set up employee commute programs, and it would be advantageous to pursue these employers for private donations.

Bicycle and Pedestrian Travel Options

Bicycle and pedestrian paths and trails are a strong interest in Clear Creek County. One prevalent example is the Discover America Trail traveling through Baker-ville, along with many other trails located in the study area. Travel options in this chapter include bicycle and pedestrian options due to the tourist nature of the study area location and the strong interest among the residents and visitors to the area.



Each of the transit options discussed earlier in this chapter will include bike racks for the public transit vehicles. Bike racks cost approximately \$800 for each rack and provide the transit rider another means of travel besides “on foot.” This Internal Transit Plan also supports local efforts for improved roadway conditions for on-road bicycle trails, bicycle safety, and awareness. The initiation of a Bike-and-Ride Service is a good opportunity for a promotional campaign for environmentally-friendly citizens of Clear Creek County. The only drawback of bike racks is the additional time necessary for placing the bikes on and removing the bikes from the racks.

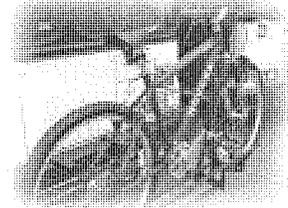
At one end of their trip or the other, virtually all transit passengers also travel on foot or on bicycle as part of their transit trip. A key element of a successful transit system, therefore, is a convenient system of sidewalks and bikeways serving the transit stops. The future Clear Creek Transit System should work with the local planning departments to review construction plans and scheduling priorities for pedestrian and bicycle improvements to best coordinate with transit passengers’

needs. The county and towns should have adequate pedestrian facilities accessing transit stops.

Funding Options - Bicycle and Pedestrian Travel Options

 Funding options for bicycle and pedestrian options are available in a variety of ways. One funding source is to use Transportation Enhancement funds available through the Transportation Equity Act for the 21st Century. Transportation Enhancements (TE) are transportation-related activities that are designed to strengthen the cultural, aesthetic, and environmental aspects of the nation's intermodal transportation system. The transportation enhancements program provides for the implementation of a variety of non-traditional projects, with examples ranging from the restoration of historic transportation facilities, to bike and pedestrian facilities, to landscaping and scenic beautification, and to the mitigation of water pollution from highway runoff.

TE projects must fall into at least one of the 12 Transportation Enhancements Activities (TEAs) specified in TEA-21. Three of these activities fall under projects related to bicycle and pedestrian initiatives.



1. ***Pedestrian and bicycle facilities*** – New or reconstructed sidewalks, walkways, or curb ramps; bike lane striping, wide paved shoulders, bike parking, and bus racks; off-road trails; bike and pedestrian bridges and underpasses.
2. ***Pedestrian and bicycle safety and education activities*** – A new activity under TEA-21, generally expected to include programs designed to encourage walking and bicycling.
3. ***Conversion of abandoned railway corridors to trails*** – Acquiring railroad rights-of-way; planning, designing, and constructing multi-use trails; developing rail-with-trail projects; purchasing unused railroad property for reuse.

Other funding sources include the support of the local communities. While the bulk of funding may come from enhancement dollars, a local match will be required.

Coordination of Existing Resources

This final transit service option investigates the coordination of current transportation providers within Clear Creek County and those providers that travel through the county. Coordination of transportation services is a concept that has improved services in many areas in recent years. However, the terms coordination and/or consolidation are often threatening to many agencies that provide some form of transportation. There is sometimes apprehension that the agency will lose control of their operations or that employees will lose their jobs. Therefore, a general discussion of transportation service coordination is provided as background for the development of specific suggestions.

Coordination has been interpreted as everything from telephone conversations to transfer of vehicle ownership. There are four different phases or levels of coordination with regard to the shared use and efficient operation of equipment and facilities. These levels are defined below:

1. **Communication** involves recognition and understanding of a problem and discussion of possible solutions. This improves the working relationships among various bodies who are in a position to influence transportation developments within their particular jurisdiction.
2. **Cooperation** involves the active working together of individuals in some loose association in a cooperative way. The individuals or individual agencies retain their separate identities.
3. **Coordination** involves bringing together independent agencies to act together in a concerted way, in order to provide for a smooth interaction of separate units of a transportation system. In coordination, the primary concern is in the form of common funds, equipment, facilities, or operations. Members or agencies preserve their separate identities.
4. **Consolidation** involves joining together or merging agencies for mutual advantage. In the case of transportation services and in the context of this report, consolidation is used in reference to a fully integrated transportation system in which all individual units have been combined or consolidated into one integrated system. Individual agency identity for the purpose of transportation is no longer maintained.

Many transportation operators have found coordination to be desirable and beneficial. Coordination has resulted in a reduction in overlap and duplication of

service, more service capacity, greater productivity and operating efficiency, and reduction in capital and operating costs.

Coordination Opportunities in Clear Creek County

Opportunity for cooperation and coordination of existing resources is discussed in the following text.

- Golden West Commuter, a private provider, currently provides transportation services to Georgetown and Idaho Springs, with the anticipation of providing service throughout Clear Creek County. Golden West Commuter and Clear Creek County could combine efforts and apply for the FTA 5311 funding for general public service. The county would subcontract with Golden West Commuter, who would operate general public service. The service could extend east to link with the RTD routes in Jefferson and Denver Counties. Golden West Commuter is interested in this cooperative effort, knowing that this study would serve as a guide for the public transportation options.
- Another opportunity for coordination and use of existing transportation resources is at Loveland Ski Area. The Loveland Ski Area currently operates three 25-passenger vans, which provide employee shuttle transportation during the ski season. The ski area budgets between \$20,000 and \$25,000 per year on transportation. The existing employee shuttles could be opened to the general public for transportation from Idaho Springs to the ski area.



An additional coordination effort is for Loveland Ski Area to take advantage of the future public transportation service. Loveland could contribute their \$25,000 to the public transit service. In return, that service would transport employees and residents to the ski area.

Loveland Ski Area could also contract with Golden West Commuter to provide their transportation. The Winter Park Ski Area uses a private company to provide all transportation services. This option could be used at the Loveland Ski Area.

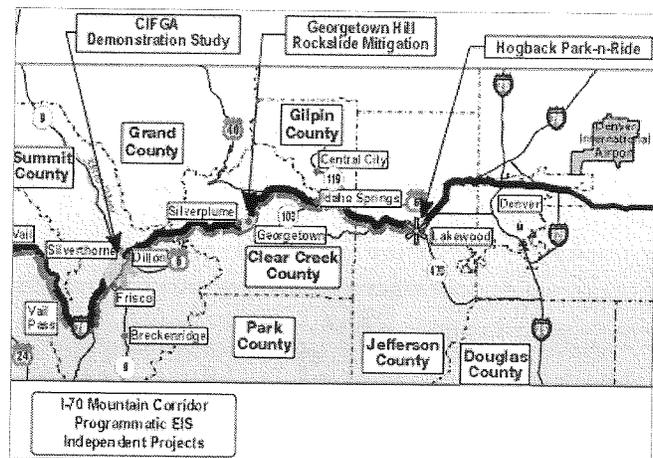
- Clear Creek County and local towns should discuss future park-and-ride sites. Property should be set aside for the sites, using a cooperative effort. Ridesharing with vanpools and carpools would alleviate traffic congestion on I-70. Approximately 50 percent of the Clear Creek County employees commute to the Denver metropolitan area each weekday.
- An additional coordination opportunity is to provide public transit service using local school buses. This coordinated service would provide transportation for the general public, while transporting children to and from school.

When the buses are finished with the school routes, the school district could provide general public service with the vehicles. Funding for the general public service would come from FTA Section 5311 and local funds. The assumption with this service is that the capital costs would be very minimal due to the existing school district's fleet of vehicles. Some barriers to school buses providing general public transportation are meeting the Americans with Disabilities Act and the seating configuration of school buses.

- The Idaho Senior Center currently operates four vehicles to transport seniors to and from medical appointments and various other trips. An opportunity exists for the senior center to expand and provide general public service throughout the county. Funding would be available through the FTA 5311 Program and local funds.

I-70 MOUNTAIN CORRIDOR STUDY

Many transit options are presented in this chapter. Below is a brief discussion of how the I-70 Mountain Corridor Study will affect each transit option. Although some portions of the transit options may be implemented immediately or within the next five years, changes to the I-70 corridor will be implemented over a much longer time period.



Fixed-Route Service

The I-70 Mountain Corridor Study has many transit alternatives to which a fixed-route transit service could adapt. For example, if a fixed guideway alternative is developed from the study in the long term, a fixed-route service in Clear Creek County would be a key connection to transit stops. The Fixed-Route Service would coordinate schedules with the service and have convenient connections for residents and visitors of the area.

Countywide Demand-Response Service

The Countywide Demand-Response Service would operate in the short term as described previously in the chapter. The I-70 study transit options could affect this type of service. However, it is assumed by the LSC Team that no immediate transit options will be implemented from the I-70 study. Thus, a demand-response service in Clear Creek County could operate in the short term and expand to more service as needed as long-term transit alternatives are completed along I-70.

Countywide Checkpoint Service

The Countywide Checkpoint Service has the same relationship to the I-70 Mountain Corridor Study as the Fixed-Route Service. If a fixed guideway alternative is developed from the study in the long term, the Countywide Checkpoint Service in Clear Creek County would be a key connection to transit stops. The Checkpoint Service would coordinate schedules with the service and have convenient connections for residents and visitors of the area.

Rideshare Program / Park-and-Rides

The Rideshare Program would be successful and blend with many of the transit alternatives in the I-70 Mountain Corridor Study. The Rideshare Program could be used for residents and non-residents. Typically, full-time residents of the community may use the program for trips to and from work. The I-70 Mountain Corridor Study has many travel demand management options, and a Rideshare Program in Clear Creek County would contribute to these congestion relief efforts.

Park-and-ride efforts in Clear Creek County would coordinate locations with the I-70 Mountain Corridor Study so that residents and visitors could park their vehicles and take transportation east or west, depending on the destination.

Bicycle / Pedestrian Travel Options

All alternatives in the I-70 Mountain Corridor Study should consider bicycle and pedestrian needs within Clear Creek County.

Coordination Opportunities

The coordination opportunities currently available in Clear Creek County would be implemented in the short term. Long-term implementation of transit alternatives from the I-70 Mountain Corridor Study would affect coordination of services. Transit services would need to expand to a greater level to match the projects along I-70.

SUMMARY

This chapter includes public transportation options for Clear Creek County. Table VI-2 shows a comparison of operating characteristics for each of the options discussed. The options are based on realistic alternatives that would be successful in the communities and would also provide congestion relief in the study area. Table VI-3 provides a summary of the evaluation of each option based on the goals and objectives established in Chapter II.

Table VI-2

Transit Options Operating Characteristics

Service Option	Description	Days per Week	Hours	Total Hours per Day	RT Miles per Day	Vehicle	Annual Ridership	Total Annual Hours	Total Annual Miles	Estimated Cost	Cost per Pass.	Pass. per Hour
Countywide Fixed-Route Service	60-min. headway	7	7a - 7p	12	960	2	105,120	8,760	537,600	\$350,400	\$3.33	12.0
Georgetown Loveland Fixed-Route - Winter	60-min. headway	7	7a - 7p	12	480	1	25,200	1,680	67,200	\$67,200	\$2.67	15.0
Georgetown Loveland Fixed-Route - Summer	60-min. headway	7	7a - 7p	12	480	1	27,000	2,700	108,000	\$108,000	\$4.00	10.0
USFS Shuttle	3 RTs per day	7	8a -5p	9	54	1	10,800	1,080	6,480	\$43,200	\$4.00	10.0
Demand-Response Service	24-Hour Advance Reservations	5	9a - 4p	7	105	1	3,822	1,820	27,300	\$72,800	\$19.05	2.1
Checkpoint Service	Approx. 1 hour	7	7a -6p	11	110	1	20,075	4,015	40,150	\$160,600	\$8.00	5.0

DR = Demand-Response

RT = Round-trip

Costs based on \$40 per vehicle-hour of service.

**Table VI-3
Evaluation of Service Options**

Goal	Service Option					
	Demand-Response Service	Countywide Fixed-Route Service	Georgetown Loveland Fixed-Route - Winter	Georgetown Loveland Fixed-Route - Summer	USFS Shuttle	Checkpoint Service
1.a.	+	++	+	+	-	++
1.b.	+	++	+	+	-	++
1.c.	+	++	+	+	-	++
1.d.	-	+	+	+	++	+
2.a.	++	+	+	+	+	+
2.b.	++	++	++	++	++	++
2.c.	-	+	+	++	++	+
2.d.	-	+	+	+	+	+
3.a.	+	-	+	+	+	-
3.b.	-	++	+	+	+	++
4.a.	-	-	-	-	-	-
4.b.	-	+	+	+	-	+
5.a.	++	++	++	++	++	++
5.b.	-	+	++	-	-	+
5.c.	-	+	+	++	++	+
5.d.	+	-	++	+	+	-
5.e.	+	++	++	+	-	+

Legend: - Does not support this objective
 + Somewhat supports this objective
 ++ Strongly supports this objective

Goals outlined in Chapter II: Public Transportation Goals and Objectives

Source: LSC, 2002.



CHAPTER VII

Strategic Transit Plan

INTRODUCTION

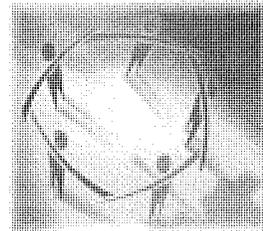
Following the analysis of the alternatives presented in the previous chapters, the LSC Team prepared a recommended Strategic Transit Plan. The Strategic Transit Plan identifies steps to be taken within the next five years as well as longer-term actions to meet future transportation needs.

ORGANIZATIONAL PLAN

This section presents the organizational and institutional components of the transit plan. The institutional component is critical to the successful implementation of the service plan.

Establish A Transit Advisory Committee (TAC)

The LSC Team recommends that a Transit Advisory Committee be established for Clear Creek County. Representatives should be assigned from the Silver Heritage Area, a representative from the Clear Creek County Commissioners, a representative from each existing transportation provider, a representative from each town—preferably an elected official, a representative from RTD, and a representative from the I-70 Mountain Corridor Study. A Chairperson should be selected to organize monthly meetings.



The TAC would take the initial steps to implement the recommendations within this plan. There is a need for the TAC to advise, to make local recommendations to government entities, and oversee initial public transportation efforts.

Benefits

- The TAC would initiate the recommendations within this plan.

- The local advisory group will promote the new public transportation services, advise staff on implementation of the service, and oversee the operation following implementation.

Timing

Approval of this Internal Transit Plan should take place during the summer of 2002. As part of the approval, the Transit Advisory Committee should have members assigned, and the first meeting date should be set.

Responsibilities

The Transit Advisory Committee will be responsible for presenting this plan to the local entities. The TAC will also provide guidance in the initial efforts to establish public transportation in Clear Creek County.

Implementation Steps

1. Clear Creek County Commissioners make a list of potential representatives for each of the TAC members.
2. Organize first meeting and select a Chairperson of the TAC.
3. TAC members present the Internal Transit Plan to the local government entities for review.
4. TAC begin initial steps for local funding to hire Transit Coordinator.

There is a need for coordination of the existing services within Clear Creek County. However, currently no formal mechanism exists for this coordination. The Transit Advisory Committee and the county are the appropriate entities to provide coordination of these services. Other local government and private entities must provide some staff time and financial support for some of the coordination activities.

Establish Transit Coordinator Position

A Transit Coordinator position should be established in Clear Creek County. The Transit Coordinator will assume the responsibilities of implementing this transit plan and managing the day-to-day operations of the transit service when the service begins operation. The Transit Coordinator should report directly to the County Commissioners and the TAC. The current county staff do not have adequate time to fulfill this role. The implementation and coordination of transit

service in the county will require a full-time position. This person will also be responsible for preparing grant applications for funding and for preparing reports which must be submitted to the various funding agencies.

Benefits

- Responsibilities for implementation of this plan will be given to one individual.
- Sufficient staff will be available for implementation of public transit service, and a coordinator will be in place when service is initiated.

Timing

The Transit Coordinator position should be in the Clear Creek County budget for 2004. The position should be funded in the next fiscal year budget (Year 1 of this plan), and hiring should take place when the position is funded. Funding should not come solely from the county. The local towns should also contribute to fund the position.

Responsibilities

Clear Creek County must approve and fund the new position and the Commissioners and the TAC will be responsible for hiring a person to fill the position.

Implementation Steps

1. Clear Creek County approves the new position of Transit Coordinator.
2. The TAC submits a budget with funding sources identified for the Transit Coordinator position, which should be approximately \$55,000.
3. Clear Creek County approves funding of the Transit Coordinator position.
4. The TAC and county staff recruit and hire a Transit Coordinator.

The Transit Coordinator could also be hired through a contract rather than as a county employee. The Transit Coordinator would work closely with the existing transportation providers and would serve as staff to the Transit Advisory Committee. The Coordinator would provide assistance for local transit coordination, prepare applications for grant funds, review transit funding recommendations made by other interested parties, analyze system performance and recommend changes in services, develop promotional and marketing materials, coordinate

purchasing, coordinate any marketing and promotional activities, provide any required reports, schedule and record minutes for TAC meetings, present reports to the TAC and the local governments, and respond to public comments and suggestions on service improvements.

The Transit Services Coordinator's salary would be approximately \$40,000 per year plus benefits starting in 2004. Funding for this position should come from a variety of sources.

- *Local Government Contributions* – The most likely short-term source of funding is from local governments. Funding to initiate the service may have to come from county and local community budgets including Clear Creek County and the towns of Silver Plume, Georgetown, Empire, and Idaho Springs. Although not a stable source of funding, it may well have the greatest potential in the county to generate any new funding for transit.
- *FTA Section 5311 Public Transportation for Rural Areas* – Federal transit funding for rural areas is currently provided through the Public Transportation for Rural Areas program for non-urbanized areas. Local match requirements for this program are (70/30) for administration of rural public transportation. This program has historically been the source of FTA funds for many rural areas in Colorado.

The program also provides a (80/20) grant for capital requests and a 50 percent match for operating expenditures. These funds are segmented into “apportioned” and “discretionary” programs. This is a competitive program and a transit program in Clear Creek County will have to compete with other rural transit programs throughout the state.

- *Federal Title III Funds* – Title III supports services designed to assist older persons at risk of losing their independence and active older persons. Title III supported the network of agencies and organizations needed to provide home and community-based care as well as leveraged resources from other federal, state, and local entities. Most supportive services fall under three broad categories: access services, such as transportation, outreach, information and assistance, and case management; in-home services, including homemaker and home health aides, chore maintenance, and supportive services for families of older individuals who are victims of Alzheimer's disease; and community services such as adult day care, legal assistance, and recreation.

SERVICE PLAN

This section describes the service to be provided within Clear Creek County. The proposed service will be to coordinate existing transportation resources and implement a countywide fixed-route public transportation service. The LSC Team recommends improved coordination among the existing resources within Clear Creek County.

Coordination of Existing Resources

Loveland Ski Area Employee Shuttle

The first coordinated effort would be between Loveland Ski Area and the local governments. The existing Loveland Ski Area employee shuttles should be opened to the general public. The county would apply for FTA 5311 monies and would subcontract with the ski area to provide the general public service.

A general public transit bus schedule would be published in the county and in the local communities. The schedule will provide coordinated services among the local communities, county, and the Loveland Ski Area.

Golden West Commuter Provide Loveland Ski Area Transportation

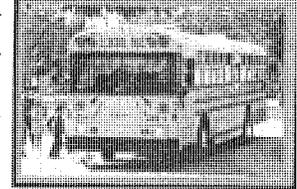
The LSC Team recommends for Loveland Ski Area to contact Golden West Commuter for contracted service for the shuttle service. Using the private company may provide more efficient transportation services for the ski area. The ski area would also not have to incur the additional transportation costs, such as vehicle acquisition, maintenance, insurance, and capital expenses. The budgeted transportation monies at Loveland Ski Area would be used under the contract with Golden West Commuter.

School District General Public Transit Service

The third area of coordination recommended by the LSC Team is between the Clear Creek School District and Clear Creek County. The school district and the county should begin discussion regarding transportation of the general public in rural areas with students. Communities across the United States are pursuing this type of transportation. The State of Colorado Education Department **does not**

prohibit this coordinated effort. A possible barrier to this type of service will be the insurance limitations placed on the school district.

As the school district operates their typical routes, a general public passenger could also get on the bus to get to their destination on a space available basis. The county would pursue the general public FTA funds and contract with the school district to pay for the extra passengers.



The majority of school buses are not busy during the summer months when regular school is not in session. Therefore, this is another prime opportunity for increased coordination with the county. The vehicles could be used to transport summer visitors and residents throughout the county. The school district and the county would, as mentioned above, have a joint contract for the services.

Implementation Steps for Coordination

- Begin specific coordination efforts stated in the previous text.
- Determine and resolve any insurance issues.
- Local governments, organizations, and private entities should provide financial support for the coordinated service efforts.
- Purchasing of vehicle or office parts/equipment should be consolidated into a cooperative effort among the agencies.
- Develop coordinated marketing and promotional materials.

Countywide Fixed-Route Service

The second service recommendation is for Countywide Fixed-Route Service to be implemented in the short-term. The service should operate year-round and would also extend to the El Rancho Park-and-Ride for connections to RTD. The service could be operated directly by the county or through a service contract.

One likely coordinated effort could be with Clear Creek County and RTD for the Countywide Fixed-Route Service. As discussed previously in Chapter VI, the current RTD boundary stops at the Jefferson/Clear Creek County line. As shown in Appendix B, DRCOG has identified regional service to Clear Creek County in its

long-range planning efforts. Voters must approve changes to the RTD boundaries. Once changed, funding would come from Clear Creek County—the same as the rest of the RTD area to pay for transit services.

Clear Creek County could also contract with RTD for transit service at full cost. However, it may be unlikely that RTD would provide contract service outside the existing RTD boundaries. However, as mentioned before, the RTD boundary can be changed with voter approval.

The Countywide Fixed-Route Service provides transportation alternatives to people traveling along I-70 and for employees to find work. Alternative funding may be available through the Access to Jobs Program, although the level and continuation of funding are uncertain.

Benefits

- Residents of Clear Creek County would have public transportation options to travel among the communities. Visitors would also have travel options instead of the single occupant vehicle.
- Public transportation would be available to Georgetown, Idaho Springs, and Loveland Ski Area—meeting the needs of several different market segments.

Timing

This service in Clear Creek County should be implemented in Year 4 of the plan.

Responsibilities

The Transit Coordinator, in coordination with the TAC, will be responsible for preparing the detailed service plan, negotiating any service contracts, and implementing the service.

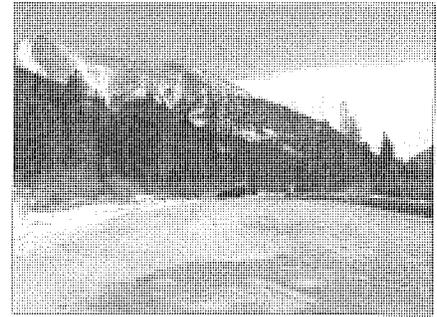
Implementation Steps

1. The Transit Coordinator will prepare the detailed service plan.
2. The Transit Coordinator, with support from the County Commissioners, RTD staff and DRCOG staff, would start a marketing campaign to support a boundary change for the RTD service.
3. The Transit Coordinator and TAC will obtain local funding to support the service.

4. The Transit Coordinator will establish any service contracts which may be necessary for the service.
5. The Transit Coordinator will develop and implement a program to promote the service prior to implementation.

Park-and-Ride Lots

The third service recommendation from the LSC Team is the establishment and promotion of Park-and-Ride lots within Clear Creek County. A substantial increase in park-and-ride demand is expected due to the increase in commuter traffic on I-70 to the Denver metro area.



Park-and-ride lots should be developed along I-70 at the Herman Gulch trailhead, the Bakerville interchange, Georgetown, Empire Junction, and Idaho Springs. Specific site locations would be investigated closer to the date of implementation.

Park-and-ride unit costs for construction and right-of-way acquisition are discussed in Chapter VI. Funding for this project could come from several different sources. Some examples of funding sources include private sources, local government general funds, local development fees, federal transit monies, or state monies. A potential source for complete funding of the park-and-ride lots would be mitigation programs related to widening and construction of improvements in the I-70 corridor.

Rideshare Program

In addition to the Park-and-Ride lots, a Rideshare Program should be established in 2005. The Transit Coordinator would manage the operation of the Rideshare Program. A rideshare software package should be obtained in 2005 and a toll-free number established for riders to use. Funding for the initial software package and operating expenses, such as staff salary, facilities, and phone lines, could be provided by Clear Creek County and the local towns.

Bicycle and Pedestrian Options

The final service recommendation from the LSC Team is to connect future transit services to the readily available recreation and non-recreation paths. Bicycle and pedestrian paths and trails are a strong interest in Clear Creek County. One prevalent example is the Discover America Trail traveling through Bakerville, along with many other trails located in the study area. The LSC



Team recommends that future transit routes serve the existing trailheads in Clear Creek County. The following trailheads should be served by transit:

1. **Herman Gulch Trail** – located just off I-70 at exit 218. This trail takes you through the subalpine forest through meadows and finally up to an alpine lake.
2. **Stevens Gulch Trail** – accessible from the Bakerville exit. The Stevens Gulch Trailhead is located four miles south of I-70 on Stevens Gulch Road. Two of Clear Creek County’s 14,000-foot peaks reside off this trailhead.
3. **Grizzly Gulch** - is accessible at the Bakerville exit and used by many hikers.
4. **Bakerville - Loveland Trail** – a five-mile trail providing great scenic beauty, located just off I-70 at exit 221.

These trailheads would be utilized primarily during the summer months. The trailheads would be served by the Countywide Fixed-Route Service. Other trails and bicycle facilities that are popular within Clear Creek County include:

- **Chief Mountain Trail** – located on Colorado Highway 103 south of Idaho Springs. The trailhead is located five miles east of Echo Lake on Highway 103. The hike passes through a spruce fir forest and travels through alpine tundra. Once on top you can see Mount Evans, Pikes Peak, Longs Peak, and Denver.

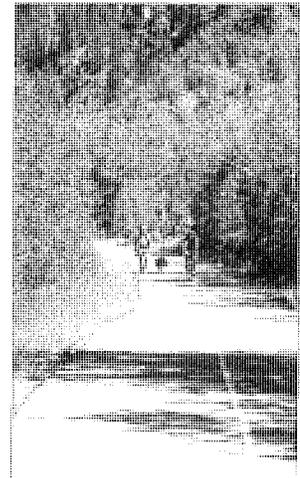
- *Mount Evans Scenic and Historic Byway* – a 28-mile paved roadway from Idaho Springs to Mount Evans. This trail can be accessed from Highway 103 near Echo Lake, south of I-70.

Transit routes should provide connectivity between these existing trails, and ideally, vehicles would be equipped with bike racks.

Bicycle and Pedestrian Land Use Planning

In recent years, there has been a strong interest in the planning profession regarding strategies by which rural and urban development can be shaped to maximize the efficiency of alternate transportation modes, particularly transit. This field of study has taken on differing names in various parts of the country. On the East Coast, this field of study is commonly referred to as the “Neo-Traditional Neighborhood Development” (TND) movement, championed by academics such as Andreas Duany/Elizabeth Plater-Zyberk, and evidenced in such places as the new town of Seaside, Florida and the extensive Kentlands development near Washington, DC.

In the West, this field of study has typically been labeled “Transit-Oriented Design” (TOD). The leading figure in this field is Peter Calthorpe, who has been instrumental in the development of the extensive Laguna West project on the southern edge of the Sacramento metropolitan area. There are a number of similarly planned new towns in the San Diego, San Francisco, Portland, and Seattle metropolitan areas. The TOD concept will be the focus of this discussion as it is most common to the western United States.



By either name, there are a number of common design strategies that have been identified through this field of planning research. A key element in the design strategies presented below is an acceptance that automobile use will remain a key part of our transportation system. To that end, the strategies do not strive to eliminate all auto traffic; rather, the goal is to make transit and other alternative transportation modes as attractive as possible. Each strategy is discussed below.

Cluster Land Use Densities Close to Major Transit Stops

A vital rule of thumb in transit planning is that the potential for transit ridership drops off dramatically with distance from the nearest transit stop. Research consistently shows that the proportion of persons willing to use transit drops dramatically beyond a one-quarter mile walking distance to the bus stop (7.5-minute walk at two mph). It therefore follows that the more trip origins and destinations that can be concentrated within approximately one-quarter mile of a major transit stop, the greater the potential for transit usage. Within the constraints of the real estate market and local housing preferences, therefore, there is a benefit in developing zoning classifications and transit services in tandem to ensure that the greatest concentration within approximately one-quarter mile of a major transit stop, the greater the potential for transit usage. Within the constraints of the real estate market and local housing preferences, therefore, there is a benefit in developing zoning classifications and transit services in tandem to ensure that the greatest number of dwelling units, employment opportunities, and institutional/commercial centers are located near major transit stops.

A Surrounding “Secondary Area” Should Be Developed

This area should include those land uses within a one-mile radius from the transit center. This area should contain more auto-oriented uses, such as lower-density residential (but still at least six dwelling units per acre), highway commercial uses, schools, and public facilities. Residents in these areas help to support the retail center in the “pedestrian pocket,” and are also conveniently located with respect to drop-off or bicycle access to the transit center. Street networks should be designed to allow access to the transit center without travel on an arterial street.

The Street Network Should Be Developed to Allow Efficient Transit Service

In order to reduce traffic volumes near residences and avoid the potential for “cut-through” traffic, traffic and land use planners in the period since roughly World War II have commonly designed residential areas with a curvilinear, disconnected street system, so common today in suburban areas. While a bus can be routed along the curvilinear collector or arterial street close to the residences within a subdivision, the walking distance may be excessive because there is no direct

access. Connected streets should be provided to permit bus routes into residential neighborhoods.

Convenient Pedestrian and Bicycle Connections to Transit Stops

A key strategy in TOD design is to ensure that transit passengers can quickly access a bus stop from their trip origin or destination. This strategy recognizes the fact that transit patrons are pedestrians as soon as they leave the bus. To this end, special emphasis is placed on providing direct and attractive pedestrian and bicycle ways between residential and employment areas and transit stops, often including pedestrian paths linking cul-de-sacs with nearby transit stops on collector and arterial streets.

I-70 MOUNTAIN CORRIDOR STUDY

The previous section discusses the five Clear Creek County service recommendations from the LSC Team:

- Coordination
- Countywide Fixed-Route Service
- Park-and-Ride lots
- Rideshare Program
- Bicycle Pedestrian Options

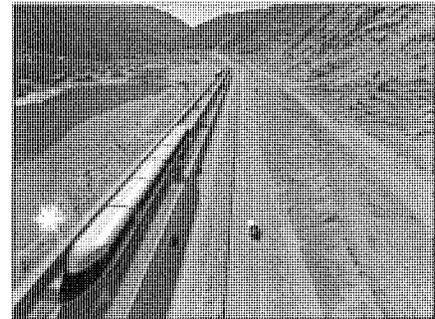
These service recommendations are for the short-term future, as defined in the Scope of Work for the study. The I-70 Mountain Corridor Study, currently underway, has several alternatives that may affect the Clear Creek study area in the long-range future. Therefore, it is the goal of the LSC Team and the Advisory Committee to choose transit options that are flexible and can easily adapt to the I-70 future projects.

The LSC Team realistically assumes that no I-70 transit projects will be implemented in the short-term future or in the next five years within the Clear Creek Silver Heritage study area. However, there are several projects in the proposed I-70 alternatives that will affect the Clear Creek County study area. The following text discusses this information.

The I-70 Programmatic Environmental Impact Statement (PEIS), a coordinated effort between the Colorado Department of Transportation and the Federal Highway Administration, has identified seven transportation options for the I-70 corridor. These seven options include:

1. No Action Alternative
2. Minimal Action Alternative
3. Fixed Guideway Transit Alternative
4. Rubber Tire Transit Alternative
5. Highway Alternative
6. Fixed Guideway Transit and Highway Combination Alternative
7. Rubber Tire Transit and Highway Combination Alternative

The Fixed Guideway Transit Alternative includes the options of both electric and diesel rail and transit alternatives, including the Colorado Fixed Guideway Authority monorail and the Intermountain Connection between Eagle Airport and Minturn.



The Rubber Tire Transit Alternative includes the use of electric, diesel, and dual-mode bus alternatives, including transitways, guideways, and bus rapid transit. Fixed Guideway Transit and Highway Combination Alternatives combine rail and transit options between Eagle and the Denver metro area with various highway options between the Eisenhower Tunnel and Floyd Hill.

The I-70 Mountain Corridor Study is currently in the initial planning stages. The I-70 PEIS is scheduled for completion in early 2004, which will include the selection of final alternatives and mitigation measures. It is highly unlikely that any major corridor changes will affect transit in Clear Creek County within the next 5 to 10 years. The greatest impact will be the increasing travel demand in the corridor without improvements to accommodate that demand.

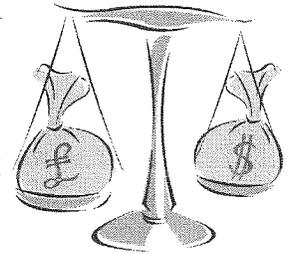
It will be important for Clear Creek County to be closely involved in the PEIS process. As the alternatives are evaluated, there will be impacts identified which will directly affect Clear Creek County. The county should pursue mitigation

measures such as procurement of vehicles for local transit services and operating funds for those local services.

FINANCIAL PLAN

Establish Local Funding

Local funding must be provided to pay for the operation of a public transportation service. Local funding sources are primarily Clear Creek County, the local communities within, Loveland Ski Area, and the Forest Service. Detailed operating budgets must be prepared and presented to the local governments. The financial plan in this document provides direction on the level of local funding which will be required, but the actual budgets must be developed as part of the implementation process.



As discussed previously, one funding mechanism is the extension of the RTD boundary, where revenue would be generated through the entire district. This option is viable and would not place a greater burden on the county or town's general fund. However, voters must approve the district boundary change.

Benefits

- Local funding displays a level of commitment on the part of the local governments and citizens.
- Provides a match to help secure matching federal funds.
- Helps to provide a service needed by local citizens.

Timing

The Clear Creek County Commissioners and the TAC should begin the process of obtaining local funds immediately. Local governments should be prepared to incorporate local funding of transit as the transit budget is presented in the normal budget cycle. The Transit Coordinator will prepare the transit budget during Year 2 of the implementation plan. If an RTD district is approved by voters, monies would be generated through the district for the transit service.

Responsibilities

The TAC members will be responsible for presenting initial information to local governments and building support for the local funding. Once the Transit Coordinator is hired, they will be responsible for developing the transit budget and presenting the budget to the local governments. The TAC members should assist in presentations to the local governments.

Implementation Steps

1. TAC members meet with local government officials to present the need for local funding. TAC members would also voice support for the expansion of the RTD boundary expansion to Clear Creek County to support the transit service.
2. Once the Transit Coordinator is hired, the Transit Coordinator will prepare the detailed transit operating budget.
3. The TAC approves the transit operating budget.
4. The Transit Coordinator and TAC present the transit budget to the local governments which will be asked to financially support the transit service.
5. The local governments agree to provide the local funding for transit services.

Obtain Additional Funding

Additional funding will be required to cover the operating expenses of a public transportation system. Funding is available from the Federal Transit Administration through the Colorado Department of Transportation. A grant application must be prepared and submitted to CDOT showing the service plan and the detailed operating budget. Other funding options are also available.

One example includes imposing **development fees** (exaction). These fees would be incorporated into Subdivision and Zoning Guidelines and the review process. Fees would be imposed for development at the Bakerville area based on the “footprint” of a proposed structure. The “footprint” would be assessed a development fee based on the square footage of the structure and type of use. The fees, or a portion of these fees, would be dedicated to funding transit services in Clear Creek County. Development fees would not need to be limited to the Bakerville area, but could be imposed countywide.

Current residents typically do not want to subsidize new development. Transit systems can benefit from exactions where a development stresses a transit system's ability to provide service. Rather than charge all residents of the county, the enactment of a specific exaction, impact, or development fee, to assess each developer for the development's incremental impacts could be imposed.

Community Development Block Grants (CDBG) are another funding source and are issued from the US Department of Housing and Urban Development directly to local agencies. The funds typically go to the state or local housing authorities and are usually for capital, housing construction, or related needs. However, a portion of these funds can be used in other ways (such as for transit) if these projects are included in an approved proposal. Residents of CDBG-funded housing may need transportation to employment, human services, medical programs, shopping, or recreation.

A **dedicated local tax**, such as in Summit County with funds going directly to provide transit services, is a common strategy to support public transit in resort and urban areas. While taxes of any sort are controversial, the idea of steady county or municipal funding is attractive to any struggling transit system. An alternative to seeking a dedicated tax for transit is to seek an allocation from the existing tax revenues of local government. Many fixed-route transit systems receive some type of local support that originates as tax revenue.

Benefits

- Additional funding will be available to cover the operating and capital expenses of the transit service.
- Outside funding leverages the local funding, providing more service than the local funding could support.
- Specific grant programs may provide transportation services for targeted groups.

Timing

The Transit Coordinator will prepare detailed budgets during Year 2 of the plan and submit grant applications for fiscal year 2005. Submittal of the grant applications must correspond with requirements of the funding agencies.

Responsibilities

The Transit Coordinator will be responsible for preparing the transit budgets and grant applications. The TAC will be responsible for approving the transit budget.

Implementation Steps

1. The Transit Coordinator prepares the transit budget.
2. The transit budget is approved by the TAC.
3. The Transit Coordinator prepares and submits grant requests.

Transit Budget

Table VII-1 shows the projected operating, capital, and revenue budget for the next five years. The operating expenses are based on the implementation steps outlined in this plan. Local funding may include private support, the Forest Service, and other grant sources. Full funding for the parking areas may be obtained directly through I-70 mitigation measures or development at Bakerville. A more detailed operating budget must be prepared and updated as part of the implementation process when actual costs are identified and grants are obtained.

Table VII-1
Short-Range Transit Plan, 2004-2008
(assumed 3% inflation)

	2004	2005	2006	2007	2008
EXPENSES					
<i>OPERATING</i>					
Transit Coordinator	\$55,000	\$56,650	\$58,350	\$60,100	\$61,903
Office Facility	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Countywide Fixed-Route		\$67,000	\$175,000	\$375,000	\$386,250
Park-and-Ride/Rideshare		\$6,420	\$6,613	\$6,811	\$7,015
<i>Subtotal</i>	\$60,000	\$135,070	\$244,962	\$446,911	\$460,168
<i>CAPITAL</i>					
Clear Creek County Vehicles			\$100,000		
Park-and-Ride Lot (Georgetown)				\$350,000	
Park-and-Ride Lot (Bakerville)					\$120,000
<i>Subtotal</i>			\$100,000	\$350,000	\$120,000
TOTAL EXPENSES	\$60,000	\$135,070	\$344,962	\$796,911	\$580,168
REVENUES					
Local	\$60,000	\$67,535	\$142,481	\$258,455	\$218,034
Federal		\$67,535	\$202,481	\$468,455	\$290,034
Fares		\$0	\$0	\$70,000	\$72,100
TOTAL REVENUES	\$60,000	\$135,070	\$344,962	\$796,911	\$580,168

Appendix A: TCRP Demand Equations



TABLE 1

Recommended Methodology for Estimating Annual Program-Related
Rural Passenger Transportation Demand
(From TCRP Report 3)

D= Annual One-Way Person-Trips

Program Type

Developmental Services: Adult

Participants < 25; D = 358 x Number of Participants

Participants > = 25; D = 430 x Number of Participants - 1,686

Developmental Services: Case Management

D = 39.2 x Number of Participants

Developmental Services: Pre-School

D = 224 x Number of Participants

Group Home

Participants < 10; D = 2.05 x Number of Participants x Days of Operation
or, if the number of days of operation is not known,
D = 615 x Number of Participants

Participants > = 10; D = (1.42 x number of Participants + 5.94) x Days of Operation
or, if the number of days of operation is not known,
D = 291 x Number of Participants + 3,760

Headstart

D = 263 x Number of Participants

Headstart: Home Base

D = 0.16 x Number of Participants x Days of Operation
or, if the number of days of operation is not known,
D = 30.5 x Number of Participants

TABLE 1

Recommended Methodology for Estimating Annual Program-Related
Rural Passenger Transportation Demand
(from TRCP Report 3)

D = Annual One-Way Person-Trips

Program Type

Headstart: Other

D = 1.86 x Number of Participants

Job Training

D = 137 x Number of Participants

Mental Health Services

D = 347 x Number of Participants

Mental Health Services: Case Management

D = 6.35 x Number of Participants

Nursing Home

Participants < 50; D = 9.10 x Number of Participants

Participants > = 50; D = 12.5 x Number of Participants - 173

Senior Nutrition

D = 248 x Number of Participants

Shelter Workshop

D = 1.58 x Number of Participants x Days of Operation
or, if the number of days of operation is not known,
D = 384 x Number of Participants

TABLE 2

Recommended Methodology for Estimating Annual Non-Program-Related
Rural Passenger Transportation Demand
(from TRCP Report 3)

$$D = R_e E \left(\frac{1}{1 + k_e e^{-U_e}} \right) + R_m M \left(\frac{1}{1 + k_m e^{-U_m}} \right) + R_p P \left(\frac{1}{1 + k_p e^{-U_p}} \right)$$

where:

D = annual demand for Non-Program-Related passenger transportation.
(One-Way Trips Per Year)

$R_e = 1,200$

$R_m = 1,200$

$R_p = 1,200$

E = number of persons age sixty or over.

M = number of mobility-limited persons age sixteen to sixty-four.

P = number of persons, age sixty-four or less, in families with incomes below the poverty level.
The definition of the poverty level is that used for the 1990 U.S. Census.

$k_e = e^{6.38}$

$k_m = e^{6.41}$

$k_p = e^{6.63}$

$U_e = 0.000510 \times \frac{\text{Annual Vehicle-Miles Available to Elderly Market}}{\text{Area of the County}}$

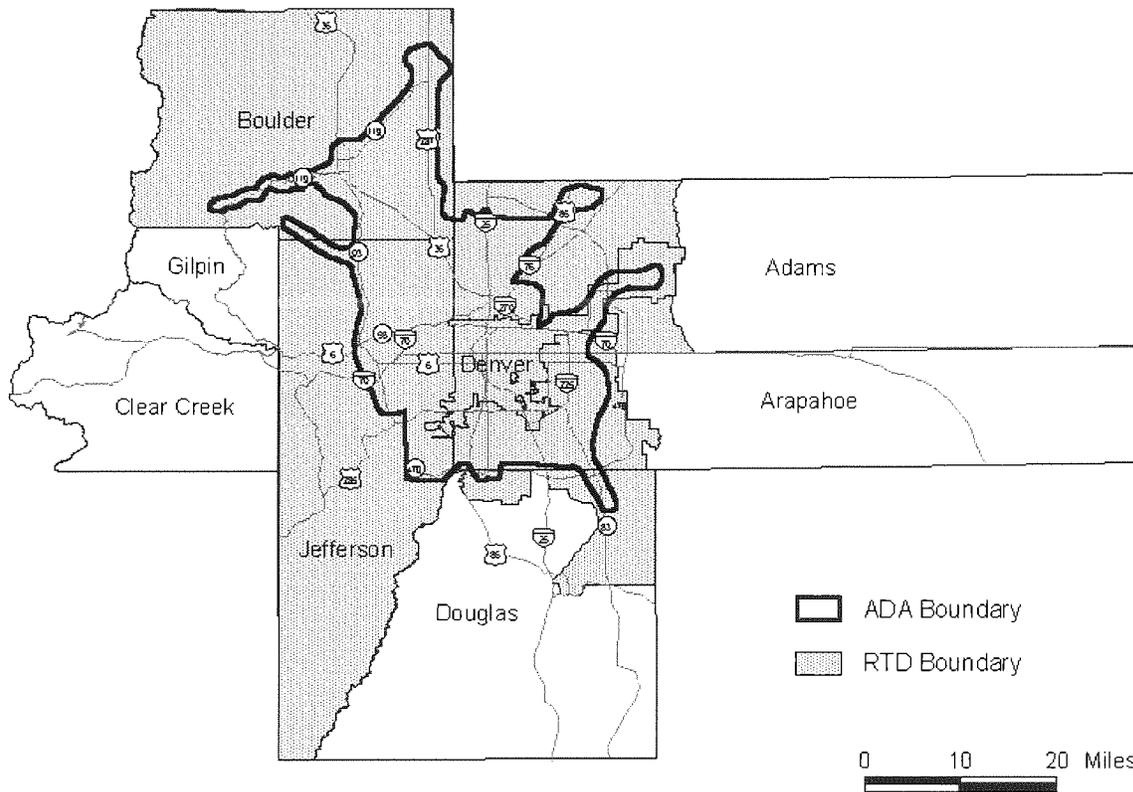
$U_m = 0.000400 \times \frac{\text{Annual Vehicle-Miles Available to Mobility-Limited Market}}{\text{Area of the County}}$

$U_p = 0.000490 \times \frac{\text{Annual Vehicle-Miles Available to Low-Income Market}}{\text{Area of the County}}$

Appendix B: DRCOG Maps



**Figure III-1
RTD Service Area**



Note: Depicts perimeter of area within which RTD provides ADA service. Some areas within boundary do not receive ADA service.



The RTD service generally operates as a grid system, with a core of radial routes serving Downtown Denver. RTD operates 82 local routes, including 14 that serve Boulder and 7 that serve Longmont. Figure III-2 illustrates the local route network for routes operating on weekdays. A detailed summary of RTD fixed route services is available in a technical appendix at DRCOG offices.

Figure 24

Proposed Regional and Community Bicycle Corridors: Existing and Planned

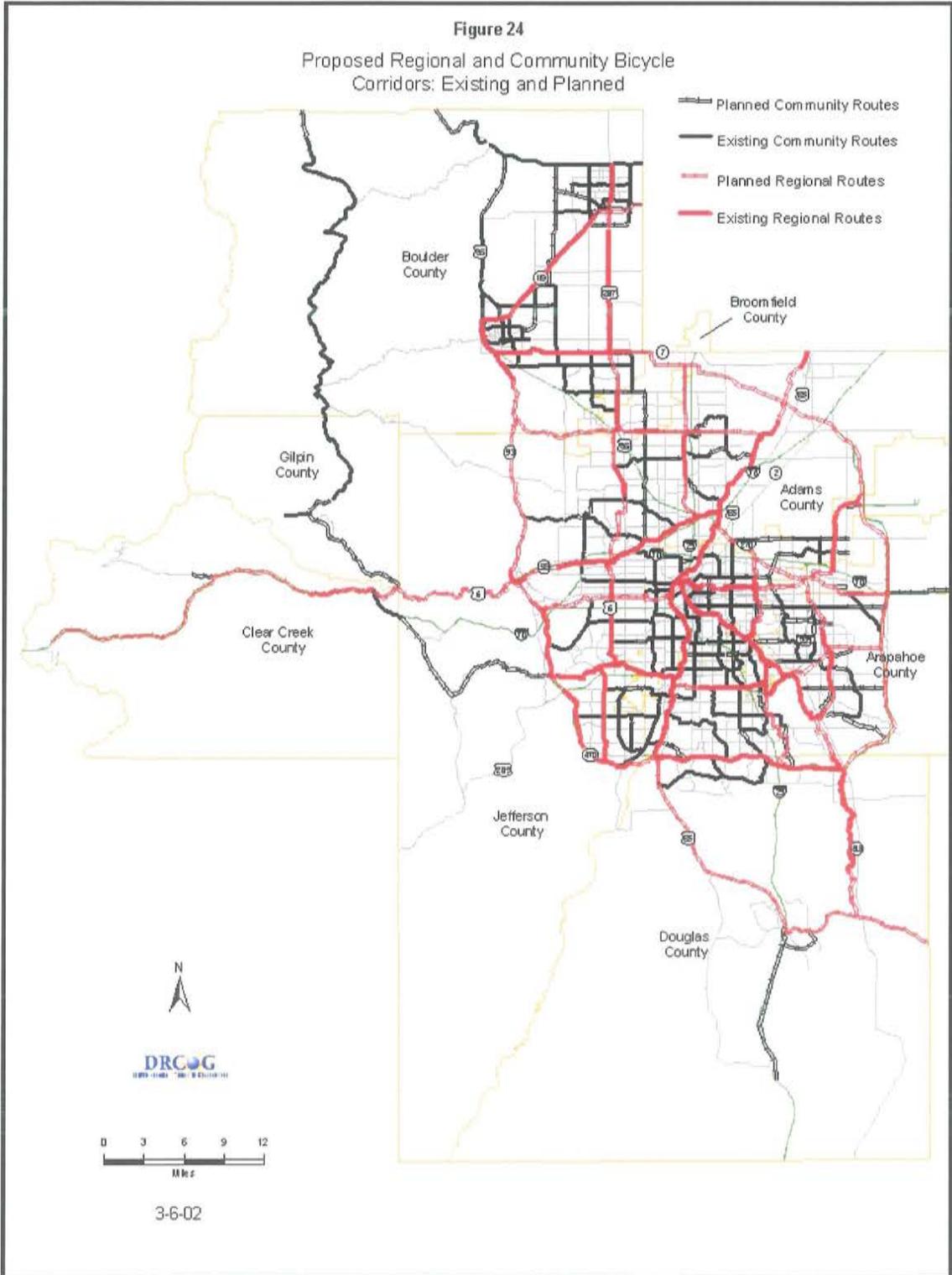
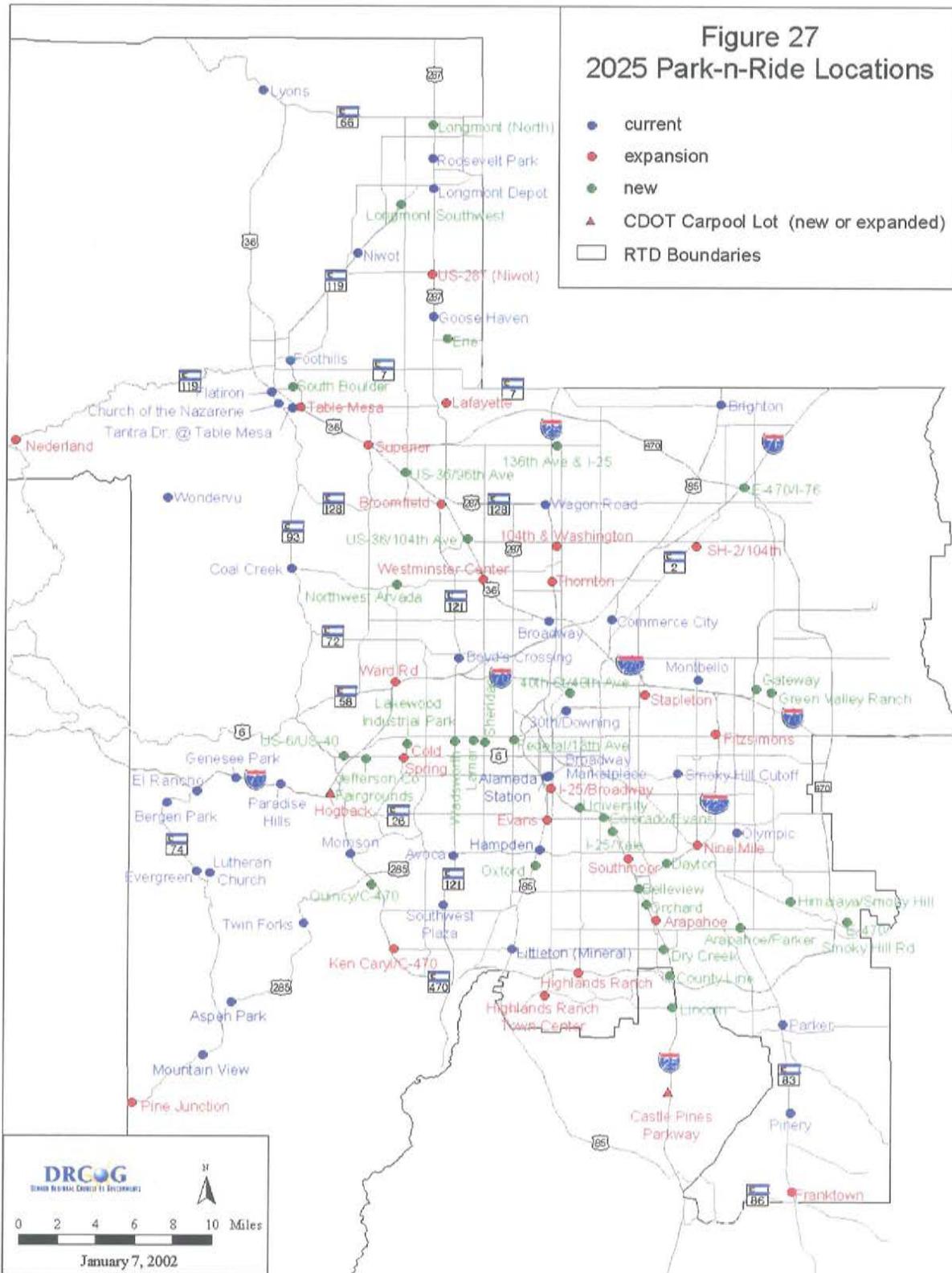


Figure 27
2025 Park-n-Ride Locations



Appendix C: Conceptual RTD Ideas



Regional Transportation District

Our mission is to provide safe, clean, reliable, courteous, cost-effective public transit which offers desirable mobility options, and to provide service to all areas of the District.



Memorandum

To: Bill Porter
From: Robert Rynerson
Date: 1 May 2002
Subject: Clear Creek County Service

Based on the information gathered in our 1987-8 and 1994-5 studies of potential Regional Transportation District service for Clear Creek County, updated information, and the *Silver Heritage Area Internal Transit Plan*, I have prepared the attached schedules, tariff and operating hours summary for proposed Regional service between Denver and Clear Creek County points. A route map developed in 1994-95 is attached. It would show only minor differences today.

The proposed service conforms to the goals set out in the Internal Transit Plan and complements that proposal by addressing the issue of service into the Denver Metro area. If Clear Creek County remains outside of the RTD, the attached service plan and a companion *access-a-Ride* plan would be enough to start with in developing a cost-sharing agreement for RTD service operated on the County's behalf. If Clear Creek County were to join the RTD, parts of the Internal Transit Plan could be combined with the RTD Regional service/access-a-Ride plan to develop a complete cost analysis.

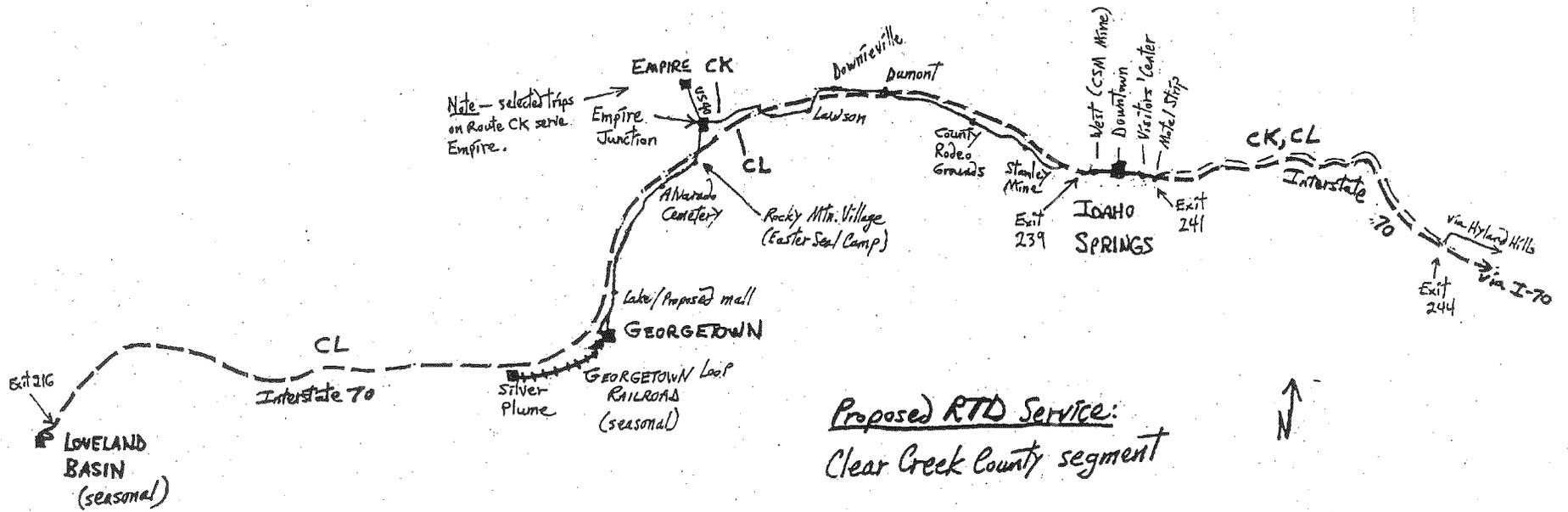
In addition to the benefits for Clear Creek County residents, access to the Silver Heritage Area would be seen as an amenity for Metro Denver residents in the RTD. With that in mind, the Regional service plan is a "two-way street" in terms of providing services requested by the Clear Creek and Denver Metro populations:

- 1.) Classic suburban/rural commuter access into Jefferson and Denver counties.
- 2.) Spring/Summer/Fall recreational access into historic communities and National Forest lands.
- 3.) Winter sports access into Loveland Basin and National Forest lands.

RWR/

Copies:

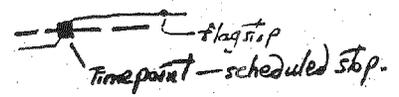
A. Jeff Becker, Jessie Carter, Jeff Dunning, Bill Hoople
File = Clear Creek County



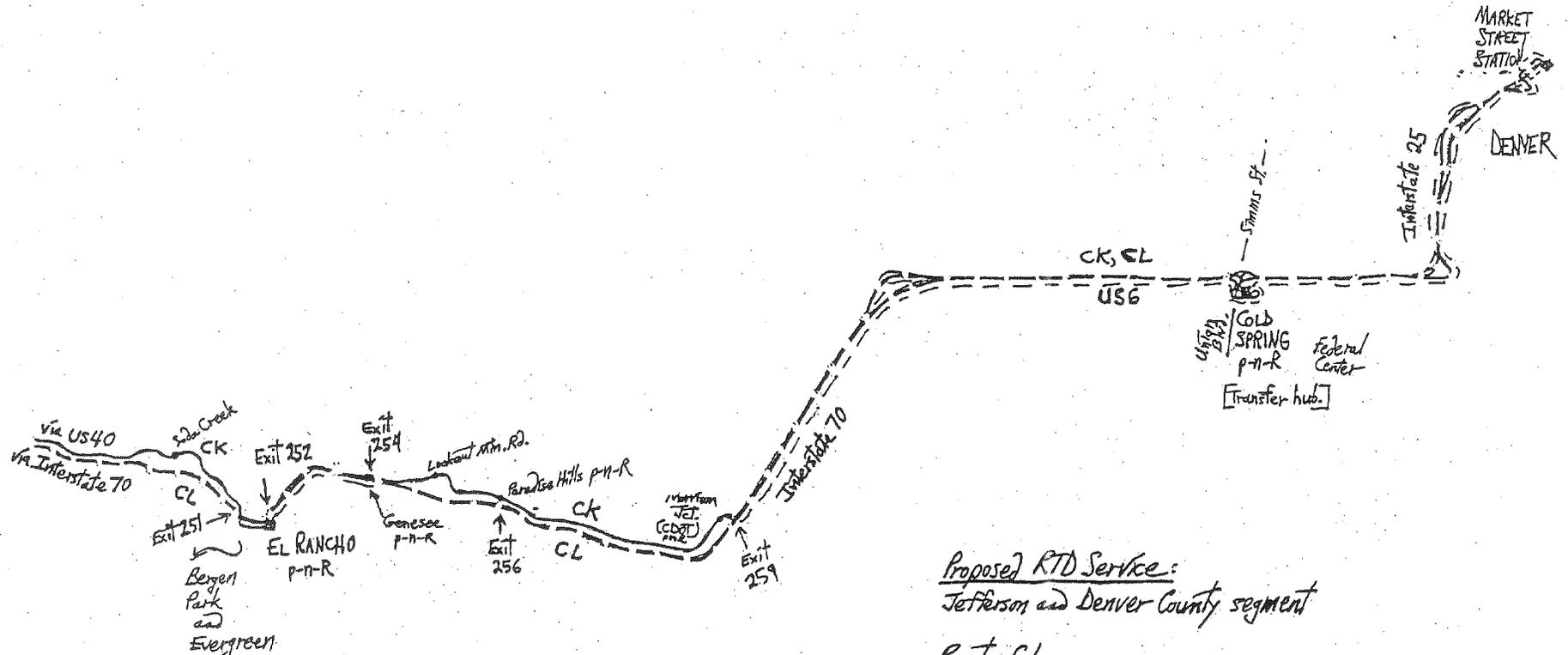
Note - selected trips on Route CK serve Empire.

Proposed RTD Service:
Clear Creek County segment

- Route CL ---
(seasonal express)
- Route CK ———
(serving communities along I-70 via freeway and secondary roads)



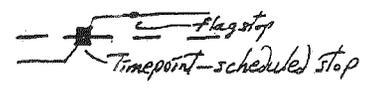
HWR
2/1/94



Proposed RTD Service:
 Jefferson and Denver County segment

Route CL - - -
 (seasonal express)

Route CK - - -
 (serving mountain communities
 along I-70 via freeway
 and secondary roads)



-hr-
 15 Dec 94

Start-up Clear Creek County Service

Printed: 10/May/02

Hours based on Platte Division, without interlines with other routes.

2002 (Non-ski season - May runboard)										
Block	Start pull-out	Finish in-service	Finish in-service	pull-in	Total Platform hours	78 Weekdays	16 Saturdays	18 Sun/holidays	Annualized hours	Total annual hours
A	4:22 AM	5:22 AM	6:39 AM	6:49 AM	2:27	191.10			191.10	
B	4:36 AM	4:46 AM	7:40 AM	7:50 AM	3:14	252.20			252.20	
C	9:05 AM	9:15 AM	12:55 PM	1:05 PM	4:00	312.00	64.00	72.00	448.00	
D	4:15 PM	4:31 PM	7:40 PM	7:50 PM	3:35	279.50	57.33	64.50	401.33	
E	5:45 PM	6:01 PM	7:16 PM	8:16 PM	2:31	196.30			196.30	
										1488.93

2002 (Ski season - September and January runboards)										
Block	Start pull-out	Finish in-service	Finish in-service	pull-in	Total Platform hours	177 Weekdays	36 Saturdays	40 Sun/holidays	Annualized hours	Total annual hours
A	4:22 AM	5:22 AM	6:39 AM	6:49 AM	2:27	433.65			433.65	
B	4:36 AM	4:46 AM	7:40 AM	7:50 AM	3:14	572.30			572.30	
D	4:15 PM	4:31 PM	7:40 PM	7:50 PM	3:35	634.25	129.00	143.33	906.58	
E	5:45 PM	6:01 PM	7:16 PM	8:16 PM	2:31	445.45			445.45	
F	7:15 AM	7:30 AM	3:55 PM	4:05 PM	8:50	1563.50			1563.50	
F	7:15 AM	7:30 AM	3:55 PM	5:05 PM	9:50		354.00	393.33	747.33	
										4668.82

Annualized Total: 6157.75

Start-up Clear Creek County Service

Routes CK / CL

Proposed Fare Zones (based on RTD Fares effective 3 Mar 02)

Approx Miles	Loveland Basin	Georgetown	Empire Empire	Empire Jct p-n-R	Lawson	Dumont	Idaho Springs	El Rancho p-n-R	Genesee p-n-R	Paradise Hills p-n-R	Morrison Exit	Cold Spg. p-n-R	Downtown Denver
61.4	Loveland Basin	skyRide 3	skyRide 3	skyRide 3	skyRide 3	skyRide 2	skyRide 2	skyRide 1	skyRide 1	skyRide 1	skyRide 1	skyRide 1	skyRide 1
45.4	Georgetown	skyRide 3	Local	Local	Local	Local	Local	Express	Regional	Regional	Regional	Regional	Regional
[42.3]	Empire	skyRide 3	Local	Local	Local	Local	Local	Express	Regional	Regional	Regional	Regional	Regional
40.7	Empire Jct p-n-R	skyRide 3	Local	Local	Local	Local	Local	Express	Express	Regional	Regional	Regional	Regional
39.2	Lawson	skyRide 3	Local	Local	Local	Local	Local	Express	Express	Regional	Regional	Regional	Regional
37.6	Dumont	skyRide 2	Local	Local	Local	Local	Local	Express	Express	Express	Regional	Regional	Regional
32.3	Idaho Springs	skyRide 2	Express	Local	Local	Local	Local	Express	Express	Express	Regional	Regional	Regional
21.2	El Rancho p-n-R	skyRide 1	Regional	Express	Express	Express	Express	Express	Express	Express	Express	Regional	Regional
18.7	Genesee p-n-R	skyRide 1	Regional	Regional	Regional	Express	Express	Express	Express	Express	Express	Express	Regional
16.2	Paradise Hills p-n-R	skyRide 1	Regional	Regional	Regional	Regional	Express	Express	Express	Local	Express	Express	Regional
13.3	Morrison Exit	skyRide 1	Regional	Regional	Regional	Regional	Express	Express	Express	Express	Express	Express	Regional
8.4	Cold Spring p-n-R	skyRide 1	Regional	Regional	Regional	Regional	Regional	Express	Express	Express	Express	Express	Express
0.0	Downtown Denver	skyRide 1	Regional	Regional	Regional	Regional	Regional	Regional	Regional	Regional	Express	Express	Express

Sample fares:

Fare Zone	Regular Cash	Senior/Disabled/Medicare Cash	Youth (6-18) Cash	Child (6-12) Cash	Round-Trip Ticket	10-Ride Ticketbook	Regular Monthly	Senior/Student/Disabled/Medicare Monthly
	skyRide 1	\$10.00	\$5.00		\$5.00	\$16.00	\$75.00	\$98.00
skyRide 2	\$8.00	\$4.00		\$4.00	\$13.00	\$60.00	\$98.00	\$59.00
skyRide 3	\$6.00	\$3.00		\$3.00	\$10.00	\$45.00	\$70.00	\$42.00
Regional	\$3.50	\$1.75	\$1.75			\$26.00	\$98.00	\$59.00
Express	\$2.50	\$1.25	\$1.25			\$19.00	\$70.00	\$42.00
Local	\$1.10	\$0.55				\$8.25	\$31.00	\$19.00

EcoPasses valid for travel between all zones.

Start-up Clear Creek County Service

(Ski Season - September and January runboards)
(Based on May 02 RTD Schedules)

(Trips to Loveland Basin turn back at Georgetown when ski area closed.)

Mon-Fri blk B	Daily blk F	Daily blk F	Daily blk D	Mon-Fri blk E	Approx Miles		Station	Elevation	Mon-Fri blk A	Mon-Fri blk B	Daily blk F	Mon-Fri blk F	SSH only blk F	Daily blk D
CK	CL	CK	CK	CK					CK	CK	CK	CL	CL	CK
Denver														
4:46 AM	7:30 AM	12:15 PM	4:31 PM	6:01 PM	0.0	dp	(Market Street Station)	5190	6:39 AM	7:40 AM	11:55 AM	3:55 PM	4:55 PM	7:40 PM
4:49 AM	7:33 AM	12:18 PM	4:34 PM	6:04 PM	0.8	ar	(Auraria Pkwy / 9th Street)		6:36 AM	7:36 AM	11:51 AM	3:51 PM	4:51 PM	7:36 PM
5:03 AM	7:47 AM	12:32 PM	4:48 PM	6:18 PM	8.4	ar	Cold Spring p-n-R	5651	6:22 AM	7:22 AM	11:37 AM	3:37 PM	4:37 PM	7:22 PM
5:07 AM	7:52 AM	12:37 PM	4:52 PM	6:22 PM		dp	Cold Spring p-n-R		6:18 AM	7:18 AM	11:32 AM	3:32 PM	4:32 PM	7:18 PM
		f	f	f	13.3	ar	Morrison Exit (Hogback p-n-R)	?	f	f	f			f
		12:49 PM	5:04 PM	6:34 PM	16.2	ar	Paradise Hills p-n-R	?	6:04 AM	7:04 AM	11:18 AM			7:04 PM
		12:53 PM	5:08 PM	6:38 PM	18.7	ar	Genesee p-n-R	7682	6:00 AM	7:00 AM	11:14 AM			7:00 PM
		12:58 PM	5:13 PM	6:43 PM	21.2	ar	El Rancho p-n-R	7670	5:56 AM	6:56 AM	11:10 AM			6:56 PM
	8:20 AM	1:12 PM	5:27 PM	6:57 PM	?	ar	Idaho Springs p-n-R	?	5:42 AM	6:42 AM	10:56 AM	3:04 PM	4:04 PM	6:42 PM
	8:23 AM	1:15 PM	5:30 PM	7:00 PM	32.3	ar	Idaho Springs Visitors Bureau	7540	5:38 AM	6:38 AM	10:52 AM	3:01 PM	4:01 PM	6:38 PM
		f	f		37.6	ar	Dumont	7950		f	f			f
		f	f		39.2	ar	Lawson	8120		f	f			f
		1:35 PM	5:50 PM	7:13 PM	40.7	ar	Empire Junction p-n-R	?	5:25 AM	6:18 AM	10:32 AM			6:18 PM
		1:38 PM		7:16 PM	[42.3]	ar	Empire	8601	5:22 AM		10:29 AM			
							Georgetown	8519						
		1:46 PM			44.7	ar	(Devil's Gate Station)	dp			10:21 AM			6:10 PM
5:52 AM		1:52 PM	5:58 PM		45.4	ar	(Argentine/6th St.)	dp		6:10 AM	10:15 AM			6:04 PM
		1:55 PM	<<one hour later on S&H			dp	(Argentine/6th St.)	ar			9:45 AM			
	9:00 AM	2:15 PM	<<one hour later on S&H		61.4	ar	Loveland Basin	dp			9:25 AM	2:25 PM	3:25 PM	
10:00 AM	11:20 AM	2:00 PM			0.0	dp	(Devil's Gate Station)	ar						4:30 PM
Note 4	Note 3	Note 3					(via Georgetown Loop RR)							Note 4
10:30 AM	11:50 AM	2:30 PM			4.0	ar	Silver Plume	dp	9118					4:00 PM

Note 3: Service operated daily September 3rd through October 6th, 2002.

Note 4: Service operated weekends and holidays only, September 3rd through October 6th, 2002. Contact Georgetown Loop Railroad for information and times of additional trains.