

Final Report

Carbon Valley Transit Service Feasibility Study

Prepared for:

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Executive Summary

The adopted comprehensive and master plans for the three Carbon Valley communities of Firestone, Frederick and Dacono include goals and policies encouraging use of alternatives to automobile travel, including public transit. In conjunction with those goals, the Towns of Firestone and Frederick and the City of Dacono applied for and received an FTA 5304 planning grant through the Colorado Department of Transportation. The Town of Firestone agreed to administer the grant per intergovernmental agreements with the other communities. The grant was intended to evaluate the need for transit services in the three Carbon Valley communities (Frederick, Firestone and Dacono) as well as portions of southwest Weld County. Frederick, Firestone and Dacono each provided funds to match the FTA grant dollars as required by that particular grant. This report documents the data collected, alternatives analyzed and recommendations made as a result of this study.

Today, minimal public transportation services are available in the Carbon Valley. The area is not part of the Regional Transportation District, although many residents access RTD services at park-n-rides in Longmont or the north part of the Denver metro area. There are a number of future plans in place for both commuter rail and regional bus service that would improve mobility and accessibility for Carbon Valley residents.

While the Carbon Valley has an adequate population base (more than 25,000) to support transit services, most households currently have access to a private auto, so initial transit markets will likely be the elderly and those with low incomes or disabilities. The majority of the demand is for regional transit trips, to Longmont and Denver as well as other Front Range cities. The demand numbers provide a foundation for transit service alternatives, although ultimately the quality of the service also has a large impact on ridership.

Eleven transit service scenarios were developed and evaluated for this study. Commuter service scenarios included routes to Longmont, Denver and Boulder as well as increased vanpool use. Services with more of a focus on the elderly and disabled population considered services within the community and connecting to Longmont. A do nothing scenario was also included and evaluated with the other service scenarios. The highest level of ridership could be attained by providing commuter service to downtown Denver with an estimated 23,000 riders per year.

The following estimations are made based on experience in similar Colorado communities.

- If transit services are simply provided within Carbon Valley communities, demand is anticipated to be between 0.5 and 1.0 trips per capita or 12,500 and 25,000 trips annually.
- If service is expanded to connect to Longmont, the demand would increase to between 1.0 and 2.0 trips per capita or 25,000 to 50,000 trips annually
- If regional service is expanded to include commuter service to downtown Denver, the demand would increase to between 40,000 and 70,000 annually.

For local services, these demand numbers would support one to two vehicles operating 12 hours per day on weekdays.

- At the low end of the scale, call-and-ride service could be provided on weekdays, 12 hours per day. If ridership averaged 4 trips per hour, 12,500 riders would be transported per year.
- At the high end of the scale, two fixed-route buses operating 12 hours each weekday could be provided. Alternately, two buses could operate in peak periods and one bus could operate mid-day and on Saturdays.

For regional services, the most viable alternatives involve participation with other communities rather than going it alone. In the I-25 corridor, communities along the corridor have a mutual interest in developing services. The level and quality of service that could be developed in a joint effort would be much more effective at serving the Carbon Valley residents' travel needs than service that Carbon Valley communities alone could provide.

Recommendations

Table ES-1 summarizes the near and long-term recommendations. It is recommended that the Carbon Valley communities start small and grow the service over time as the population and demand for transit service grows. In the near-term (1 to 5 years), Scenario 2 (Improve existing services) and Scenario 3 (Improve use of existing travel demand management (TDM) programs), would provide the most cost-effective solutions. Scenario 2 (under the existing Weld County transportation budget) and Scenario 3 could be implemented without an intergovernmental agreement or a vote of people. If Scenario 2 requires additional funds, an intergovernmental agreement would be needed between the Carbon Valley Communities to describe the cost sharing agreement.

It is also recommended that the communities continue discussions with Weld County about increasing services to the Carbon Valley area. These services need to be marketed so residents understand the options available for transportation. The Carbon Valley communities make up a substantial portion of Weld County's population and should receive an equitable share of the services provided by Weld County transportation. Adding three days of service would provide seniors and disabled residents access to service five days a week. Increasing service to the area may involve basing a Weld County vehicle in the Carbon Valley. Any additional funding identified to support these services would require an intergovernmental agreement be executed outlining the cost sharing arrangements between the entities represented in the Carbon Valley. As a starting point, it is recommended that the costs be allocated by population among the three communities.

Should the Carbon Valley communities shift from being designated as rural to urban, they would no longer qualify for FTA 5311 rural area funds. In that case, it is recommended that the communities work with RTD to obtain their portion of the urban area funds (5307) and pursue other federal and state funding such as FTA Transportation for Elderly Persons and Persons with Disabilities (5310), FTA Job Access and Reverse Commute (5316), FTA New Freedom (5317) and Colorado's FASTER funds. These funds could be used to support the vanpool program or to initiate one of the regional services. These funds would require that the communities provide the funding match necessary to obtain the FTA funds.

In the long-term, commuter services to the Denver metro area could be quite successful especially if they are developed to serve the larger northern Colorado region in addition to the Carbon Valley. It is recommended that the Carbon Valley communities actively participate in discussions with the North Front Range MPO and other regional planning partners to initiate service. This will involve 1)

participating in discussions with CDOT regarding the roles and responsibilities for funding and operating transit service on North I-25; and 2) participating in detailed service planning that is anticipated to define schedules, stops, parking capacity, fares, and relationship to TDM programs, among other planning activities.

Table ES-1 Recommended Near Term and Long Term Service Scenarios

| Scenario Number | Recommendation | Implementation |
|--|--|---|
| 1. No Additional Service | This alternative is not recommended as it does not address the communities' mobility needs or help the communities achieve goals identified in their comprehensive plans. | Not recommended |
| 2. Improve existing services (Weld County or Special Transit) | This alternative is recommended for implementation in the next 1 to 5 years. It is cost effective, flexible and a structure for operation and oversight of this service is already in place. | <ul style="list-style-type: none"> • Continue discussion with Weld County Transportation. • Ensure equitable portion of current rural funds are spent serving Carbon Valley. • Initiate discussion with Special Transit to ascertain opportunities and cost of providing service. • Support additional service to provide access to local destinations, Longmont, and other regional destinations as possible. • Initiate discussions with Senior Center about use of their van and the possibility of pooling transportation funds with the communities. • Support purchase of a vehicle (if necessary) through FTA by providing FTA matching funds. |
| 3. Improve use of existing TDM programs | This alternative is recommended for implementation in the next 1 to 5 years. It is cost effective, flexible and a structure for operation and oversight is already in place. | <ul style="list-style-type: none"> • Post Ride Arrangers and VanGo vanpool information on community websites. • Initiate discussion with DRCOG about how best to promote vanpools in the Carbon Valley. • Initiate marketing campaign to increase ridership. • Support purchase of vehicles by providing CMAQ matching funds. |

| Scenario Number | Recommendation | Implementation |
|---|--|--|
| 4. Community Shuttle | This alternative is not recommended for near-term implementation because it is not expected to adequately serve mobility needs of the community. | Not recommended for near-term implementation. |
| 5. Community Connection to Longmont | This alternative is not recommended for implementation in the near-term because the service would be similar to what could be provided by Weld County Transportation but would cost more and provide service to fewer destinations. | <ul style="list-style-type: none"> • Should implementation of additional service through Weld County be identified as infeasible, communities should consider pairing this service (connection to Longmont) with a commuter service to Denver in the 5 to 10 year time frame. |
| 6. Commuter Service to Longmont (peak period) | This alternative was not identified for near-term implementation. While there is substantial commuter travel to Longmont, this service is not expected to attract sufficient ridership in the near-term to be cost effective. | <ul style="list-style-type: none"> • Not recommended for near-term implementation. • Has high ridership potential by 2035 and should be considered again in the future. |
| 7. Commuter Service to Downtown Denver (peak period) | This alternative was not recommended for near-term implementation. However, Scenario 8 is recommended for longer term implementation. Originating some Scenario 8 vehicles in the Carbon Valley would result in direct service to downtown Denver and would attract a high level of ridership. | <ul style="list-style-type: none"> • Not recommended for near-term implementation. • Could be incorporated as part of Scenario 8 as demand warrants. |

| | | |
|--|---|---|
| <p>8. Support North I-25 Commuter Service</p> | <p>This alternative is recommended for longer-term implementation (5 to 10 years). This alternative would support travel to both Denver and communities to the north but is expected to cost somewhat less than Scenario 7 because the fixed costs would be shared among more communities. This would provide direct service to downtown Denver with limited stops. A large demand for service would also come from other communities in northern Colorado.</p> | <ul style="list-style-type: none"> • Initiate discussion with northern Colorado communities about cost sharing opportunities for regional commuter service to Denver. • A coordinated plan for cost sharing and fund raising in the larger region should be in place prior to implementing this regional service. |
| <p>9. Commuter Service to Downtown Denver (peak period to RTD Park-n-Ride)</p> | <p>A lower cost alternative to Scenario 7 would be to provide service to an RTD park-n-Ride. A large demand for service would also come from other communities in northern Colorado. However, a bus to bus transfer will not attract as many riders as the direct connection described in Scenario 7 or 8.</p> | <ul style="list-style-type: none"> • Initiate discussion with northern Colorado communities about cost sharing opportunities for regional commuter service to Denver. • A coordinated plan for cost sharing and fund raising in the larger region should be in place prior to implementing this regional service. • Plan to implement shuttle service to North Metro commuter rail end of line station once constructed. |
| <p>10. Commuter Service to Downtown Boulder (peak period)</p> | <p>This alternative is not recommended for near-term implementation. It attracts less ridership and has comparable costs to the commuter routes to downtown Denver.</p> | <ul style="list-style-type: none"> • Not recommended for near-term implementation. |
| <p>11. Commuter Service to Downtown Boulder (peak period to JUMP service in Erie)</p> | <p>This alternative is not recommended for near-term implementation. While it is a lower cost alternative to Scenario 10, it attracts less ridership and has comparable costs to the commuter routes to downtown Denver.</p> | <ul style="list-style-type: none"> • Not recommended for near-term implementation. |

Chapter 1. Introduction

In 2010 the Towns of Firestone and Frederick and the City of Dacono applied for and received an FTA 5304 planning grant through the Colorado Department of Transportation. The Town of Firestone agreed to administer the grant per intergovernmental agreements with the other communities. The grant was intended to evaluate the need for transit services in the three Carbon Valley communities (Frederick, Firestone and Dacono) as well as portions of southwest Weld County. Frederick, Firestone and Dacono each provided funds to match the FTA grant dollars as required by that particular grant. This report documents the data collected, alternatives analyzed and recommendations made as a result of this study.

Report Organization

This report is organized into the following four sections:

1. Introduction – This section describes the project intent, organization and study area.
2. Community Profile – This section describes information on the characteristics of the community such as demographics, transportation options and travel patterns.
3. Community Outreach – This section describes the methods used to inform the public about this study and solicit their input about the need for transit services in their community.
4. Transit Demand – This section provides a qualitative and quantitative look at the need for transit in the communities based on current services provided, input from the public, population levels and typical ridership experiences in other similarly sized communities.
5. Evaluation of Scenarios and Recommendations – This section describes the scenarios evaluated and summarizes the results of the evaluation effort. Recommendations are made regarding near and long-term implementation options.

Study Area

Figure 1-1 illustrates the Carbon Valley study area in the region. As shown, the Carbon Valley communities are situated conveniently between many urban areas along the northern Front Range. They are about 25 miles north of downtown Denver, 35 miles south of Fort Collins, 30 miles southwest of Greeley, and 10 miles east of Longmont. Because of their prime location, between 2000 and 2008 the communities experienced tremendous growth in both population and employment. As shown in **Figure 1-2**, the study area encompasses the towns of Firestone, Frederick and Dacono as well as portions of unincorporated Weld County. The study area is over 60 square miles. The communities recently became part of the Denver Regional Council of Governments planning area. While neighboring communities such as Erie, Longmont, and Broomfield are part of the RTD's transit service area, the Carbon Valley communities are not.

Though Frederick, Firestone and Dacono are three distinct municipalities, they work cooperatively in many areas including:

- The Carbon Valley Recreation District was formed in 1983. It is a special district covering roughly 45 square miles, including the communities of Frederick, Firestone, Dacono and rural areas that surround the Tri-Towns. The District provides a variety of recreational activities and programs for Tri-Town community members.
- St. Vrain Valley School District is made up of 13 different communities including Frederick, Firestone and Dacono.
- The Carbon Valley Chamber of Commerce is a non-profit organization with business representatives from throughout the Carbon Valley.
- The St. Vrain Sanitation District serves all three municipalities and the surrounding area.
- The High Plains Library District operates the Carbon Valley Library that serves the region.

Advisory Committee

The Carbon Valley Transit Feasibility Study Advisory Committee was formed at the outset of the project to provide guidance on the study direction, to review findings and to provide insight about the desires of each of the Carbon Valley communities. The committee met four times throughout the study.

The following representatives participated on the Advisory Committee:

- AJ Euckert, Assistant City Administrator, City of Dacono
- Richard Leffler, PE, Town Engineer, Town of Frederick
- David Lindsay, PE, Colorado Civil Group, Town of Firestone
- Elizabeth Relford, Transportation Planner, Weld County Public Works
- John Valerio, Transit Planner, Colorado Department of Transportation
- Jeff Dunning, Senior Service Planner/Scheduler, Regional Transportation District

Figure 1-1 Study Area within the Region

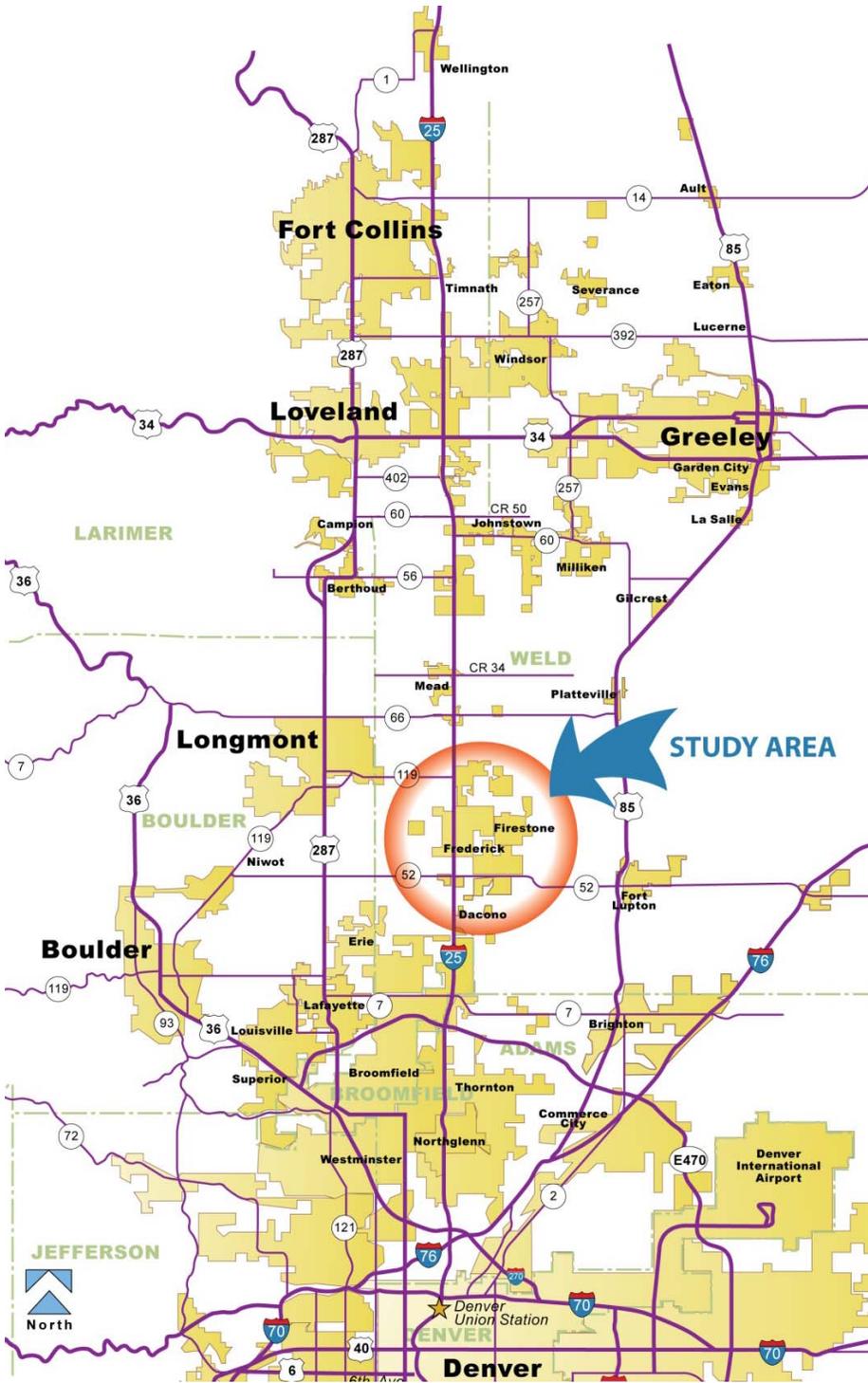
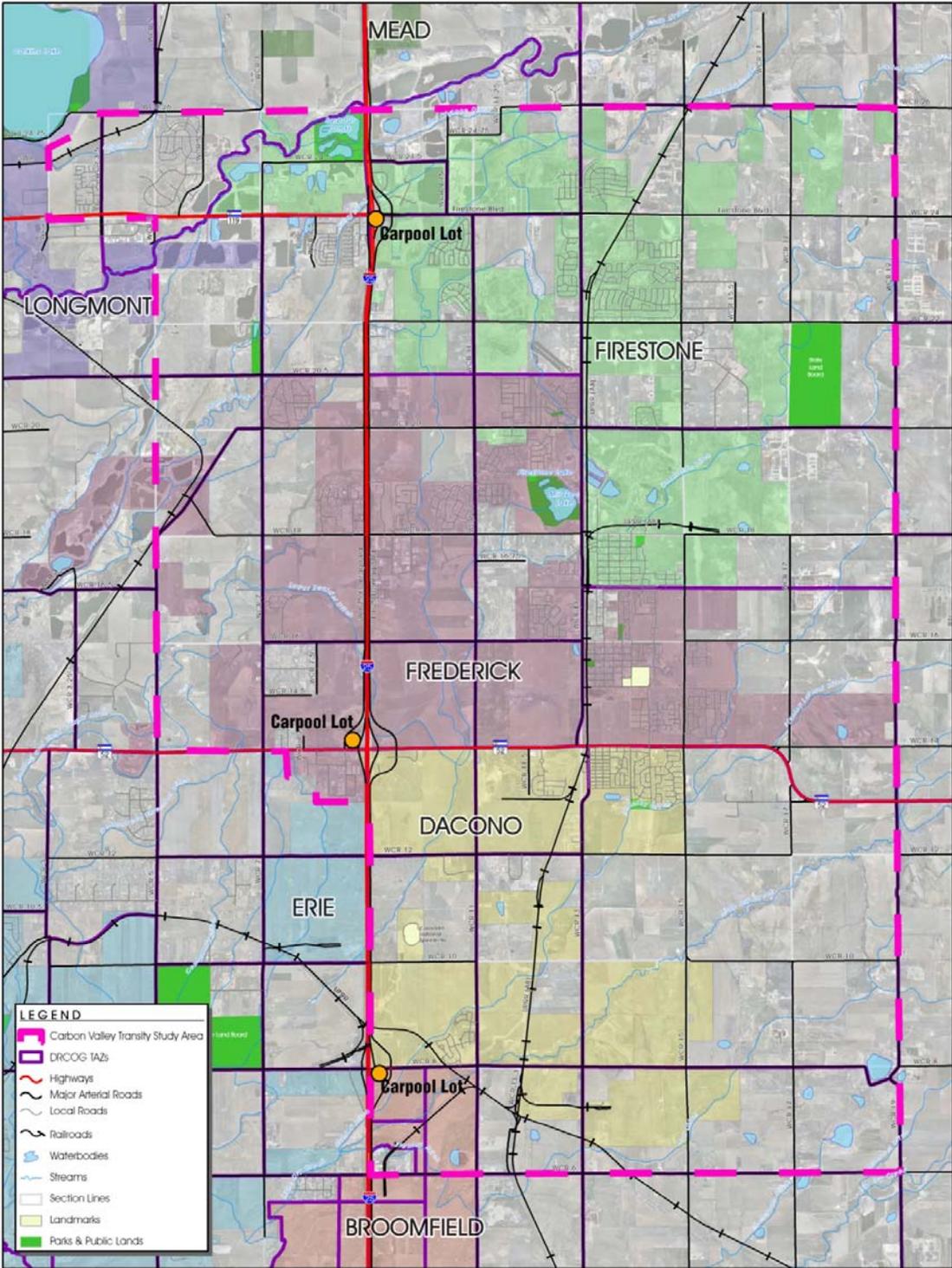


Figure 1-2 Carbon Valley Study Area



Chapter 2. Community Profile

The Carbon Valley communities have experienced a significant amount of growth in the last 10 years. This growth has resulted in an increasing need to provide transit service for residents. This section describes information on the characteristics of the community such as their community goals, demographics, existing and future transportation options and travel patterns to help identify the need for transit.

Community Goals

Each of the Carbon Valley communities has adopted a Comprehensive or Master Plan that is used to guide the activities and investments in their community. Each of the community's comprehensive/master plans expresses a desire to have public transportation be included as a piece of the overall transportation network. Below are excerpts on transportation from each of these community plans.

Frederick Comprehensive Plan

Transportation Excerpts

Frederick's transportation system development includes safety, convenience, efficiency, and incorporates a variety of modes including automobiles, transit, bicycle and pedestrians.

Goal 15 – Encourage alternative transportation modes in the Town of Frederick.

Policy 15.2: Increase the usage of ride-sharing and public transportation and augment the services currently available.

Firestone Master Plan

Transportation Excerpts

A local bus system that could cooperatively serve the local Firestone region should be considered. Ultimately, it is hoped that some form of light rail or monorail would be available.

Based on a review of the services potentially available from RTD and the cost of such services to Firestone citizens and businesses, it does not appear reasonable for Firestone to be included into RTD. This position should be reconsidered in the future, if a viable and financially feasible plan is established by RTD to serve the Firestone region in the future.

Dacono Comprehensive Land Use Plan

Transportation Excerpts

To plan for future transit through Dacono, the City must coordinate planning activities with the Denver Metro Regional Transportation District – RTD.

Policies

- The City supports compact development that reduces auto-dependence, increases walkability in neighborhood and community commercial areas by locating housing in the City Center and in or near commercial centers.
- Reserve adequate rights-of-way for further transit system/light rail line.
- Encourage alternative forms of transportation.
- The city shall continue to plan ahead for public transportation systems.

Actions

- Assess public support for future public transportation system.
- Work with RTD and local land owners to identify and reserve rights-of-way for future transit system
- Locate a logical RTD transit stop location
- Conduct a feasibility study for public transportation in Dacono
- Explore potential funding mechanisms for local transit initiatives

Household and Population Characteristics

Identifying the need for transit in a community starts with developing an understanding of the community’s demographics. This section describes the key characteristics of the population that are typical indicators of the level of need for transit. These characteristics include total population, population with disability, number of senior citizens, residents below the poverty level and residents without automobiles.

Existing

Table 2-1 summarizes the change in the population of each of the three Carbon Valley communities between 1990 and 2009. 2009 is the latest year with data available through the US Census Bureau. As shown, the populations of Firestone and Frederick have increased six and eight times, respectively, since 1990. Dacono has experienced more moderate, but still substantial, growth increasing to nearly twice its 1990 population.

Table 2-1 Carbon Valley Study Area Population 1990, 2000, 2009

| | Population | | |
|----------------------------|------------|-----------|-----------|
| | 1990 | 2000 | 2009 |
| Frederick | 988 | 2,467 | 8,336 |
| Firestone | 1,358 | 1,908 | 8,356 |
| Dacono | 2,228 | 3,015 | 4,172 |
| Unincorporated Weld County | NA | NA | 6,107 |
| Colorado | 3,294,394 | 4,301,264 | 5,024,748 |

Source: American FactFinder US Census Bureau

NA = Not available

Table 2-2 tabulates key demographic data for each of the three communities. These data are somewhat dated as they are from the 2000 Census but provide a starting point for the discussion about the composition of the study area. These demographic characteristics are key to identifying the need for transit in a community because these are the people who often have the greatest need for transit.

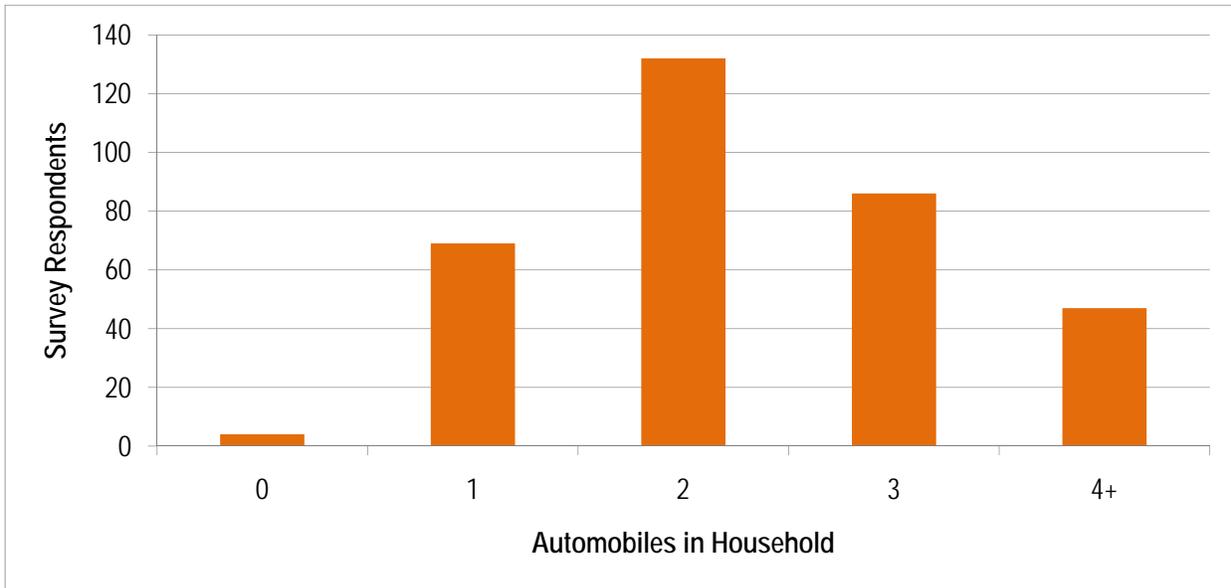
Table 2-2 Census 2000 Select Community Demographics

| | Population Total | Hispanic | | Over 65 | | Disabled | | Population <Poverty | |
|-----------|---------------------|----------|-----|---------|-----|----------|-----|---------------------|----|
| | | Total | % | Total | % | Total | % | Total | % |
| Frederick | 2,467 | 515 | 21% | 122 | 5% | 298 | 12% | 123 | 5% |
| Firestone | 1,908 | 528 | 28% | 88 | 5% | 248 | 13% | 129 | 7% |
| Dacono | 3,015 | 966 | 32% | 280 | 9% | 576 | 19% | 182 | 6% |
| Colorado | 4,301,261 | 735,601 | 17% | 416,073 | 10% | 638,654 | 15% | 388,952 | 9% |

Source: American FactFinder US Census Bureau

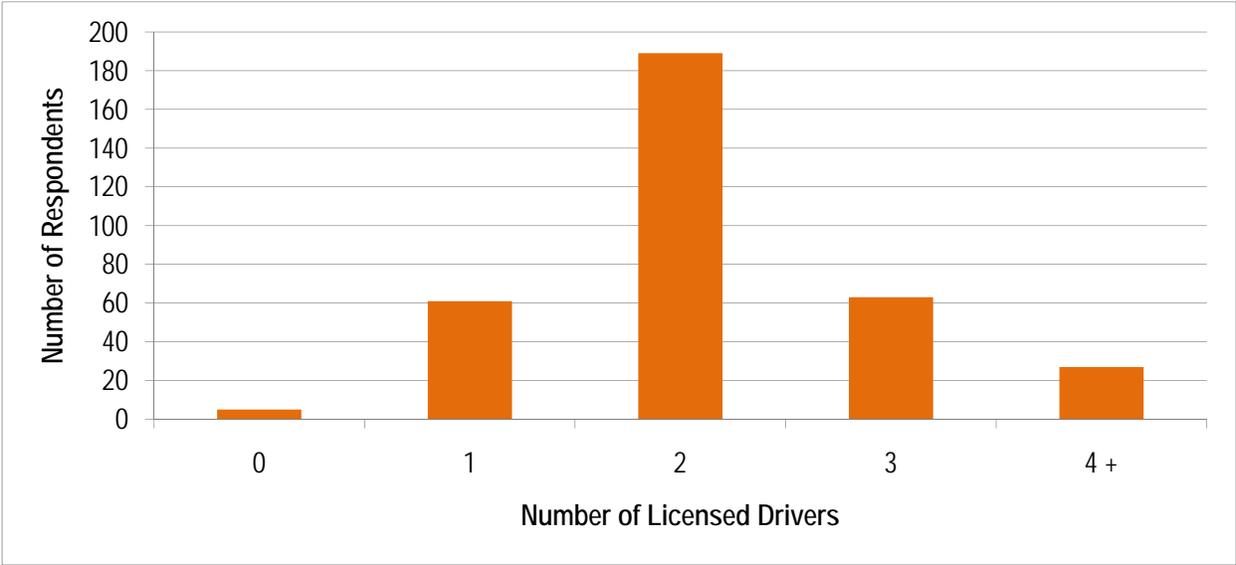
Figure 2-1 illustrates the number of automobiles per household among survey respondents. There was an average of 2.38 automobiles reported per household.

Figure 2-1 Automobiles per Household



There was an average of 2.15 licensed drivers per household – somewhat less than the number of automobiles. **Figure 2-2** illustrates the number of drivers per household. There is a strong peak of two licensed drivers per household and very few households without a licensed driver.

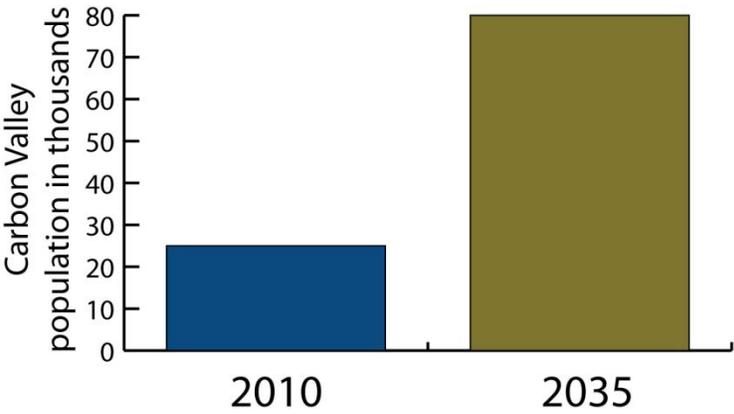
Figure 2-2 Licensed Drivers per Household



Future

The State Demographer and the Denver Regional Council of Governments make population projections to assist with estimating travel demand and transportation needs in the Denver metro area. The current projections for the Carbon Valley area indicate that there are approximately 25,000 people in the study area today (the three communities plus the portions of unincorporated Weld County), increasing to 80,000 in 2035. Projected population growth is illustrated in **Figure 2-3**.

Figure 2-3 Population Growth Projections



Source: Denver Regional Council of Governments 2035 Regional Travel Model

Existing and Future Employment

Some of the larger employers, commercial centers and key activity centers in the Carbon Valley are illustrated in **Figure 2-4**. The largest employers include:

- | | |
|-----------------------------------|---|
| Advanced Forming Technologies | High Plains Marketplace (includes King Soopers) |
| American Furniture Warehouse | Safeway |
| Carbon Valley Recreation District | St. Vrain Valley School District |
| Colorado National Speedway | Star Precision, LLC |
| Complete Production Services | Steelstar, Corp. |
| Delphi Corporation Medical | TSN Distribution |
| G.E. Enterprises, Inc. | Weld County School District 8 |
| | Western States Reclamation Inc. |

The Denver Regional Council of Governments also works with the State Demographer to make employment projections for the Denver metro area. Current projections for the Carbon Valley area indicate that there are approximately 5,500 jobs in the study area today (the three communities plus the portions of unincorporated Weld County), increasing to 18,800 by 2035. Projected employment growth is illustrated in **Figure 2-5**.

Comparing the employment projections to the population projections provides an indication of the jobs to housing balance in the area. Today, there are 0.22 jobs per capita; by 2035 this is expected to increase slightly to 0.24 jobs per capita. This increase indicates that residents will have more job opportunities within the community in 2035 than they have today. However, a majority of study area residents are expected to travel outside the area for jobs.

Figure 2-4 Key Carbon Valley Activity Centers and Employers

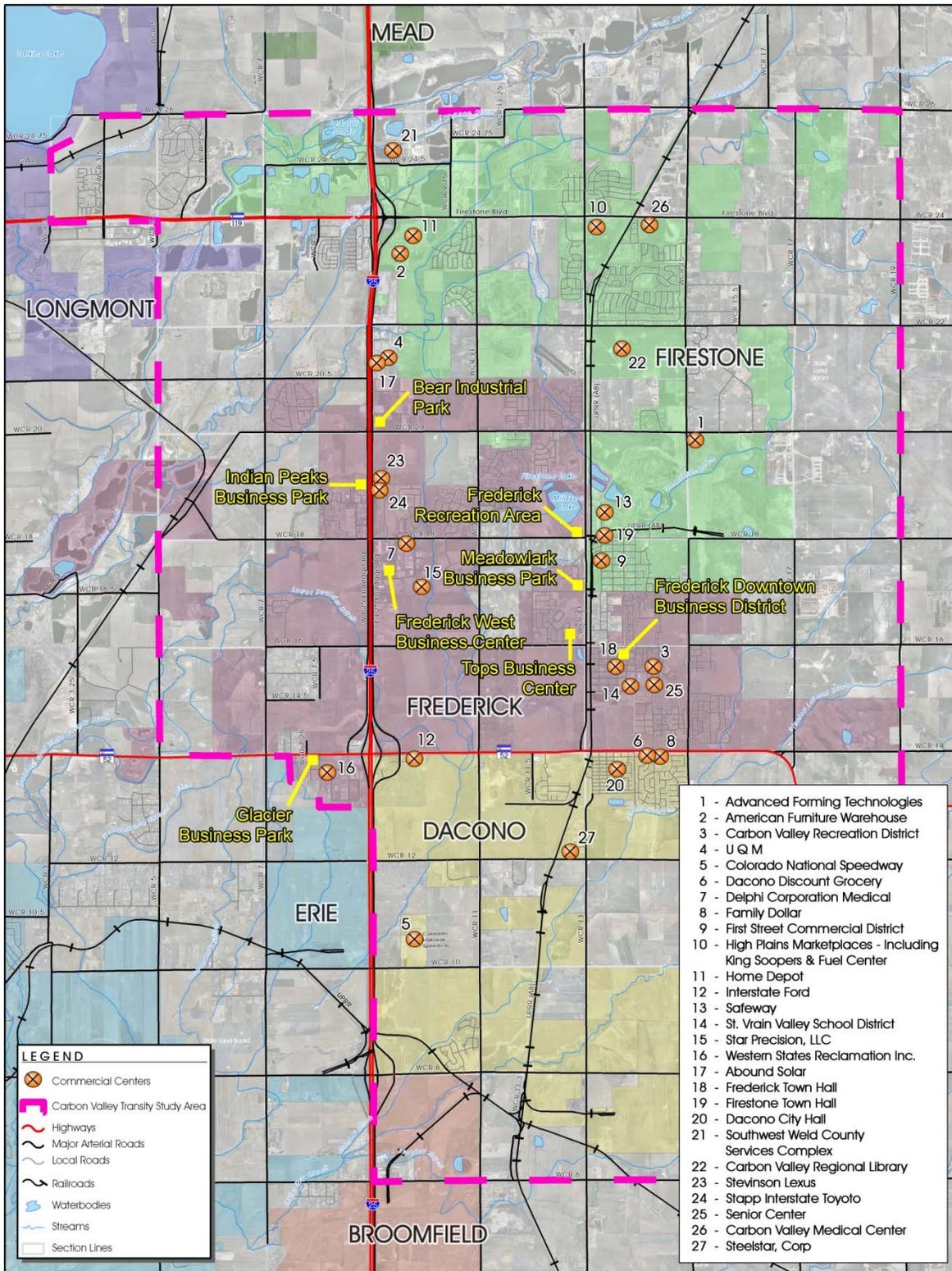
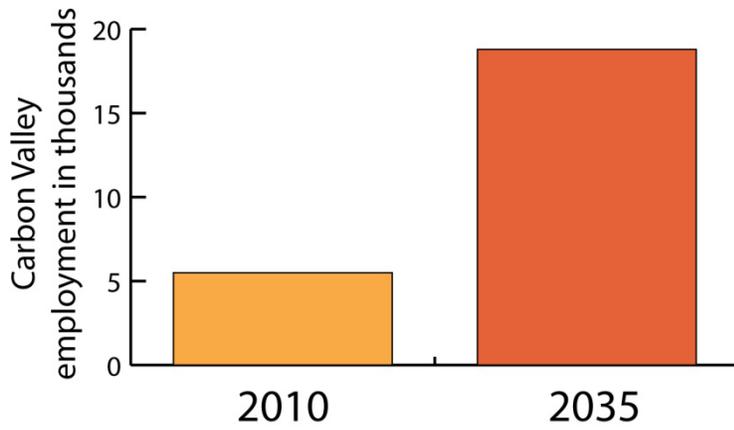


Figure 2-5 Employment Growth Projections



Source: Denver Regional Council of Governments 2035 Regional Travel Model

Transportation Facilities, Services, and Programs

A variety of facilities, services, and programs are part of the transportation network upon which a public transit program will be developed. The pertinent ones for Carbon Valley residents include:

- CDOT park-and-ride facilities
- RTD park-and-ride facilities
- Weld County Transportation services for the general public and for program participants
- Senior Center services
- Volunteer driver program in Weld County
- DRCOG Ride Arrangers program for carpool, vanpool, and school pool services
- Private transportation providers such as intercity services, Super Shuttle, and taxis

In this section, each will be documented. Carbon Valley has access to many services but is on the fringe on most of the well-developed services. As the population grows these programs may naturally strengthen. However, the communities may also wish to direct the way in which the programs develop to best meet emerging needs.

Facilities

Park-and-ride lots within the study area are located at I-25 and the intersections of SH 52 and SH 119. Both are located within CDOT right-of-way. The lot at SH 52 has capacity for 86 vehicles. The lot at SH 119 has capacity for 103 vehicles. Both lots are generally well utilized by people who carpool or vanpool.

Park-and-ride lots outside the study area but commonly used by residents of Carbon Valley are the RTD park-and-rides located in Longmont at SH 119 and US 287, and the RTD Wagon Road park-n-Ride located at 120th and I-25. Bus services are available at all RTD park-and-rides. There is also a CDOT carpool lot located at CR 8 and I-25. This lot is limited to carpooling and vanpooling as no bus service is provided at this location.

Existing Passenger Services

Weld County

Weld County provides limited services to Carbon Valley residents. Service is provided to Greeley, upon request, on Monday, Wednesday, and Friday. The bus schedule is listed below. It can be used by the general public and reservations are requested 48-hours ahead of time. In addition, Weld County Transportation will pick up riders from the area on trips that are made to medical centers in Denver or Longmont. Again, reservations are needed for these trips.

Weld County Transportation Carbon Valley Weld Bus Schedule

| SOUTHBOUND | Greeley | Ft. Lupton | Dacono | Frederick |
|------------|-----------|-------------|----------|-----------|
| AM Pick-up | 8:00 AM | 8:30 AM | 9:00 AM | 9:15 AM |
| PM Return | 3:00 PM | 3:30 PM | 4:00 PM | 4:15 PM |
| NORTHBOUND | Firestone | Platteville | Gilcrest | Greeley |
| AM Pick-up | 9:17 AM | 9:30 AM | 9:40 AM | 10:05 AM |
| PM Return | 4:17 PM | 4:30 PM | 4:40 PM | 5:05 PM |

Weld County provided the following information on trips provided in October 2010 for the Tri-Town area. Ridership varies from month-to-month but October 2010 is a typical month with 11 individuals riding, each making a round trip. It appears that of the 13 scheduled days of service (and 26 trips) to Greeley in October, only three days had passengers from the Tri-Town area, with one passenger traveling to Greeley and two passengers traveling to Frederick. Most passengers originated in Dacono, except for one from Erie which is outside the Carbon Valley study area and 3 from “rural Longmont” who could be residents in the Carbon Valley study area. **Table 2-3** summarizes the origins and destinations for trips make by Carbon Valley residents in October.



Taxi and Airport Shuttle Services

Super Shuttle (Blue Van) serves Carbon Valley, charging \$31 for a one-way trip to or from DIA in a shared van for the first passenger. Additional passengers are \$10 each. Services generally operate hourly in the Carbon Valley area and every two hours later in the evening.

Several taxi and limousine services operate out of Longmont, including Yellow Cab. Yellow Cab rates are \$2.50 to flag the cab (first passenger) and \$2.25 per mile. For each additional passenger an additional \$1 is added. Yellow Cab reports they generally have one cab in the Carbon Valley area and that the busiest time is when the bars close.

Table 2-3 Carbon Valley Weld County Transit Trips, October 2010

| From/To | Greeley | Denver | Boulder | Frederick | Longmont | Total |
|----------------|---------|--------|---------|-----------|----------|-------|
| Frederick | | | | | | 0 |
| Firestone | | | | | | 0 |
| Dacono | 1 | 1 | 1 | 2 | 1/1 | 7 |
| Erie | | | | | 1 | 1 |
| Rural Longmont | | | | | 3 | 3 |
| Total | 1 | 1 | 1 | 2 | 6 | 11 |

X = Rural public transit round trip riders

X = Medicaid/HCBS round trip riders

Cloud 9 Limo operates out of Firestone. For this and other limousine services, rates are generally based on a two hour minimum and car size, with higher rates for larger passenger capacity vehicles. Several of the companies provide airport car service and the rates vary by type of vehicle.

Senior Transportation

Weld County uses two fund sources that are primarily oriented to seniors. The Older American Act funds a portion of the Weld County transportation program. Also, Weld County provides services funded through the Home and Community Based Services program, for people eligible for long-term care assistance such as adults going to adult day care programs or needing support for weekly grocery shopping.

The Senior Center has two vans which are used three to four times per month to take seniors to various social activities. Senior Center staff refer seniors to the Weld County program for other trips but

commented that if a senior is sick and needs to reach a medical appointment in a time sensitive fashion, this limited program does not always work.

There is also a growing volunteer driver program in Weld County called Senior Resource Services. Currently the program provides transportation to elderly residents in Greeley but is looking to expand services to southwest Weld County.

Carpool and Vanpool Services

DRCOG's Ride Arranger service operates in Carbon Valley. These services include carpool matching, vanpool services, school pool, and employer support. Ride Arrangers have a variety of tools available at their website for people interested in carpools and vanpools. Also, information is available to employers on how to access these programs for their employees and on the flexible pre-tax commuter options. Ride Arrangers staff is available to work with employers or make presentations to groups of employees about ridesharing options and the Guaranteed Ride Home program that is part of all services.



Presently there is one vanpool operating from Firestone to downtown Denver. Another five operate from Longmont to Denver and three operate from Denver to Longmont. Some of the Longmont vans pick up Carbon Valley riders at the park and ride lots along I-25.

Vans need a minimum of five passengers, although up to seven riders can fit in the most common vehicle, a Caravan. Riders from Carbon Valley fall into the 1,500 miles per month bracket and are charged approximately \$125 per month if there are five riders and \$115 with six riders. Based on an average of 21.6 days per month, this equates to \$5.77 per day (five riders) and \$5.30 per day (6 riders). These rates include the RTD subsidy for the portion of the trip operating in the RTD boundary.

Intercity Bus Service

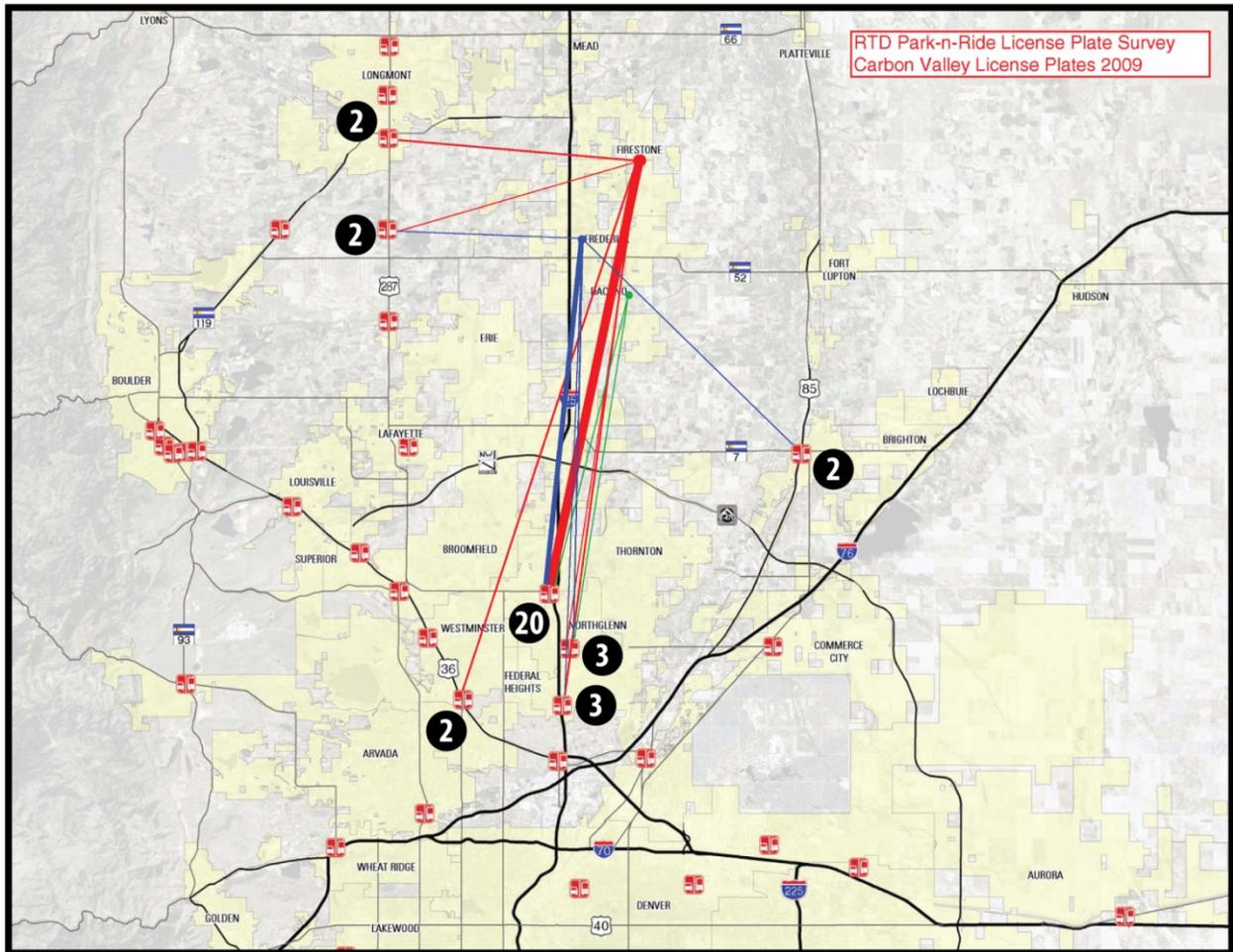
The nearest intercity bus services are located in Denver. Although a passenger can access the Denver terminal from Longmont (5:40 AM and 5:50 PM departures), Greyhound does not sell tickets from Longmont to Denver because RTD operates in that corridor. Several intercity carriers serve Denver, Boulder, Greeley and Longmont including Greyhound, Blackhills Stage Lines, El Paso-Los Angeles Limousine Express and Los Paisanos.

Access to Regional Transit District Services

Carbon Valley is not in the Regional Transit District (RTD) but RTD services are available in Longmont and at various RTD park-n-Ride locations in the north metropolitan area. A 2009 RTD survey of license plates at park-and-Ride locations shows that residents of the study area make use of RTD service with the highest use at the 104th and Washington, Wagon Road, Longmont and Brighton park-n-Ride lots. **Figure 2-6** illustrates the license plates from the Carbon Valley area that showed up in RTD's license plate

survey. **Table 2-4** summarizes the bus routes that serve these park-n-Ride lots and their primarily destinations.

Figure 2-6 Carbon Valley Vehicles Recorded in RTD 2009 License Plate Survey



2 = Number of Carbon Valley vehicles recorded during survey

Planned Transportation Services

The North I-25 Environmental Impact Statement Preferred Alternative includes I-25 Express Bus service with two stops in the Carbon Valley area, one at SH 119 and I-25 and one at SH 52 and I-25. This service would provide connections to downtown Denver, Fort Collins and Greeley. The service is expected to go into operation sometime after 2017 although the details of the service funding still need to be resolved. Commuter rail service between Fort Collins and downtown Denver is also included in the Preferred Alternative. On the south end, this service would utilize RTD's planned North Metro commuter rail. The closest commuter rail station to the Carbon Valley communities would be located at CR 8 and I-25.

Purchase of right of way is expected to occur in Phase I but operation of the commuter rail service will depend on funding.

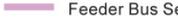
Table 2-4 RTD Bus Services at Park-n-Ride Lots Frequently Used by Carbon Valley Residents

| Park and Ride | RTD Routes | Primary Destinations |
|---|---------------------------|---|
| Longmont | 324, L | Lafayette, Niwot, Horizon Park Shopping Center, Walmart, Twin Peaks Mall, Front Range Community College |
| Wagon Road | 7, 8, 128, 120X, 122X, AA | Thornton, Northglenn, downtown Denver, Broomfield, Brighton, Adams County services, Platte Valley Medical Center, Emily Griffith Opportunity School, Westwood College, Denver International Airport |
| 104 th Avenue and Washington | 7, 40x, 104, AA | Thornton, downtown Denver, Denver International Airport, Thornton Recreation Center, Westminster Mall, Butterfly Pavilion |
| US 85 and Bridge Street | 120, 145X, R | Brighton, Broomfield, K-mart, Denver International Airport, Commerce City, downtown Denver |

RTD’s FasTracks program includes commuter rail that generally parallels I-25 on the east from Denver Union Station to 162nd Avenue referred to as the North Metro corridor. The economic downturn has reduced available funding to RTD and extended the schedule for completion of this commuter rail corridor. Bus transit improvements planned to be made along with the implementation of this rail corridor include extending bus service north along I-25 to SH 7. **Figure 2-7** illustrates the services planned as part of the North I-25 EIS and the FasTracks North Metro rail line.

The North Front Range Metropolitan Planning Organization (NFRMPO) is developing a new Regional Transit Element for the 2035 transportation plan. This plan includes service on I-25 (consistent with the North I-25 EIS Preferred Alternative) as well as other major corridors in the region. It contemplates a connection between Greeley/Evans and Longmont traveling on US 85, SH 66, Colorado Boulevard and SH 119 that would touch on the north end of the Carbon Valley. Two key steps are developing corridor plans to define initial service levels and working with corridor partners and CDOT to address governance and funding needs.

Figure 2-7 North I-25 EIS Preferred Alternative Transit Services

| LEGEND | | | |
|---|---------------------|---|---------------------------------|
|  | Express Bus |  | Express Bus Transit Station |
|  | Commuter Bus |  | Commuter Bus Transit Station |
|  | Commuter Rail |  | Commuter Rail Transit Station |
|  | Feeder Bus Service |  | Carpool Lots |
|  | FasTracks Rail Line |  | FasTracks / RTD Transit Station |



Chapter 3. Public Outreach

As part of this study, a survey was conducted at key locations throughout the communities and during community events. Respondents were asked about the importance of providing transit in a community, if transit services were provided – what population group(s) would be served and where transit service should travel. A total of 356 surveys were completed. The following key findings were derived from the survey:

- 85% of respondents stated that providing transit service for residents was important or very important.
- The elderly population was the most important population group to be provided service, with commuters and disabled citizens identified as a close second.
- Denver and Longmont were the most frequently identified destinations to be served by transit.
- The number of automobiles, licensed drivers, and people with restrictions on their mobility correlates to the portion of the population that has a need for transit.

Detailed survey results are included in **Appendix A**.

In addition to the survey, two public meetings were held. The first was held in December 2010 to solicit input from the public. Participants were provided information about the purpose of the study, community goals, community demographics, and a draft evaluation transit service scenarios being considered (including a do nothing scenario). Attendees were then asked to provide input via comment forms, by completing the survey or by providing feedback directly to the project team. The majority of attendees expressed support for improved transit services in the Carbon Valley communities but it should be noted that two attendees expressed concern regarding the likely use of transit services and the cost to the communities. A total of 20 people signed in at the public meeting.

A second public meeting will be held in June of 2011. A brief presentation will include information about the purpose of the study, the transit scenarios considered and the results and recommendations of the study.

Chapter 4. Transit Demand Estimates

In determining the demand for transit services, transit planners consider quantitative and qualitative data. Quantitative data includes measurements of demographic characteristics and employment characteristics. Mathematical models are sometimes used to estimate demand based on such numerical factors. Qualitative data includes information collected through surveys, or assessments by people who regularly work with individuals who might require transit services. Ultimately, the decisions about whether or not to support transit services will balance the demand for such services, the ability to provide viable services in an area, and community values.

Definitions of Transit Demand

The following are definitions of three terms used to describe demand for transit service:

- **Transit Dependent:** The number of people who do not have access to automobiles. The transit dependent definition does not necessarily include people who have low incomes that would benefit from having transit as an option. These individuals can opt to drive, but with a large impact on their disposable income. Commuting by bus can save a household several thousand dollars each year.
- **Choice Riders:** In areas with populations under 50,000 the majority of transit riders are those classified as transit dependent (not choice riders), including many low-income individuals. In larger cities the percentage of choice riders increases. It is likely that a significant number of Carbon Valley residents would opt for transit if good quality service were available to major employment centers, even though the population is under 50,000 because so many residents work in the metropolitan areas.
- **Transit Demand:** The number of trips actually made when transit services are provided. These are the ridership projections. In calculating projections for Carbon Valley, it is important to consider ridership demand both from individuals considered transit dependent and choice riders.

Characteristics of Transit Demand

Demand for transit services in rural areas consists of several well-defined markets. One can define the markets by:

- Demographic characteristics such as people who are elderly, have disabilities or low incomes;
- Trip purpose such as medical, shopping, or employment; or
- By type of service – general public or specialized transit services.

Other characteristics that impact the need for transit services in the study area include:

- The number of people who would be considered dependent on transit services due to age, disability, or not having access to an automobile.
- General land use patterns, with many services provided in the Colorado Boulevard corridor and the communities sharing services and facilities.
- Location of services in relationship to residential development
- Location of jobs, with many residents working in Boulder or Denver counties

Some of these characteristics will change as the community grows. For example, when the planned hospital is built at the northeast quadrant of I-25 and SH 52 in Frederick, more medical needs can be addressed locally rather than in Longmont.

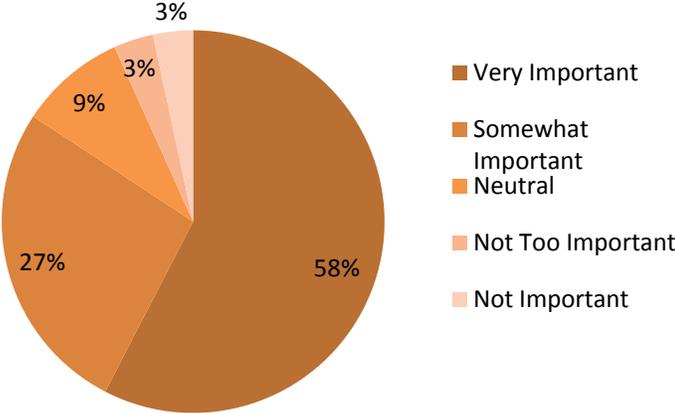
Formulas exist to model the demand for specialized and rural transit services, but are based on Census data. These formulas can tell something about the demand ten years ago – but due to the tremendous growth in the area the needs of the current population may be quite different. For this reason, these formulas have not been used to estimate demand in the Carbon Valley.

Qualitative Data for Estimating Demand

A community survey was carried out to indicate the importance residents place on providing transit services and where they think transit services should be provided. 356 surveys were received providing an overall statistical validity of 95% confidence and a 5% margin of error. A summary of the survey findings is included in **Appendix A**.

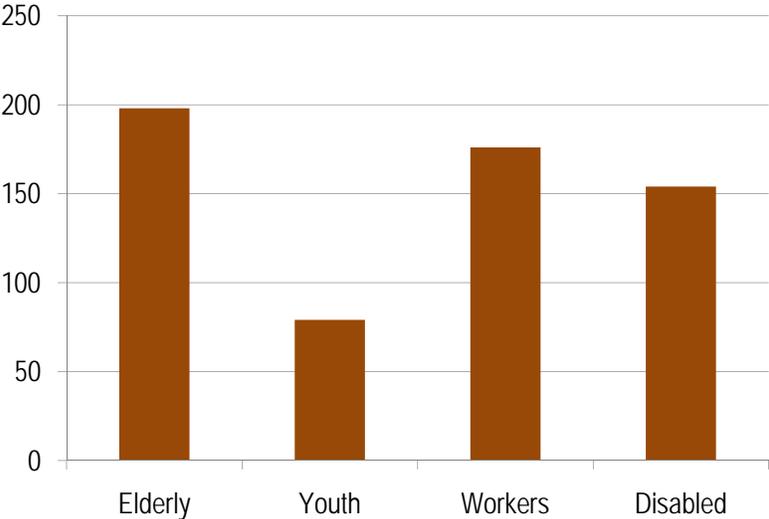
The first question asked respondents “How important do you think it is for Carbon Valley to provide transit services for residents?” A total of 85% of respondents identified transit service as either being very or somewhat important and 15% were neutral or did not believe transit services are important. **Figure 4-1** illustrates the results of this first question. Although the surveyors had some difficulty persuading people who opposed transit services to complete surveys (a common bias), the level of support for transit service indicates that overall, the community would be interested in considering transit as a community service.

Figure 4-1 Importance of Transit Services



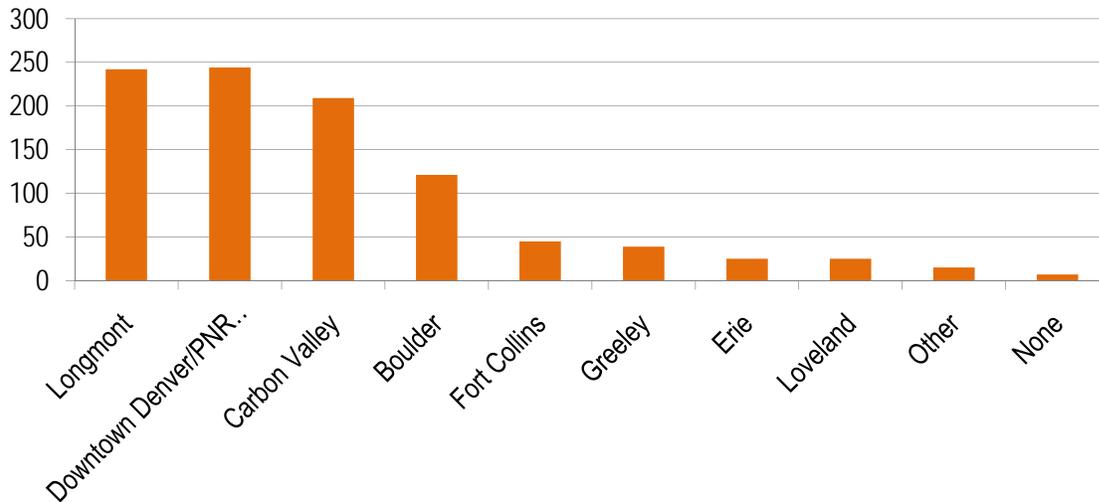
The second question asked, “Of these population groups, which do you feel is most important to serve?” This question was intended to elicit the most important of four groups, but it was common for respondents to indicate more than one group. In **Figure 4-2**, all of the individual responses were identified.

Figure 4-2 Important Groups to Serve with Transit



In the third question in the survey, respondents were asked, “Where should transit service be provided?” Nine specific categories were identified, along with a tenth write-in category for “other”. Respondents were asked to pick their top three destinations, and a much higher percentage complied with this request than in question 2. If more than three were selected, only the first three were counted. **Figure 4-3** illustrates the results of this survey question.

Figure 4-3 Destinations for Transit Service

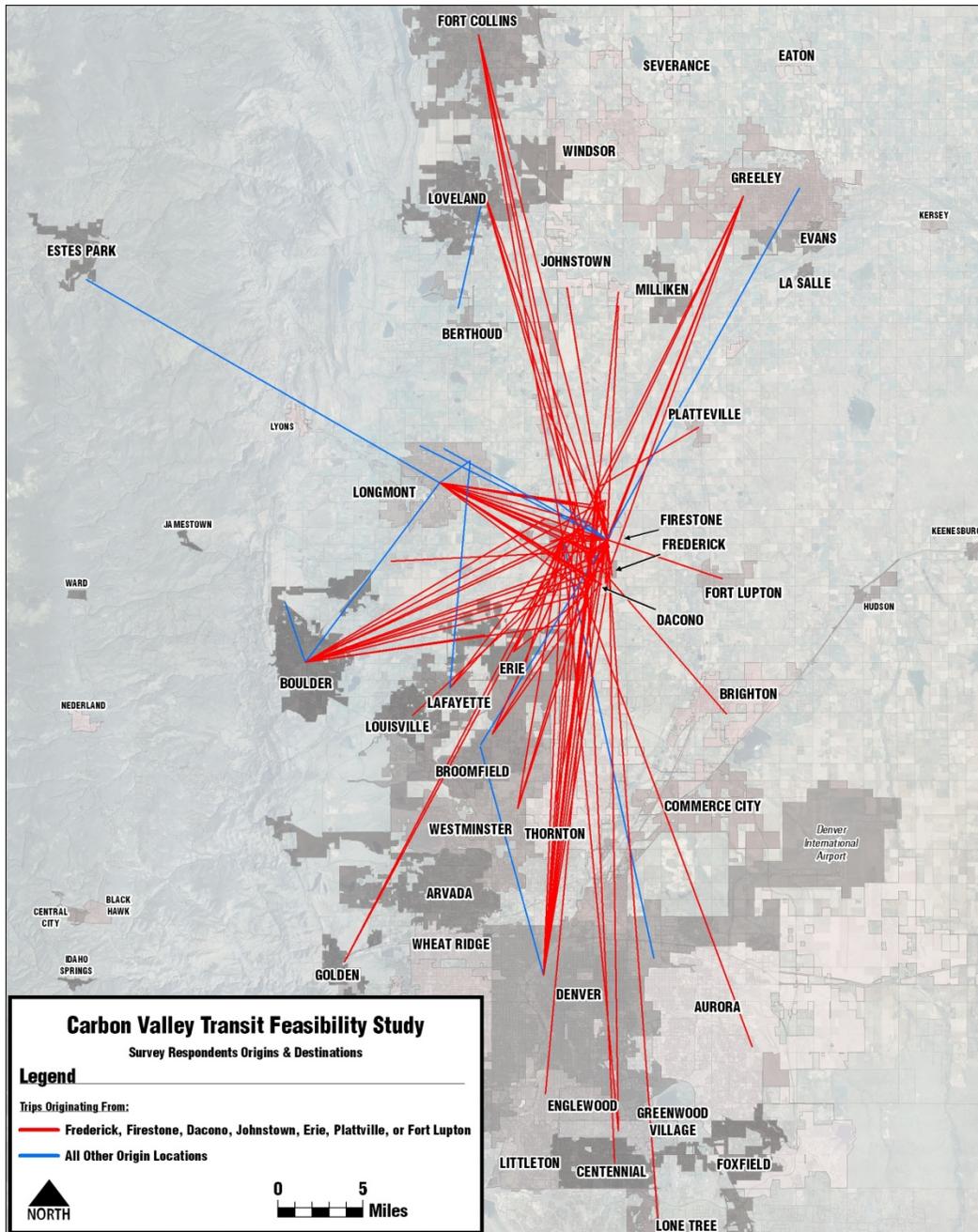


In the third question, note that there were some (five) individuals who indicated that no destinations should be served. All of these respondents also said providing transit service was not important. Also, while “Downtown Denver” (129 responses) and “Park-and-Ride to access Denver” (107 responses) were listed as separate categories, in Figure 3-3 they have been combined. Similarly, service to Longmont and Boulder could be combined, but many respondents listed one or the other. Respondents listing both generally had more than 3 choices so only the first one on the list, Boulder, was counted. If anything, this may overstate the importance of Boulder and understate the importance of Longmont in the responses. But note that even so, Longmont received the highest number of responses.

The importance of commute destinations is reflected in the above responses. A map illustrating the work destinations and home location of the respondents is provided in **Figure 4-4**. The survey results mirror the Denver Regional Council of Governments (DRCOG) regional travel model findings and County-to-County Work Flow data from the US Census. This points out how interconnected the Carbon Valley communities are with neighboring cities. The confluence of the three data sets also supports the reliability of the survey data.

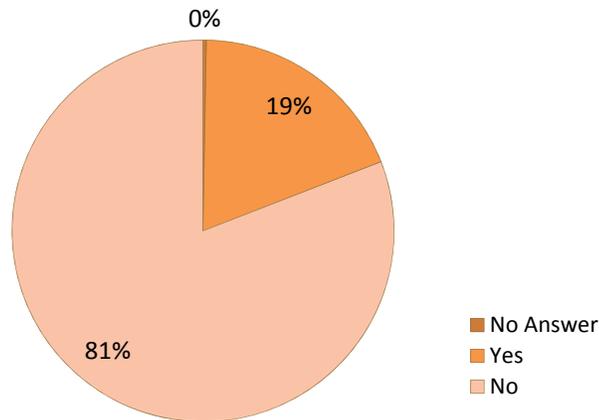
In addition to being an employment location and the residence of many Carbon Valley employees, Longmont also is an important destination for other trip destinations such as medical, shopping, and other services.

Figure 4-4 Home to Work Travel Lines



The survey also asked, “Does anyone in your household have a restriction on their mobility or ability to drive?” Nineteen percent of respondents responded in the affirmative, mirroring national and state level statistics. **Figure 4-5** illustrates the results of this question.

Figure 4-5 Persons in Household with Mobility Restrictions



The figure of 19% is not surprising given the rates of disabilities in the country as well as the rates for Carbon Valley communities in the 2000 US Census. While the Carbon Valley population has tripled since, the rates in **Table 4-1** are similar to the survey results. The actual numbers from the 2000 Census are provided for Carbon Valley communities because the magnitude of the number is important. The average Carbon Valley rate of 16.3% matches that of the state of Colorado and is slightly less than the national rate.

Table 4-1 Population Age 5+ with a Disability (2000 Census)

| Area | Number | Percent |
|----------------------|--------|---------|
| Dacono | 576 | 20.5% |
| Frederick | 298 | 12.9% |
| Firestone | 248 | 14.9% |
| Carbon Valley | 1,122 | 16.3% |
| Colorado | | 16.3% |
| US | | 19.3% |

Comparison to Other Areas

One quantitative approach to determining need is to look at what other communities provide. A range of service levels across the nation can be found in the “Transit Cooperative Research Program Report 6: Users’ Manual for Assessing Service-Delivery Systems for Rural Passenger Transportation¹”. This report reviewed a range of rural transit systems across the nation considered to be “high performing” (systems that are cost effective and productive). This review showed that there is considerable range in how much service is provided in rural communities. The report identified a series of service benchmarks that provide a useful context. The summary of service benchmarks is in **Table 4-2**.

The assessment included a wide range of systems, varying from 1 to 34 vehicles, serving populations of 6,000 to 62,000, and covering 5 square miles to 3,000 square miles. The population of the Carbon Valley study area is estimated at over 20,000 and the area covers 63 square miles.

An important benchmark is the range of 0.85 to 9 in number of trips/per person/per year. It is likely that the systems at the high end of the range included all types of trips, including program transportation for people with developmental disabilities. In Colorado the consultant team has found many community transit systems at the lower end of this range, and they typically do not include regular human service program transportation.

Table 4-2 Rural Transportation Service Benchmarks from High Performing Systems

| Service Factors | Ranges |
|-------------------------|-----------------|
| Population Served | 6,000 – 62,000 |
| Area Served (sq. miles) | 5 – 3,000 |
| Vehicles | 1 – 34 |
| Square Miles/Vehicle | 1 – 650 |
| Persons Served/Vehicle | 650 – 7,200 |
| Miles/Vehicle/Year | 11,500 – 29,000 |
| Trips/Year | 8,200 – 210,000 |
| Trips/Person/Year | 0.85 – 9 |
| Trips/Vehicle/Year | 4,200 – 13,500 |

¹ TCRP Report 6: Users’ Manual for Assessing Service-Delivery Systems for Rural Passenger Transportation, 1995, Transportation Research Board, National Research Council, pages 40-42.

Rural and small community services range from 0.3 trips per capita in rural Larimer County to 2.0 – 2.5 trips per capita in Castle Rock. When Castle Rock was 25,000 in population the system provided 2.0 trips per capita. A well developed system for a rural community, Estes Park, provided about 0.85 trips per capita initially (operating three days per week). They have since expanded to general public service and carry 1.5 – 2.0 trips per capita.

Demand Projections

Table 4-3 presents a range from 0.5 to 3.0 trips per capita for the region. These estimates are based on the information about effective rural transit systems that the Transportation Research Board, an agency of the National Academy of Sciences, synthesized in the published Transit Cooperative Research Program Report 6. This data reflects what occurs at systems across the nation. Like a demand model it is calibrated to reflect the range of service seen in rural transit systems.

Given what is known about travel patterns in the Carbon Valley area, it is reasonable to look at the lower half of the range as realistic for basic trips *exclusive* of employment trips and to calculate the demand for employment trips separately. This approach and the selected range were informed by the survey results as well as other demographic and travel pattern information gleaned through this project.

Table 4-3 Annual Ridership based on per Capita Levels

| Study Area Population | Annual Ridership | | | | | |
|-----------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| | 0.5 per capita | 1.0 per capita | 1.5 per capita | 2.0 per capita | 2.5 per capita | 3.0 per capita |
| 22,500 | 11,300 | 22,500 | 33,800 | 45,000 | 56,300 | 67,500 |
| 25,000 | 12,500 | 25,000 | 37,500 | 50,000 | 62,500 | 75,000 |
| 27,500 | 13,800 | 27,500 | 41,300 | 55,000 | 68,800 | 82,500 |
| 30,000 | 15,000 | 30,000 | 45,000 | 60,000 | 75,000 | 90,000 |

At the lower end of the spectrum, almost all trips would be among people who are dependent upon transit. In some communities there will be a few individuals who will ride transit because of personal values, but at most this would be 2% of the trips. The number of choice riders would also be determined by how convenient a particular service is for individuals.

The 2035 travel demand model runs indicate that commuter service along I-25 could capture approximately 200 one-way trips. While as many as 50% of these could be destined to downtown Denver, other trips could have destinations or connections at SH 7 or 120th Avenue as well. This would result in about 50,000 annual trips.

Chapter 5. Evaluation of Scenarios and Recommendations

The transit demand numbers provide a foundation for transit service alternatives, although ultimately the quality of the service also has a large impact on ridership. Services that have a high level of frequency and operate for most hours of the day, seven days a week will be able to capture a higher portion of the total demand.

A wide range of transit service alternatives were developed and evaluated to meet the demand described in the previous chapter. The scenario descriptions and the evaluation of scenarios are described in this chapter.

Potential Transit Scenarios

Eleven transit service scenarios were developed for this exercise ranging from the do-nothing alternative to providing local and regional services. **Table 5-1** summarizes the characteristics of each scenario. The following information is used to define each alternative:

Service Type – This category lists the type of services that this scenario could include. Options include:

- Vanpool/carpool – Formal or informal arrangements to meet and travel to and from a common destination in one vehicle.
- Fixed-route bus – Bus service that follows a set route and schedule.
- Demand responsive bus – Bus service that is provided on an on-call basis. Riders scheduling appointments in advance. This is often referred to as call and ride.
- Route deviation - Bus service that follows a set route and schedule but is able to deviate off its route by up to ¼ mile to more effectively serve riders' origins and destinations.

Coverage – Describes the geographic area that would be served by that particular scenario.

Market Served – Describes the population most likely to be served by a specific type of service traveling to a particular destination identified.

Hours and Days of Operation – Describes the assumed number of days of the week the service would operate and the number of hours per day. This is used to calculate the cost of service.

Vehicle Requirements – The number of vehicles needed to operate the service given the coverage and frequency of service.

Annual Ridership Estimates – Ridership estimates based on current population and travel patterns.

Governance/Oversight Options – This column lists the options available to operate the service. In some cases a structure is already in place. Contracting service would require an intergovernmental agreement between the communities clearly identifying the planned cost sharing agreement. Communities could also join RTD or form a Regional Transportation Authority (RTA) to operate and fund transit services. An option like developing an RTA or joining RTD would require a vote of the people but would provide a structure both for oversight of the service as well as funding the service.

Table 4-4 provides financial measures of effectiveness for the nine scenarios. The measures include:

Estimated Annual O&M Cost – The total estimated annual cost to operate and maintain the service.

Annual Capital Cost – Estimate of the cost of vehicles. Assumes mini bus/shuttles would cost \$60,000 and have a five to six year life span. Coaches used to operate regional services are assumed to cost \$350,000 and have a twelve year life span.

Farebox Revenue – The amount of revenue anticipated to be collected annually through fares. Specialized transportation services (Improve Existing Weld County Services or additional services provided by Special Transit) are assumed to recover \$1.50 per trip. This would be equivalent to about a \$2.00 one-way fare. The fare for travel on the Community Shuttle (Scenario 4) is estimated to be about \$1.50 and the farebox recovery would be about \$1.00 per trip. The farebox recovery ratios for regional services are based on RTD's 2009 average fare recovery per trip. Routes to Longmont are estimate to recover \$2.00 per trip while commuter services to Boulder and Denver would be expected to recover \$2.90 per trip for direct connections and \$2.00 per trip for trips that require a transfer.

Subsidy per Trip – Total annual operating and maintenance cost of the service (local and FTA) less fare revenues, divided by the estimated annual ridership.

Potential FTA Funds - The table illustrates two FTA funding scenarios. Under the first scenario Carbon Valley remains rural and under the second scenario the Census includes the Carbon Valley in Denver's urbanized area.

Should the designation change to urban, RTD would be the designated recipient for the funds and the level of funding would be determined by the 5307 Urbanized Area Formula Program. Funds are available for capital costs and based on negotiations with RTD may be available for operating and maintenance costs. If the entire Carbon Valley area were designated as urban, the year 2010 formula apportionment data unit values would indicate that RTD could receive about \$85,000 for the additional population alone. If additional bus service is operated, RTD's 5307 allocation would also increase based on the number of bus miles operated. In total, the Carbon Valley area could account for between \$90,000 and \$130,000 of RTD's 5307 annual allocation depending on the level of service provided.

If the area remains rural, the Carbon Valley would be eligible for up to 80% of capital and 50% of operating and maintenance costs through FTA's 5311 program. In this case Weld County has historically been the designated recipient so Carbon Valley would need to work cooperatively with Weld County on both the application amount and on how awarded funds are shared. Rural areas across the state compete for FTA 5311 program funds. This means that it is unlikely that the Carbon Valley would

receive the full level of funding that they are eligible to apply for. For this exercise, it is assumed that the Carbon Valley communities could receive a maximum of \$100,000 in FTA 5311 funding. In both cases, the Carbon Valley communities would need to provide funds to match the federal grant program funds.

Estimated Annual Cost to Communities –The estimated cost to operate and maintain service after taking into account the availability of Federal Transit Administration funds and farebox revenues. This is the cost to the communities.

Annual Additional Cost per Capita – Annual cost to communities divided by the Carbon Valley population. This is used to understand the level of revenue per person that would need to be generated by the community to operate the service. This is in addition to what is already paid by the communities to fund existing Weld County transportation services.

Table 5-1 Description of Scenarios

| Scenario Number | Scenario Name | Service Type Options | Coverage Area | Market Served | Hours and Days of Operation | Vehicle Requirements | Annual Additional Ridership Estimate (1 way trips in 2010) | Governance /Oversight Options |
|-----------------|---|---|---|--|--|-----------------------------|---|--|
| 1 | No Additional Service | - No additional service | Existing limited coverage | Current service to seniors and disabled population | 2 trips, 3 days per week (existing) | 1 existing vehicle | 0 additional riders | Weld County |
| 2 | Improve existing services (Weld County or Special Transit) | - Demand responsive | Carbon Valley Study Area | Seniors/Disabled Have CDOT funding for general public trips too | 3 days per week 8 hours per day | 1 new mini bus | Varies depending on level of service 1,000 – 12,500 annual trips | Weld County Special Transit |
| 3 | Improve use of existing TDM programs | - Vanpool, carpool | Carbon Valley Study Area | Commuters | Morning and afternoon peak periods | 5 vans, part of DRCOG fleet | 12,500 (5 vans, 5 passengers each) | DRCOG NFRMPO |
| 4 | Community Shuttle | - Demand Responsive - Fixed route with deviation | Carbon Valley Study Area | Local trips, elderly, youth, transit dependent for medical, grocery, local jobs | 5-6 days per week 10-13 hours per day | 1 shuttle | 12,500 (0.5 trips/capita) | Local with IGAs Form RTA Join RTD |
| 5 | Community Connection to Longmont | - Demand Responsive - Fixed route with deviation | Approx ¼ mile either side of road served (likely Colorado Blvd, SH 52 and/or SH 119) | Local trips, elderly, youth, transit dependent for medical, grocery, local jobs. Some employment trips | 5 days per week 13 hours per day | 1 bus | 15,000 | IGAs locally and with RTD Form RTA Join RTD |
| 6 | Commuter Service to Longmont (peak period) | - Fixed Route - Fixed route with deviation | A few primary stops along Colorado Blvd. Park and ride for regional trips at SH 119/I-25 or SH 52/I-25 | Employment trips between Longmont and Carbon Valley | 5 days per week 6 hours per day | 2 buses | 15,000 | IGAs locally and with RTD Form RTA Join RTD |
| 7 | Commuter Service to Downtown Denver (peak period) | - Fixed-Route - Fixed route with deviation | A few primary stops along Colorado Blvd. Park and ride for regional trips at SH 52 | Employment trips between Denver and Carbon Valley | 5 days per week 6 hours per day | 3 buses | 23,000 | IGAs locally and with RTD Form RTA Join RTD |
| 8 | Support North I-25 commuter service to Downtown Denver (peak period) | - Fixed route | Stops located along I-25. Park and rides available at SH 119, SH 52 and WCR 8. | Employment trips between Carbon Valley and Denver or Carbon Valley and Loveland, Fort Collins | 6 days per week 13 hours per day | Part of North I- 25 fleet | Same as #7 | IGA with providers of North I-25 service Form RTA |
| 9 | Commuter Service to Downtown Denver (peak period to Wagon Road) | - Fixed-Route - Fixed route with deviation | A few primary stops along Colorado Blvd. Park and ride for regional trips at SH 52. Terminates at Wagon Road. | Employment trips between Denver and Carbon Valley | 5 days per week 6 hours per day | 2 buses | 17,000 (75% of single seat ride) | IGAs locally and with RTD Form RTA Join RTD |
| 10 | Commuter Service to Downtown Boulder (peak period) | - Fixed route - Fixed route with deviation | A few primary stops along Colorado Blvd. Park and ride for regional trips at SH 52. Terminates at Boulder Transit Center. | Employment trips between Boulder and Carbon Valley | 5 days per week 6 hours per day | 3 buses | 14,000 | IGAs locally and with RTD Form RTA Join RTD |
| 11 | Commuter Service to Downtown Boulder (peak period to JUMP service in Erie) | - Fixed-Route - Fixed route with deviation | A few primary stops along Colorado Blvd. Park and ride for regional trips at SH 52 and WCR 8. Terminates at US 287 and Arapahoe Road(SH 7). | Employment trips between Boulder and Carbon Valley | 5 days per week 6 hours per day | 2 buses | 11,000 (75% of single seat ride) | IGAs locally and with RTD Form RTA Join RTD |

Table 5-2 Comparison of Financial Metrics by Scenario

| Scenario Number | Scenario Name | Estimated Annual Cost | Annual Capital | Farebox Revenue | Subsidy per Trip | Rural | | | Urban | | |
|-----------------|--|-----------------------|----------------|-----------------|------------------|--|--------------------------------------|--|---|--------------------------------------|--|
| | | | | | | Rural FTA Funds Eligibility (50% O and M, 80% Capital covered by 5311)/ Likely FTA Funds | Estimated Annual Cost to Communities | Annual Community Cost per Capita (25,000 population) | Urban FTA Funds Allocation (5307 Formula)/ Likely FTA Funds | Estimated Annual Cost to Communities | Annual Community Cost per Capita (25,000 population) |
| 1 | No Additional Service | 0 | 0 | 0 | 0 | 0 | NA | 0 | \$90,000/ \$0 | 0 | 0 |
| 2 | Improve existing services (Weld County or Special Transit) | \$75,000 | \$10,000 | \$7,500 | \$15.50 | \$41,800 / \$41,800 | \$36,000 | \$1.40 | \$90,000/ \$41,800 | \$36,000 | \$1.40 |
| 3 | Improve use of existing TDM programs | \$37,500 | \$38,000 | \$37,500 | \$3.00 | \$30,400/ \$30,400 | \$8,000 | \$0.30 | \$120,000/ \$30,400 | \$8,000 | \$0.30 |
| 4 | Community Shuttle | \$300,000 | \$12,000 | \$12,500 | \$24.00 | \$153,400/ \$100,000 | \$200,000 | \$8.00 | \$100,000/ \$100,000 | \$200,000 | \$8.00 |
| 5 | Community Connection to Longmont | \$500,000 | \$29,000 | \$30,000 | \$33.50 | \$258,300/ \$100,000 | \$399,000 | \$16.00 | \$100,000/ \$100,000 | \$399,000 | \$16.00 |
| 6 | Commuter Service to Longmont | \$300,000 | \$50,000 | \$30,000 | \$21.50 | \$175,000/ \$100,000 | \$220,000 | \$8.80 | \$130,000/ \$130,000 | \$190,000 | \$7.60 |
| 7 | Commuter Service to Downtown Denver (peak period) | \$500,000 | \$50,000 | \$66,700 | \$22.00 | \$276,700/ \$100,000 | \$408,000 | \$16.30 | \$130,000/ \$130,000 | \$378,000 | \$15.10 |
| 8 | Support North I-25 commuter service to Downtown Denver (peak period) | \$1,150,000 | \$90,000 | \$249,400 | \$11.50 | \$520,300/ \$400,000 | \$100,000 | \$4.00 | \$400,000/ \$400,000 | \$100,000 | \$4.00 |
| 9 | Commuter Service to Downtown Denver (peak period to Wagon Road) | \$300,000 | \$50,000 | \$32,300 | \$18.50 | \$173,900/ \$100,000 | \$218,000 | \$8.70 | \$110,000/ \$110,000 | \$188,000 | \$7.50 |
| 10 | Commuter Service to Downtown Boulder (peak period) | \$500,000 | \$90,000 | \$40,600 | \$38.00 | \$289,700/ \$100,000 | \$434,000 | \$17.40 | \$120,000/ \$120,000 | \$414,000 | \$16.60 |
| 11 | Commuter Service to Downtown Boulder (peak period to JUMP service in Erie) | \$300,000 | \$50,000 | \$20,900 | \$30.00 | \$179,600/ \$100,000 | \$229,000 | \$9.20 | \$120,000/ \$120,000 | \$209,000 | \$8.40 |

Evaluation of Scenarios

An evaluation of the eight scenarios developed was conducted to determine which best meet the needs of the community, which address the goals identified in the comprehensive plans, which could be readily implemented and which would be most cost effective.

Scenario 1: Do Nothing

The first scenario considered was the “do nothing scenario”. Under this scenario the limited services that are available today through Weld County Transportation would continue but no additional service would be provided. This option does not address the transit needs of the community and does nothing to help the communities achieve the transportation goals identified in their comprehensive plans.

Scenario 2: Improve existing services (Weld County or Special Transit)

Under this scenario existing transit service would be increased to the Carbon Valley communities by Weld County Transportation or by providing new services through Special Transit (operated out of Boulder). It is assumed that this service would be open to the public but in practice, the service would primarily carry seniors and disabled residents. The service would be offered Monday through Friday on an on call basis. Vehicles would be purchased and maintained by Weld County Transportation or Special Transit. Another option would be to use one of the vehicles currently owned by the Senior Center but for this cost estimate it is assumed that a vehicle would be purchased. Because the Weld County program is already in place it would require minimal effort to implement. The cost of this service would depend on the level of service desired. Three days of service per week provided eight hours a day would cost about \$75,000 annually. However, prior to identifying a cost of the service, the communities should ensure that the Carbon Valley is receiving an appropriate share of the Weld County Transportation resources. Today’s service appears to be relatively limited compared to the Carbon Valley communities’ share of Weld County’s population.

Another means of obtaining service for local residents would be to use taxi vouchers. These could be used in combination with or instead of contracting with Weld County to expand services. Taxi vouchers would be most appropriate for local trips – traveling no further than Longmont. While shared ride services can be encouraged, in reality most taxi voucher programs are used by solo passengers. A voucher program is typically limited to a set amount of funding or is used in a limited way to serve only those trips that can be served most cost-effectively by a taxi.

Scenario 3: Improve Existing TDM Programs

Under this scenario the towns would work with DRCOG’s RideArrangers program and the NFRMPO’s VanGo program to increase the number of residents utilizing vanpool programs. This option would primarily provide service to residents who travel to regional destinations for work. It would not provide service to seniors or disabled residents. Vehicles would be purchased and maintained through the existing vanpool programs. Cost to the communities would be limited to promoting the availability of the service and providing matching funds to purchase vehicles.

Scenario 4: Community Shuttle

This scenario would provide Carbon Valley residents with a local shuttle that would operate five days a week, 10 to 13 hours per day. The shuttle would serve the general public but would only provide trips within the Carbon Valley. This service would require one ADA accessible vehicle. Based on travel patterns and work locations, Carbon Valley residents may find this service too limiting. While they could reach local destinations such as Town Hall, the grocery store, recreation center, and pharmacy, the service would not provide access to medical facilities in Longmont, or to jobs located outside the study area. At a minimum, this service would require that the communities enter into an intergovernmental agreement and identify an equitable cost sharing program. On the other end of the spectrum, the communities could join RTD or form their own Rural Transportation Authority (RTA). It is important to note however, that if the communities join RTD, the level and type of service provided would be determined by RTD and may not come in the form of a community shuttle.

Scenario 5: Community Connection to Longmont

This service would connect the Carbon Valley communities to Longmont. It would operate hourly, 13 hours per day, five days per week. The service would be open to the general public but would likely serve primarily seniors and disabled residents. It could be operated as a demand responsive service or a fixed-route with route deviation. These types of service would cover FTA's requirements for complementary ADA paratransit service. It would be the most costly to provide of the service scenarios evaluated but would serve the most frequently identified destination, Longmont. This service would require the communities to enter into an intergovernmental agreement with each other. Traveling to Longmont would also require entering into an intergovernmental agreement with RTD because the service would travel within their service territory. Like Scenario 4, an equitable cost sharing program would need to be identified. The communities could join RTD or form their own RTA. Like Scenario 4, if the communities join RTD the level and type of service provided would be determined by RTD and may not be a community connection to Longmont.

Scenario 6: Commuter Service to Longmont

This service would also connect the Carbon Valley communities to Longmont. However, this service would operate during weekday peak periods only and therefore would primarily serve commuter trips between the Carbon Valley and Longmont. While many Carbon Valley residents travel to/from Longmont for business, shopping and medical trips, demand for this service would be less than a comparable service to Denver. The lower demand is directly related to the parking costs and parking restrictions in downtown Denver which encourage people to seek out other modes of transportation. Operated as a peak hour commuter service only, this service would not require that additional complementary ADA service be provided. Like the previous two scenarios, this service would require the communities to enter into an intergovernmental agreement with each other. Traveling to Longmont would also require entering into an intergovernmental agreement with RTD because the service would travel within their service territory. The communities could join RTD or form an RTA. Like all the other scenarios, if the communities join RTD the level and type of service provided would be determined by RTD and may not include commuter service to Longmont.

Scenario 7: Commuter Service to Downtown Denver

This service would connect Carbon Valley communities to downtown Denver. This service would operate during weekday peak periods only and therefore would primarily serve commuter trips. This scenario has the highest potential ridership of the eight scenarios developed and evaluated. In the long-term this type of service could be modified to serve RTD's North Metro commuter rail end of line. Operated as a peak hour commuter service only, this service would not require that additional complementary ADA service be provided. Like the previous three scenarios, this service would require the communities to enter into an intergovernmental agreement with each other. Traveling to Denver would also require entering into an intergovernmental agreement with RTD because the service would travel within their service territory. Under this scenario the communities could join RTD or they could form a new RTA. Like all the other scenarios, if the communities join RTD the level and type of service provided would be determined by RTD.

Scenario 8: Support North I-25 Commuter Service to Downtown Denver

NFRMPO has evaluated the need for regional transit services between communities in the urban area and to other communities such as Denver and Boulder. Cost estimates show that peak hour service would cost a total of \$1,150,000 annually, with an estimated \$400,000 available from increased Federal Transit Administration 5307 funds. Fares are estimated to cover approximately 10% of costs. The balance (\$635,000) would be shared by communities along the I-25 corridor including Fort Collins, Loveland, Berthoud, Windsor and Greeley. An advantage of this option is that Carbon Valley's share would be much less than operating an independent service. Disadvantages are that there would be fewer seats available for Carbon Valley residents and control over when this service would be initiated will depend on the participation of the other communities and CDOT. Some trips might be started near Johnstown or Carbon Valley to address capacity issues. This scenario would require entering into an intergovernmental agreement, or possibly joining an RTA.

Scenario 9: Commuter Service to Wagon Road Park and Ride

This service would connect Carbon Valley communities to downtown Denver via RTD's Wagon Road park-n-Ride at 120th and I-25. This service would operate during weekday peak periods only and therefore would primarily serve commuter trips. This scenario has somewhat less anticipated ridership than Scenario 7 because it requires a transfer from this service to RTD's service at the Wagon Road park-n-Ride. Operated as a peak hour commuter service only, this service would not require that additional complementary ADA service be provided. Like the previous four scenarios, this service would require the communities to enter into an intergovernmental agreement with each other. Traveling to Denver would also require entering into an intergovernmental agreement with RTD because the service would travel within their service territory. Additional coordination with RTD would be necessary on this type of service to ensure that the passengers arriving at the Wagon Road park-n-Ride don't exceed the capacity available.

Connecting to RTD's planned North Metro commuter rail line is another service option to consider. The planned line is expected to terminate near 160th Avenue and Colorado Boulevard. Travel times on this line are expected to be relatively competitive with electric multiple unit technology. However, at this

point, RTD's schedule for completion of this line is dependent on the approval of a tax increase by voters in the RTD district. Without the additional tax the line may not be completed until 2042. With the approval of a tax increase, the line could be completed prior to 2020.

Scenario 10: Commuter Service to Downtown Boulder

This service would connect Carbon Valley communities to downtown Boulder. This service would operate during weekday peak periods only and therefore would primarily serve commuter trips. Operated as a peak hour commuter service only, this service would not require that additional complementary ADA service be provided. Like a number of the other scenarios, this service would require the communities to enter into an intergovernmental agreement with each other. Traveling to Boulder would also require entering into an intergovernmental agreement with RTD because the service would travel within their service territory. Under this scenario the communities could join RTD or they could form a new RTA. Like all the other scenarios, if the communities join RTD the level and type of service provided would be determined by RTD.

Scenario 11: Commuter Service to Boulder via Transfer to RTD JUMP Route

This service would connect Carbon Valley communities to downtown Boulder via a transfer to RTD's JUMP route at US 287 and Arapahoe Road near Erie. This service would operate during weekday peak periods only and therefore would primarily serve commuter trips. This scenario has somewhat less anticipated ridership than Scenario 10 because it requires a transfer from this service to RTD's JUMP service. Operated as a peak hour commuter service only, this service would not require that additional complementary ADA service be provided. Like a number of the previous scenarios, this service would require the communities to enter into an intergovernmental agreement with each other. Traveling to Boulder would also require entering into an intergovernmental agreement with RTD because the service would travel within their service territory. Additional coordination with RTD would be necessary on this type of service to ensure that adequate capacity is available for passengers transferring to the JUMP route.

Evaluation Criteria

Each scenario was rated on five key evaluation criteria.

- 1) Addresses Identified Need – Scenario's ability to address the need for transit identified through the intercept survey and community demographics.
- 2) Ease of Implementation – Scenario's ability to be implemented easily based on the presence of an existing governance or oversight structure.
- 3) Cost Relative to Demand – This criterion evaluates the cost to provide each scenario compared to the level of ridership anticipated.
- 4) Cost per Capita – This criterion evaluates the cost to provide each scenario compared to Carbon Valley study area population.

- 5) Compatible with Comprehensive Plans – This criterion evaluates each scenario based on its ability to help the communities achieve their goal of encouraging the use of alternative modes of travel.

Table 5-3 lists the evaluation criteria and the definitions given for the high, medium and low categories.

Table 5-3 Definition of Evaluation Criteria

| Rating | ● | ◐ | ○ |
|--|---|--|---|
| Addresses Identified Need | Scenario would substantially meet the need identified | Scenario would partially meet the need identified | Scenario would not meet the need identified |
| Implementation | Scenario has a governance structure in place for near-term implementation | Scenario has a relatively easily implemented governance structure | Scenario would require coordination with communities outside of the Carbon Valley or would require a vote |
| Cost Relative to Demand | Low relative cost per trip | Medium relative cost per trip | High relative cost per trip |
| Cost per Capita | Low relative cost to Carbon Valley residents | Medium relative cost to Carbon Valley residents | High relative cost to Carbon Valley residents |
| Compatible with Comprehensive Plan Goals | Best meets transit goals of the Carbon Valley communities | Partially meets the transit goals of the Carbon Valley communities | Least potential to meet the transit goals of the Carbon Valley communities |

Findings

Table 5-4 illustrates the results of this evaluation exercise. As shown, Scenario 3, Improving the Use of the Existing TDM Programs rated the highest. This scenario would cost-effectively address the demand and is compatible with the communities’ general desire to encourage use of alternate modes of transportation. This service would improve mobility for Carbon Valley commuters but not for the elderly populations also identified as having a need for transit services.

Scenario 2, Improving Existing Services, is the highest rated scenario that would primarily focus on the mobility of the senior and disabled population, a population that has been identified as being important to serve. This scenario also rates well because a structure for operation and oversight of service is already in place through Weld County or Special Transit making it easier to implement. This service would have a somewhat higher cost per rider than Scenario 3 (this is consistent with this type of service). This scenario would require coordination and negotiation with Weld County Transportation or Special Transit. Coordination could be initiated by identifying a staff representative from each of the Carbon Valley communities to coordinate with elected officials and request information and action from Weld County Transportation or Special Transit.

Scenario 4, Community Shuttle, is not recommended for implementation in the near-term because the service would be similar to what could be provided by Weld County Transportation or Special Transit but would cost more. In addition, this type of service generally works best when serving a major transit destination and residential development that is located within a 5 to 10 square mile area. The Carbon Valley communities cover a substantially larger area making it difficult to serve the entire area effectively.

Scenario 5, Community Connection to Longmont, is also not recommended for implementation in the near-term because the service would be similar to what could be provided by Weld County Transportation or Special Transit but would cost more and provide service to fewer destinations.

Scenario 6, Commuter Service to Longmont, was not identified for near-term implementation. While there is substantial commuter travel to Longmont, this service is not expected to attract sufficient ridership in the near-term to be cost effective. However, by 2035 ridership estimates for this service are expected to grow substantially. It is a service that should be considered again in the future.

Commuter Service S6 scenarios to Denver (Scenario 7 or 8) or Denver via RTD's Wagon Road park-n-Ride (Scenario 9) rated relatively well for their ability to capture demand and their compatibility with comprehensive plan goals. Direct service to downtown Denver would attract a high level of ridership. However, in the near-term the cost per rider would be relatively high when compared to other comparable regional services in the Denver metro area. Option 8, supporting North I-25 service reduces the cost significantly and improves the ranking of this option. Recent studies have shown that there is a tremendous amount of demand in northern Colorado for transit service along I-25 to downtown Denver. Working with other northern Colorado communities is a way to implement commuter service to downtown Denver more cost effectively. As the communities' population increases, demand for service will also increase and the cost per trip will come down making the service more cost effective. In the near-term this type of service would be a more cost effective option if Carbon Valley supports efforts by the larger region. Commuter service scenarios to Boulder (Scenario 10 or 11) were not identified for near-term implementation. In the near-term the cost per rider would be relatively high when compared to other comparable regional services in the Denver metro area and other service scenarios considered in this study.

Table 5-4 Evaluation of Potential Service Scenarios

| Service Scenario | Addresses Identified Need and Can Capture Demand | Ease of Implementation | Cost Relative to Demand Subsidy per Trip | Cost per Capita | Compatible w/ Comprehensive Plan Goals | Total |
|--|--|------------------------|--|-----------------|--|-------|
| 1. No Additional Service | ○ | NA | NA | ● | ○ | 1.0 |
| 2. Improve existing services (Weld County or Special Transit) | ◐ | ◐ | ◐ | ● | ◐ | 3.0 |
| 3. Improve use of existing TDM programs | ◐ | ● | ● | ● | ◐ | 4.0 |
| 4. Community Shuttle | ◐ | ◐ | ○ | ◐ | ◐ | 2.0 |
| 5. Community Connection to Longmont | ◐ | ○ | ○ | ○ | ● | 1.5 |
| 6. Commuter Service to Longmont (peak period) | ◐ | ○ | ○ | ◐ | ● | 2.0 |
| 7. Commuter Service to Downtown Denver (peak period) | ● | ○ | ○ | ○ | ● | 2.0 |
| 8. Support North I-25 Commuter Service to Downtown Denver (peak) | ● | ○ | ◐ | ● | ● | 3.5 |
| 9. Commuter Service to Downtown Denver (peak period to Wagon Road) | ● | ○ | ○ | ◐ | ● | 2.5 |
| 10. Commuter Service to Downtown Boulder (peak period) | ◐ | ○ | ○ | ○ | ● | 1.5 |
| 11. Commuter Service to Downtown Boulder (peak period to JUMP service in Erie) | ◐ | ○ | ○ | ◐ | ● | 2.0 |

Recommendations

It is crucial that services have stable long-term funding and oversight identified prior to implementation. Reliability is essential to building and maintaining ridership. It is recommended that the Carbon Valley communities participate in the regional transit planning efforts being conducted by the North Front Range MPO, CDOT, DRCOG or RTD to identify a stable regional funding source and oversight structure for implementation of the longer-term recommendations for regional transit serving northern Colorado. A couple of options for oversight and funding service are described below.

Intergovernmental Agreement (IGA) – An IGA would describe the role of each participating community and their financial responsibility to providing the transit service. This structure would not be as stable as other structures because each IGA is renewed regularly for budgeting purposes and does not provide a dedicated funding source. FREX (Front Range Express), providing commuter service between Colorado Springs and the Denver Metro area, is operated by a single entity with a number of IGAs with other communities served and with RTD. One drawback to this setup is that during budget cutbacks some communities were no longer able to contribute to the service resulting in cutbacks in service and a drop in ridership. Regardless, this is the most easily implemented oversight and funding structure for the near term. This would be the likely structure behind implementing the expansion of Weld County services.

Rural Transportation Authority - Another, more stable oversight and funding structure would be to develop a Rural Transportation Authority for Carbon Valley or an even larger area. The RTA would be a taxing authority and could have the ability to operate services. A sales tax of between 0.15% and 0.3% would be sufficient to fund some of the long-term services described in this report.

Regional Transportation District - Joining RTD is one option for providing stable long-term funding and oversight of services in the Carbon Valley. It is estimated that joining RTD would increase sales tax collected in the three incorporated communities by approximately \$2.5 million annually. In the near-term, the cost to provide service to meet the demand in the Carbon Valley is expected to be well below this level.

Five-Year Financial Plan

Table 5-5 summarizes the revenues and expenditures anticipated to support the recommended services in the first five years including expanded Weld County demand responsive service, and improved use of the DRCOG vanpool service. As shown, Year 1 would require the highest initial investment from the communities due to the purchase of vehicles. In addition, it was assumed that ridership on both services (Weld County/Special Transit and Vanpool) would increase over time. Therefore, fare revenues start out low in Year 1 and grow over the five year period. In the first year a single vanpool is assumed to be in operation. By year five, five vanpools are assumed to be in operation.

Table 5-5 Five Year Budget and Revenue Summary

| Expenditure | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|------------------|------------------|------------------|------------------|------------------|
| Capital - Vehicle Purchase | \$60,000 | \$0 | \$0 | \$0 | \$0 |
| Capital – Vanpool Purchase | \$38,000 | \$38,000 | \$38,000 | \$38,000 | \$38,000 |
| Operating and Maintenance Costs | \$75,000 | \$75,000 | \$75,000 | \$75,000 | \$75,000 |
| Vanpool Expansion | \$7,500 | \$15,000 | \$22,500 | \$30,000 | \$37,500 |
| Total Expenditure | \$180,500 | \$128,000 | \$135,500 | \$143,000 | \$150,500 |
| | | | | | |
| Revenue | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| FTA 5311 (Rural) | \$114,000 | \$65,100 | \$64,200 | \$64,200 | \$64,200 |
| Fare Revenues (Weld County/Special Transit) | \$3,750 | \$5,625 | \$7,500 | \$7,500 | \$7,500 |
| Fare Revenues (Vanpool) | \$7,500 | \$15,000 | \$22,500 | \$30,000 | \$37,500 |
| Total Revenue | \$125,250 | \$85,725 | \$94,200 | \$101,700 | \$109,200 |
| | | | | | |
| Carbon Valley Communities Funding | \$55,250 | \$42,275 | \$41,300 | \$41,300 | \$41,300 |

Recommended Plan

Table 5-6 summarizes the near and long-term recommendations. It is recommended that the Carbon Valley communities start small and grow the service over time as the population and demand for transit service grows. In the near-term (1 to 5 years), Scenario 2 (Improve existing services) and Scenario 3 (Improve use of existing travel demand management (TDM) programs), would provide the most cost-effective solutions. Scenario 2 (under the existing Weld County transportation budget) and Scenario 3 could be implemented without an intergovernmental agreement or a vote of people. If Scenario 2 requires additional funds, an intergovernmental agreement would be needed between the Carbon Valley Communities to describe the cost sharing agreement.

It is recommended that the communities continue discussions with Weld County about increasing services to the Carbon Valley area and work to provide better marketing of the existing service so that residents understand the options available for transportation. The Carbon Valley communities make up a substantial portion of Weld County’s population and should receive an equitable share of the services provided by Weld County transportation. Coordination should be done at the direction of the Carbon Valley elected officials. Identifying a staff representative to be responsible for coordination and reporting back to the elected officials will help move the effort along.

Adding three days of service would provide seniors and disabled residents access to service five days a week. Increasing service to the area may involve basing a Weld County vehicle in the Carbon Valley. Any additional funding identified to support these services would require an intergovernmental agreement be executed outlining the cost sharing arrangements between the entities represented in the Carbon Valley. As a starting point, it is recommended that the costs be allocated by population among the three communities.

Should the Carbon Valley communities shift from being designated as rural to urban, they would no longer qualify for FTA 5311 rural area funds. In that case, it is recommended that the communities work with RTD to obtain their portion of the urban area funds (5307) and pursue other federal and state funding such as FTA Transportation for Elderly Persons and Persons with Disabilities (5310), FTA Job Access and Reverse Commute (5316), FTA New Freedom (5317) and Colorado’s FASTER funds. These funds could be used to support the vanpool program or to initiate one of the regional services. These funds would require that the communities provide the funding match necessary to obtain the FTA funds.

In the long-term, commuter services to the Denver metro area could be quite successful especially if they are developed to serve the larger northern Colorado region in addition to the Carbon Valley. It is recommended that the Carbon Valley communities actively participate with the North Front Range MPO efforts to initiate service. This will involve 1) participating in discussions with CDOT regarding the roles and responsibilities for funding and operating transit service on North I-25; and 2) participating in detailed service planning that is anticipated to define schedules, stops, parking capacity, fares, relationship to TDM programs, and similar details.

Table 5-6 Recommended Near Term and Long Term Service Scenarios

| Scenario Number | Recommendation | Implementation |
|---|--|---|
| 1. No Additional Service | This alternative is not recommended as it does not address the communities’ mobility needs or help the communities achieve goals identified in their comprehensive plans. | Not recommended |
| 2. Improve existing services (Weld County or Special Transit) | This alternative is recommended for implementation in the next 1 to 5 years. It is cost effective, flexible and a structure for operation and oversight of this service is already in place. | <ul style="list-style-type: none"> • Continue discussion with Weld County Transportation. • Ensure equitable portion of current rural funds are spent serving Carbon Valley. • Initiate discussion with Special Transit to ascertain opportunities and cost of providing service. • Support additional service to provide access to local destinations, Longmont, and other regional destinations as possible. • Initiate discussions with Senior Center about use of van and possibility of pooling transportation funds with the communities. • Support purchase of a vehicle (if necessary) through FTA by providing FTA matching funds. |

| Scenario Number | Recommendation | Implementation |
|--|---|---|
| <p>3. Improve use of existing TDM programs</p> | <p>This alternative is recommended for implementation in the next 1 to 5 years. It is cost effective, flexible and a structure for operation and oversight is already in place.</p> | <ul style="list-style-type: none"> • Post Ride Arrangers and VanGo vanpool information on community websites. • Initiate discussion with DRCOG about how best to promote vanpools in the Carbon Valley. • Initiate marketing campaign to increase ridership. • Support purchase of vehicles by providing CMAQ matching funds. |
| <p>4. Community Shuttle</p> | <p>This alternative is not recommended for near-term implementation because it is not expected to adequately serve mobility needs of the community.</p> | <p>Not recommended for near-term implementation.</p> |
| <p>5. Community Connection to Longmont</p> | <p>This alternative is not recommended for implementation in the near-term because the service would be similar to what could be provided by Weld County Transportation but would cost more and provide service to fewer destinations.</p> | <ul style="list-style-type: none"> • Should implementation of additional service through Weld County be identified as infeasible, communities should consider pairing this service (connection to Longmont) with a commuter service to Denver in the 5 to 10 year time frame. |
| <p>6. Commuter Service to Longmont (peak period)</p> | <p>This alternative was not identified for near-term implementation. While there is substantial commuter travel to Longmont, this service is not expected to attract sufficient ridership in the near-term to be cost effective.</p> | <ul style="list-style-type: none"> • Not recommended for near-term implementation. • Has high ridership potential by 2035 and should be considered again in the future. |
| <p>7. Commuter Service to Downtown Denver (peak period)</p> | <p>This alternative was not recommended for near-term implementation. However, Scenario 8 is recommended for longer term implementation. Originating some Scenario 8 vehicles in the Carbon Valley would result in direct service to downtown Denver and would attract a high level of ridership.</p> | <ul style="list-style-type: none"> • Not recommended for near-term implementation. • Could be incorporated as part of Scenario 8 as demand warrants. |

| Scenario Number | Recommendation | Implementation |
|--|---|---|
| <p>8. Support North I-25 Commuter Service</p> | <p>This alternative is recommended for longer-term implementation (5 to 10 years). This alternative would support travel to both Denver and communities to the north but is expected to cost somewhat less than Scenario 7 because the fixed costs would be shared among more communities. This would provide direct service to downtown Denver with limited stops. A large demand for service would also come from other communities in northern Colorado.</p> | <ul style="list-style-type: none"> • Initiate discussion with northern Colorado communities about cost sharing opportunities for regional commuter service to Denver. • A coordinated plan for cost sharing and fund raising in the larger region should be in place prior to implementing this regional service. |
| <p>9. Commuter Service to Downtown Denver (peak period to RTD Park-n-Ride)</p> | <p>A lower cost alternative to Scenario 7 would be to provide service to an RTD park-n-Ride. A large demand for service would also come from other communities in northern Colorado. However, a bus to bus transfer will not attract as many riders as the direct connection described in Scenario 7 or 8.</p> | <ul style="list-style-type: none"> • Initiate discussion with northern Colorado communities about cost sharing opportunities for regional commuter service to Denver. • A coordinated plan for cost sharing and fund raising in the larger region should be in place prior to implementing this regional service. • Plan to implement shuttle service to North Metro commuter rail end of line station once constructed. |
| <p>10. Commuter Service to Downtown Boulder (peak period)</p> | <p>This alternative is not recommended for near-term implementation. It attracts less ridership and has comparable costs to the commuter routes to downtown Denver.</p> | <ul style="list-style-type: none"> • Not recommended for near-term implementation. |
| <p>11. Commuter Service to Downtown Boulder (peak period to JUMP service in Erie)</p> | <p>This alternative is not recommended for near-term implementation. While it is a lower cost alternative to Scenario 10, it attracts less ridership and has comparable costs to the commuter routes to downtown Denver.</p> | <ul style="list-style-type: none"> • Not recommended for near-term implementation. |

Appendix A

Technical Memorandum

Intercept Survey Summary

January, 2011

FHU Reference # 10-108-01

SURVEY RESULTS SUMMARY

The Carbon Valley communities (Frederick, Firestone and Dacono) have initiated a study to determine the need for transit service within the communities. As a part of this study, a survey has been conducted at key locations and during community events. The goal of the survey was to gauge the desire for transit in the area by obtaining at least 365 completed surveys for a 95% confidence level and 5% margin of error. The consultant has obtained 356 surveys, 9 fewer than the target. **Table 2-1** illustrates the estimated population in 2008 for each community, the percentage of the population for each community relative to the total population. A number of surveys were from other areas, but it is worth noting that a good number of individuals who identified themselves as residing in Firestone actually had Longmont addresses. The Longmont addresses are part of the “other”. Most the rest of the “other” addresses are individuals who work in Carbon Valley.

Table 2-1. Surveys Obtained Compared to Population

| Community | Population | Percent of Total Population | Total Surveys Collected | Percent of Collected |
|-----------|------------|-----------------------------|-------------------------|----------------------|
| Dacono | 4,132 | 20% | 74 | 21% |
| Firestone | 8,265 | 40% | 107 | 30% |
| Frederick | 8,211 | 40% | 124 | 35% |
| Other | | | 48 | 13% |
| No Answer | | | 3 | 1% |
| Total | 20,608 | 100% | 356 | 100% |

QUESTION 1

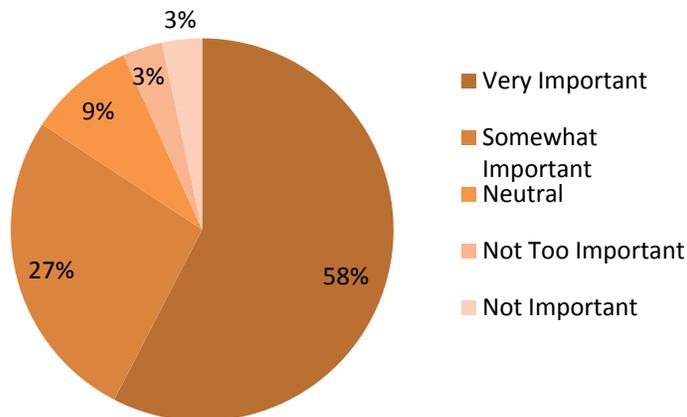
How important do you think it is for Carbon Valley to provide transit services for its residents?

Table 2-2 and **Figure 2-1** summarize the results of question 1. Most of the respondents indicated that they view transit services as Very Important to Carbon Valley. Eighty-five percent of respondents think transit service is either Very or Somewhat Important. However it is important to note that the consultant had a difficult time getting individuals who verbally expressed that they did not want transit service to complete a survey therefore the Not Too and Not Important options may be under-represented in these results.

Table 2-2. Importance of Transit in Carbon Valley

| Level of Importance | Total | Percent |
|---------------------|-------|---------|
| Very Important | 205 | 58% |
| Somewhat Important | 95 | 27% |
| Neutral | 32 | 9% |
| Not too Important | 12 | 3% |
| Not Important | 12 | 3% |
| Total | 356 | 100% |

Figure 2-1. Importance of Transit in Carbon Valley



QUESTION 2

Of these population groups, which do you feel is the most important to serve?

This question asked the respondent to select the most important population group to serve. The question was created with the intent that the respondent would select just one population group, however 176 (half) of the 356 respondents selected multiple groups. **Table 2-3** summarizes the results for question 2. First, the responses reflecting

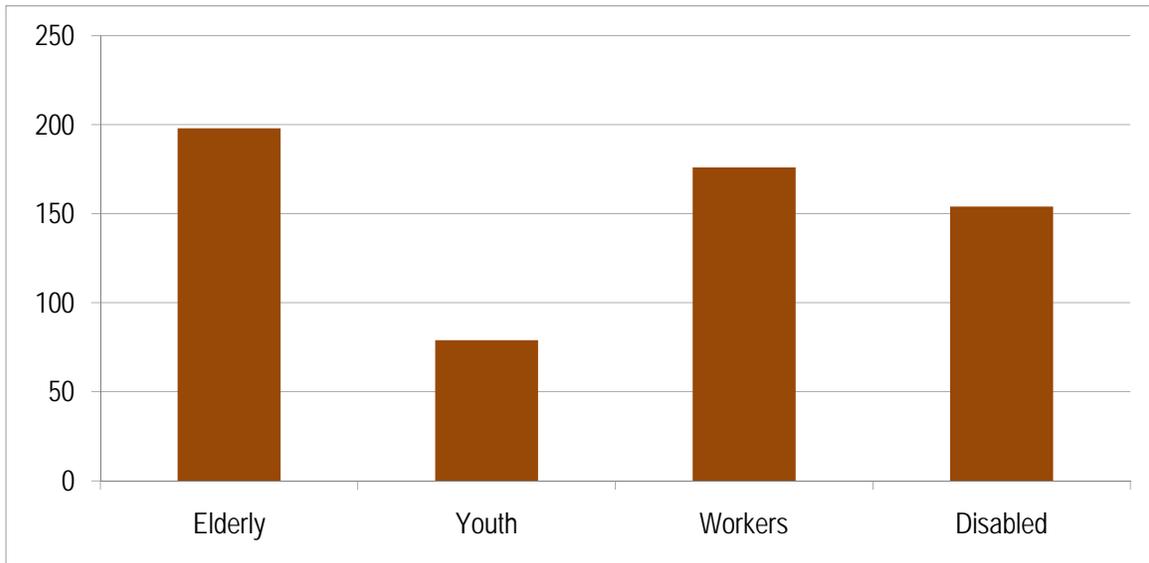
a single category are presented and then the total number of groups identified by respondents. **Figure 2-2** illustrates the total responses by category.

Table 2-3. Most Important Population to Serve

| Population Group | SINGLE RESPONSES | | TOTAL RESPONSES | |
|-------------------|------------------|---------|-----------------|---------|
| | Number | Percent | Number | Percent |
| Elderly | 62 | 35% | 198 | 32% |
| Workers/Commuters | 66 | 38% | 176 | 29% |
| Disabled | 38 | 22% | 154 | 25% |
| Youth | 10 | 10% | 79 | 13% |
| No Answer | n/a | n/a | 4 | 1% |
| Total | 176 | 100% | 611 | 100% |

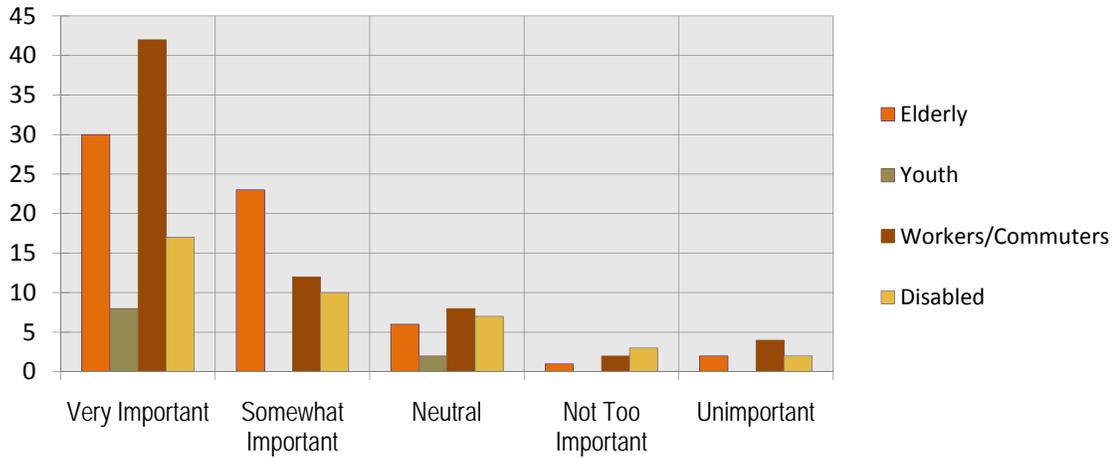
The elderly and commuters categories had the strongest response rate, although individuals with disabilities also rank relatively well. The chart below compares the groups using the total picks for groups to serve from both the single and multiple responses.

Figure 2-2. Most Important Population to Serve



It is possible to compare the single responses to the importance that respondents placed on transit services. Among people thinking that providing transit services is important or very important, the groups viewed as most important to serve were commuters and then the elderly. Among respondents stating that transit service is Not Too Important or Unimportant, disabled populations and commuters were most often selected.

Figure 2-3. Population to Serve by Level of Importance



QUESTION 3

Where should transit service be provided?

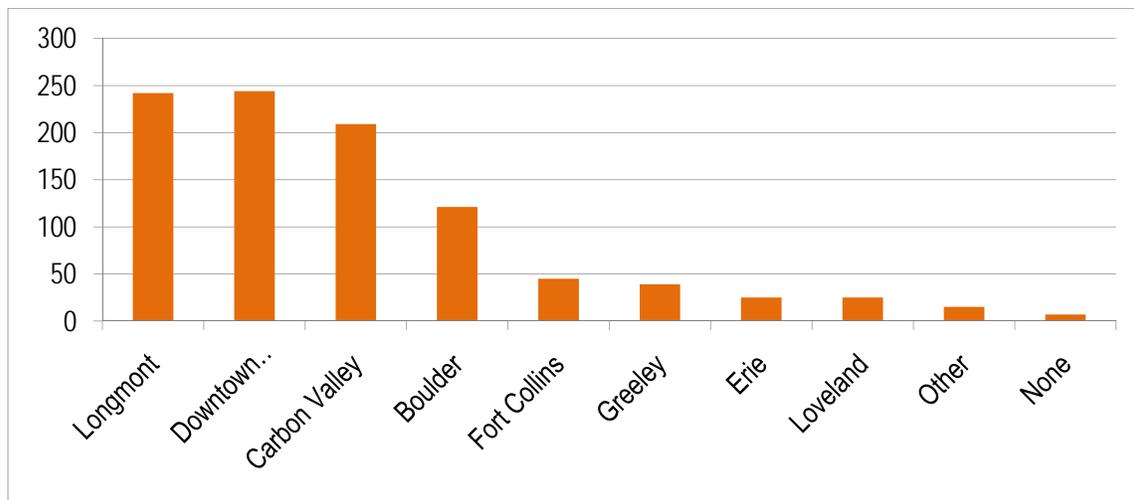
This question provided a list of ten destinations including an “other” category and asked the respondent to select their top three destinations for bus service. The overall intent of this question was to not only gauge the level of interest in specific destinations, but to also gauge the level of interest in regional destinations as opposed to local destinations. The results are shown in **Table 2-4**. These indicate that Denver (downtown Denver plus Park and Ride access to Denver) and Longmont were the most popular destinations identified with Carbon Valley service a close second. In the Other category, people also identified Denver International Airport, Fort Lupton, Kaiser Medical Center, Littleton, and Westminster as other desired destinations. It should also be noted that seven respondents stated that no destinations should be served.

Figure 2-3 combines Denver and park-and-ride access to Denver. It also orders the responses according to priority – clearly regional service was a very popular choice.

Table 2-4. Destinations to Serve

| Destination | Number | Percentage |
|--------------------------------|--------|------------|
| Carbon Valley | 209 | 21% |
| Boulder | 121 | 12% |
| Downtown Denver | 134 | 14% |
| Erie | 25 | 3% |
| Fort Collins | 45 | 5% |
| Greeley | 39 | 4% |
| Longmont | 242 | 25% |
| Loveland | 25 | 3% |
| Park and Ride to access Denver | 110 | 11% |
| Other | 15 | 0.5% |
| No Answer | 7 | 1.5% |
| Total | 972 | 100% |

Figure 2-3. Destinations to Serve by Frequency



To get a better understanding of differences between key destinations among respondents who stated that transit is Very Important to those who stated that transit is Not Important, the services were grouped further. The three categories are Carbon Valley and Longmont Only; both Carbon Valley and Regional service, and Regional Services Only. As shown in **Table 2-5** respondents who stated that transit is Very or Somewhat Important, 54%-59% identified local and regional destinations to serve. For this same group 32%-39% identified only regional services and only 7%-9% identified Carbon Valley and Longmont. Respondents who stated that transit service is Unimportant most frequently selected regional service only at 53%.

Overall, service to regional destinations (53%) or a combination of regional and local destinations (38%) was favored over local service and Longmont only (9%).

Table 2-5. Key Destinations by Importance of Providing Service

| Importance | Carbon Valley and Longmont Only | Carbon Valley & Regional | Regional Only | Responses |
|---------------------|---------------------------------|--------------------------|--------------------|------------|
| Very Important | 15 7% | 111 54% | 79 39% | 205 |
| Somewhat Important | 9 9% | 56 59% | 30 32% | 95 |
| Neutral | 3 9% | 12 38% | 17 53% | 32 |
| Not Too Important | 1 14% | 3 43% | 3 43% | 7 |
| Not Important | 3 9% | 2 38% | 5 53% | 10 |
| TOTAL SAMPLE | 31 9% | 184 38% | 134 53% | 349 |

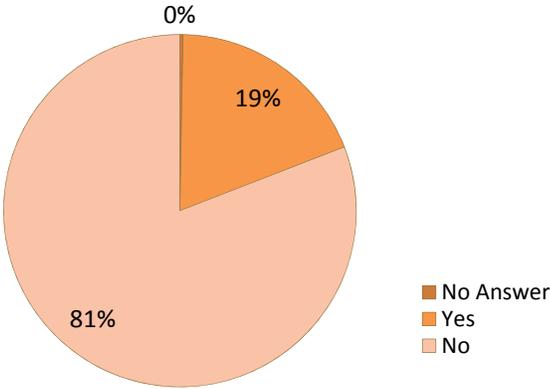
QUESTION 4

Does anyone in your household have a restriction on their mobility or ability to drive?

As expected, the majority of the people that responded to this question do not have an individual in their household that has a restriction on their mobility or ability to drive. Nineteen percent stated that someone in their household has a restriction. **Figure 2-4** illustrates the results of this question.

Respondents with a mobility restriction were asked about their current means of travel. Most stated that they rely on friends and family to get to doctors, shopping centers, and work.

Figure 2-4. Driving or Mobility Restriction in Household



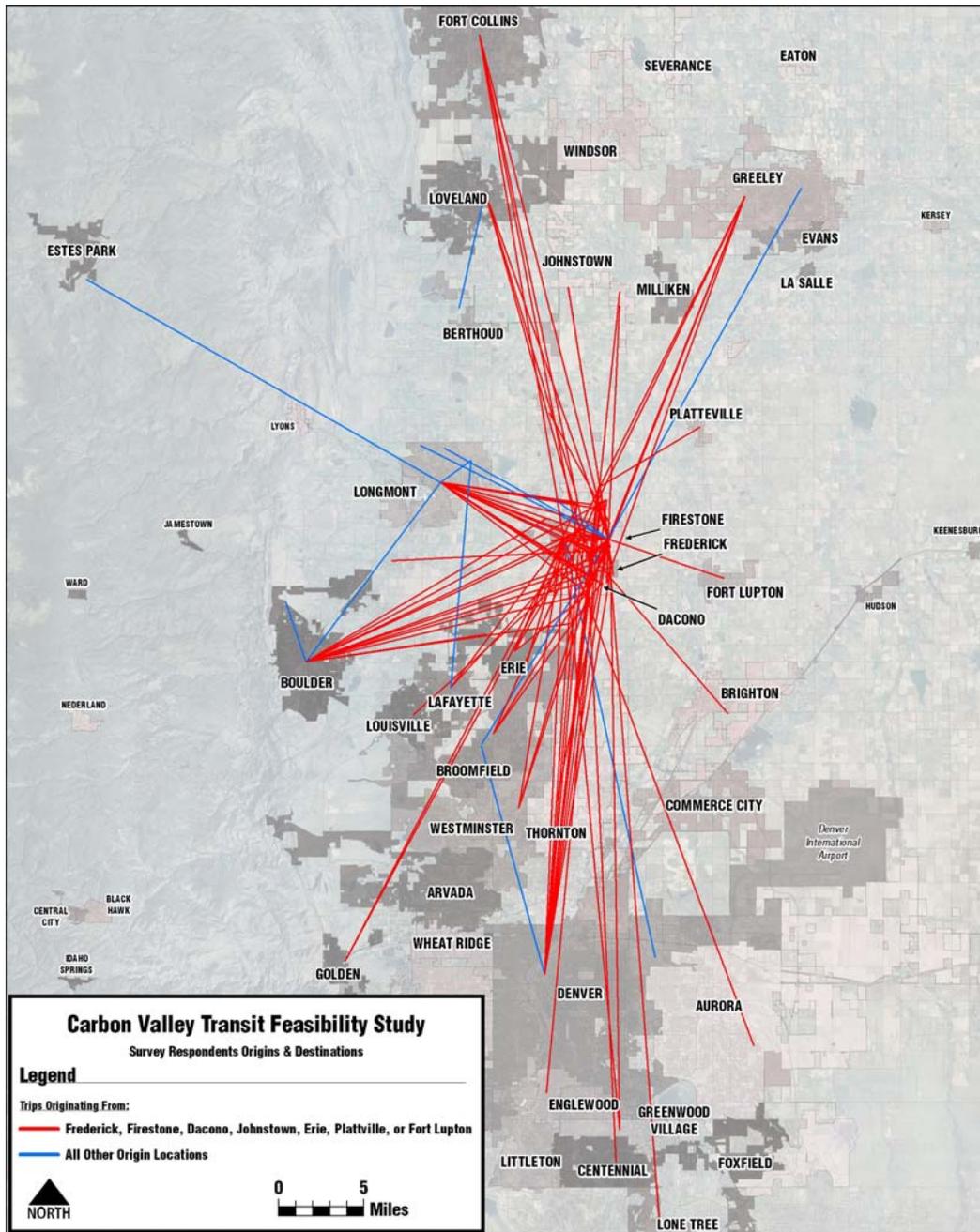
QUESTION 5

Please provide basic information about where you live and work.

The highest percentage of respondents indicated they live in Frederick, but the subdivisions varied throughout all of the communities. For the work city portion of the question some people either answered N/A or did not answer at all. A number of respondents were retired, so they may have chosen either response.

Of the individuals that provided a work city, the top five responses were, Firestone (56), Denver (30), Longmont (27), Frederick (19), Boulder (13), Dacono (8) and Greeley (8). Forty-one percent of respondents identified a work city within the Carbon Valley (Frederick, Firestone or Dacono). **Figure 2-5** is a plot illustrating the home and work cities identified.

Figure 2-5. Home to Work Travel Lines



QUESTION 6

How many times per week do you travel to/from work?

Most respondents indicated they either travel to work 0 times per week or 5 or more times per week. While the majority of respondents who answered 0 times per week are likely retired individuals who no longer work, a few indicated they work from home.

Table 2-6 summarizes the results of this question.

Table 2-6. Frequency of Travel to/from Work

| Times per week | Number | Percent |
|----------------|--------|---------|
| Zero | 81 | 23% |
| 1 to 2 | 18 | 5% |
| 3 to 4 | 53 | 15% |
| 5 or more | 187 | 54% |
| No Answer | 10 | 3% |
| Total | 349 | 100% |

QUESTION 7

Please provide the following information about your household:

Number of Licensed Drivers: _____

Number of Licensed Autos: _____

Table 2-7 summarizes the results of question 7.

Table 2-7. Autos and Drivers per Household

| Number of Autos | Responses | Percent | Licensed Drivers | Responses | Percent |
|-----------------|-----------|---------|------------------|-----------|---------|
| 0 | 4 | 1% | 0 | 5 | 1% |
| 1 | 70 | 20% | 1 | 63 | 18% |
| 2 | 137 | 39% | 2 | 192 | 54% |
| 3 | 87 | 24% | 3 | 65 | 18% |
| 4+ | 47 | 13% | 4 + | 27 | 8% |
| No response | 11 | 3% | No Response | 4 | 1% |
| Total | 356 | 100% | | 356 | 100% |

Figure 2-6 illustrates the results of how many licensed drivers are in the household. As shown, the majority of respondents (192) indicated that there are two licensed drivers in their household.

Figure 2-6. Licensed Drivers in Household

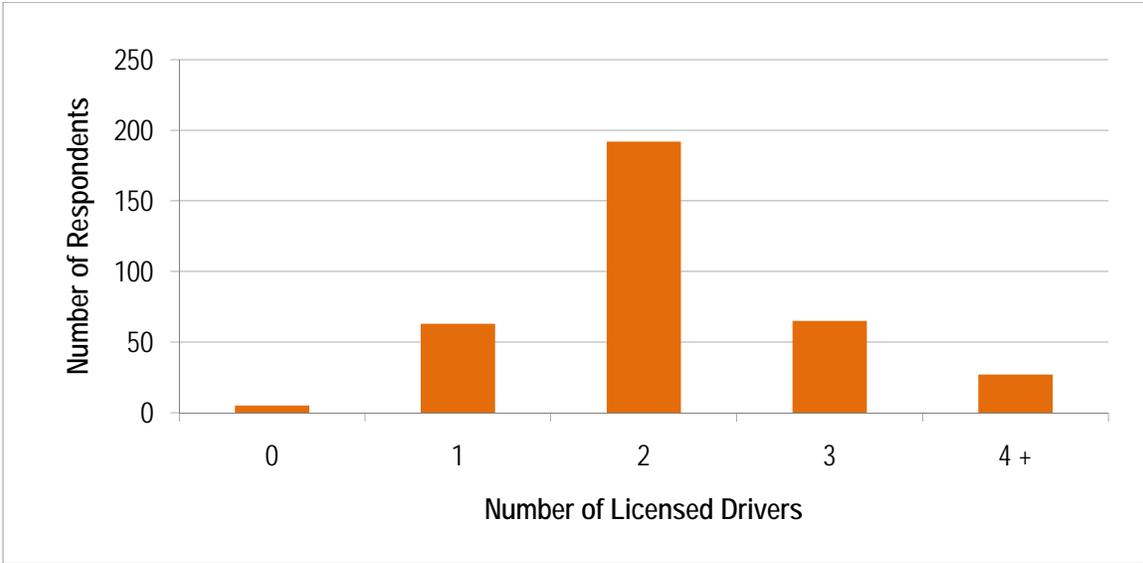


Figure 2-7 illustrates the results of how many licensed automobiles there are per household. Most respondents answered that they have between one and three automobiles in their homes and a small number said either zero or four or more.

Figure 2-7. Licensed Automobiles in Household

