



Colorado's Transportation Crossroads

Priority Transit Projects for the 21st Century

CoPIRG
Foundation

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Cover photos: Union Station, crowd exiting train, new light rail train courtesy of RTD; traffic congestion on I-70, David Parsons on istockphoto.com.

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Table of Contents

Executive Summary	1
Introduction	4
The Case for More and Better Public Transportation in Colorado	5
Travel Trends	5
The Benefits of Transit in Colorado	9
A 21st Century Transportation Vision for Colorado	12
Goals of Improved Public Transit in Colorado	12
Build Regional Rail Service	13
Complete Denver's FasTracks System	15
Improve Regional Transit in the North Front Range	18
Improve Transit in Colorado Springs	19
Improve Transit for the Roaring Fork Valley	22
Improve Bus Service in Smaller Communities	22
From Vision to Reality: A 21st Century Transit System for Colorado	25
Federal Government	26
State Government	26
Conclusion	28
Notes	29

Executive Summary

Colorado's transportation network does a poor job of meeting the needs of the state's residents. Heavy automobile traffic forces consumers to spend more money at the gas pump, steals time from Colorado families and businesses, makes our air less healthy, deepens our oil dependency, and creates more global warming pollution.

Expanding public transportation can provide more Coloradans with alternatives to driving, while laying the foundation for an efficient transportation system for the 21st century.

Public transportation already helps hundreds of thousands of Coloradans get where they need to go. In addition to saving time and money for consumers, transit systems take cars off the road, cut air pollution, provide a dependable way to get around or an alternative way to get to work in a pinch, and can jump-start economic growth.

By expanding transit service and improving connections between existing service, Colorado could reap more of these benefits. Scores of good transit projects are waiting in the wings, while the problems affecting our existing transportation system only multiply.

Colorado's current transportation system leads us to use too much oil, spend too much money on fuel, lose too much time stuck in traffic, and create too much global warming pollution.

- Coloradans drove 46 billion miles in 2008, 70 percent more than in 1990. Even though per-capita miles driven in Colorado have stabilized in recent years due to improved transit options, higher gas prices and a weak economy, total miles driven continue to rise.
- Coloradans lost 68.8 million hours stuck in traffic congestion in 2007, equal to 7,800 person years.
- Between 2002 and 2007, gasoline expenditures rose 86 percent in the state, causing Coloradans to spend \$2.6 billion more to fuel their cars than they had just five years earlier. Colorado's heavy use of oil leaves us vulnerable to volatile world markets and dependent on foreign sources of energy.

- Transportation-based global warming pollution increased 62 percent between 1990 and 2007 in Colorado, jeopardizing the state’s efforts to cut global warming emissions.

At the same time, Coloradans are riding transit in record numbers, thereby saving money, reducing congestion, and cutting global warming pollution.

- In 2008, 74 percent more Coloradans chose to ride transit than in 1991. In the Denver area, the number of passenger miles traveled via transit nearly doubled between 1998 and 2008.
- Transit use in Boulder, Colorado Springs and Denver averted more than 5 million hours of traffic delays and saved consumers \$107 million in 2007.
- Public transportation in Colorado helped the state avoid emitting 80,400 metric tons of carbon dioxide pollution in 2006.

Colorado can reduce traffic, shrink its oil dependence, improve air quality, cut global warming pollution, and grow healthier communities by investing in public transit, creating more choices for residents. Good transit investments for Colorado include the following:

- **A rail network connecting communities north and south along the Front Range and west to destinations along I-70.** Rapid train service could enable residents to travel between Front Range cities in half the time of driving, while easing congestion and helping to support the state’s important tourism industry.
- **Completion of Denver’s FasTracks plan,** with its vision of a vibrant

metropolitan area linked by efficient, modern transit. Current corridors where construction is underway include the East Corridor to Denver International Airport and along the Gold Line Corridor to Wheat Ridge. Encouraging walkable, mixed-use development centered around new FasTracks transit stops would further support the goals of reducing automobile traffic and protecting the environment.

- **Improved regional transit for towns in the North Front Range,** including the creation of commuter rail service or bus rapid transit linking Loveland, Greeley and Fort Collins, which could provide better connections for commuters and students traveling between the three cities, and the creation of transit service between Fort Collins and Denver.
- **Restoration of service that has been cut in Colorado Springs,** and then the addition of faster regional and expanded local service. Bus rapid transit lines could connect Fort Carson and Peterson Air Force Base, two of the area’s largest employers, with residential areas. New and more frequent local bus service along with a “call and ride” option in more spread-out areas would provide transit choice to more residents.
- **Bus rapid transit in the Roaring Fork Valley.** Efficient, high-capacity bus service on the Western Slope would address travel problems on the state’s busiest rural highway, Highway 82, and would more reliably link residents of the Roaring Fork Valley with employment opportunities in Aspen, Glenwood Springs and other regional centers.

- **Improved bus service in smaller communities.** Transit, whether in the form of fixed-route bus service or more flexible on-demand service, can link those without access to a car to critical services, including employment, education, medical care and critical public services. Unfortunately, few rural areas and small towns in Colorado offer transit service for the general public, but the success of fixed-route bus service in Sterling, population 14,000, is indicative of the demand for better transit options in similar communities around the state.

Colorado needs an efficient transportation system to support the state's economic recovery and future growth. Investing in transit now can put Coloradans to work and move the state toward a modern, 21st century transportation system that can meet our needs in the future. To get there, the state should:

- **Lay out a clear and compelling vision for transit in the 21st century.** With a strong vision and commitment to invest in transit statewide as the sensible way forward, Colorado can build an integrated public transportation network to meet transportation needs and solve problems for residents in cities and towns around the state. Colorado recently took an important step in the right direction by creating a Division of Transit and Rail within

the Colorado Department of Transportation and charging that division with developing a comprehensive statewide transit plan for Colorado. However, until the division has adequate funding and staffing it will be hampered in fulfilling its mission.

- **Provide stable funding to make the vision a reality.** Any plan for transit in Colorado must be paired with dedicated, adequate and sustained funding for infrastructure and operating expenses. Colorado's current reliance on sales tax revenue to fund transit leaves transit agencies vulnerable to budget shortfalls during economic downturns, times when they face higher demand for their services.
- **Urge Congress to reshape the nation's transportation funding priorities.** The new federal transportation law should prioritize investing new capital in public transit, fixing existing roads and bridges rather than building more highways, and spending taxpayers' money more wisely by using federal dollars to invest in high-priority transportation solutions.
- **Adopt other policies that support transit.** Walkable, mixed-use development creates communities that can be easily served by transit and where residents have real alternatives to driving. Land-use policies can encourage this transit-oriented development.

Introduction

Ask Coloradans why they love living in the state and you'll probably hear similar answers from old-timers and newcomers alike. They'll tell you about endless hiking, skiing and camping opportunities. You might hear about the pleasures of watching the sun set behind the mountains or seeing stands of bright gold aspen trees in the fall. Or of how the state manages to maintain its Old West heritage and strong individualism in the midst of modern life.

These traits have drawn many new residents to Colorado in recent decades, helping the state's economy to grow and bringing renewed vibrancy to communities.

But this growth has also come at a cost. The transportation choices we've made to accommodate our millions of new arrivals—specifically, the massive investments Colorado has made in highways—have threatened much of what we Coloradans hold dear. When a trip to the mountains begins in a snarl of traffic congestion, air pollution hampers views of the Rockies, and our reliance on cars contributes to

larger problems—such as dependence on oil and global warming—that threaten our future, it is time to look for alternatives.

Thankfully, there are other ways to move people around Colorado.

By investing in a 21st century network of public transportation to complement the state's existing road network, Colorado can address some of the state's most difficult problems—from traffic congestion to the loss of precious open space—while providing the infrastructure Colorado will need to grow and thrive in the years ahead. To achieve this future, we need a vision of a transportation system in which public transit plays a leading role and a commitment to invest resources accordingly. This report describes many projects deserving of that investment.

Coloradans have long demonstrated their ability to prepare for the future without compromising their heritage and love of the outdoors. Building a 21st century transportation network will allow Colorado to both embrace the future and protect the past.

The Case for More and Better Public Transportation in Colorado

Because of our car-centered transportation network, Coloradans spend too much time stuck in traffic, burn too much gasoline, and create too much pollution with cars. In response, more Coloradans are using public transportation to get where they need to go, saving time and money, reducing global warming pollution, and helping to curb our dependence on oil.

Colorado's existing public transit system provides important services, getting thousands of people to and from work and around their communities every day. These services have, moreover, become a cost-saving lifeline for many Coloradans in the current economic downturn. But with the growing economic and environmental problems of a car-dependent transportation system and rising transit demand, it is time for Colorado to expand those services and invest in public transportation for the 21st century.

Travel Trends

Colorado's population has grown quickly in recent years, increasing more than 60

percent between 1980 and 2007.¹ But as new communities have sprawled outward from city centers, too often without the presence of real transportation alternatives, Coloradans have had to drive farther and farther to get to the places they frequent. For years, this meant that the number of vehicle miles driven by each Coloradan increased.² (See Figure 1.) In total, Coloradans drove 46 billion miles in 2008, 70 percent more than in 1990.

With more people driving farther, traffic congestion is worse than it was in the 1990s. In Colorado Springs, for example, the total number of hours that drivers spent stuck in congested traffic increased more than 2.5 times between 1995 and 2007, down from its 2005 high.⁴ (See Table 1.) Despite the recent easing of congestion, Colorado motorists still wasted 68.8 million hours in traffic in 2007, equal to 7,800 person-years.⁵

And while spending time stuck in traffic is annoying for motorists, it is also wasteful, polluting and expensive. In 2007, for example, congestion caused Coloradans to burn an extra 45 million gallons of gasoline.⁷ That same year, the combined expense of wasted fuel and lost economic

opportunities as a result of congestion cost the state more than \$1.3 billion.⁸

Increased driving and congestion, and rising gas prices, mean that Coloradans have had to spend more money at the gas pump in recent years. Inflation-adjusted per-capita spending on gasoline increased dramatically between 1980 and 2007, with the sharpest increase, 86 percent, occur-

ring between 2002 and 2007. (See Figure 2.) In 2007, Coloradans spent \$2.6 billion more on gasoline than they had just five years earlier, and even more in 2008 when gas prices reached a record high.⁹ Residents of areas with less transit service end up spending a greater portion of their income on gasoline and transportation. (See Figure 3, page 8.)

Figure 1. Vehicle Miles Traveled Per Capita in Colorado, 1980-2007³

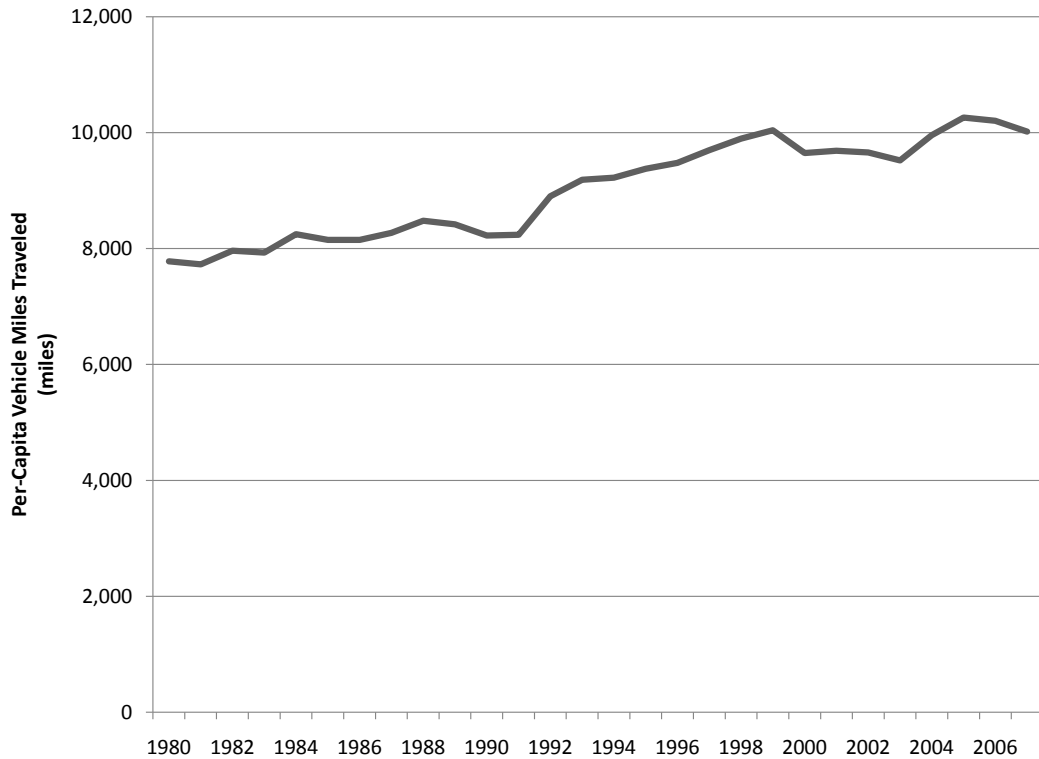
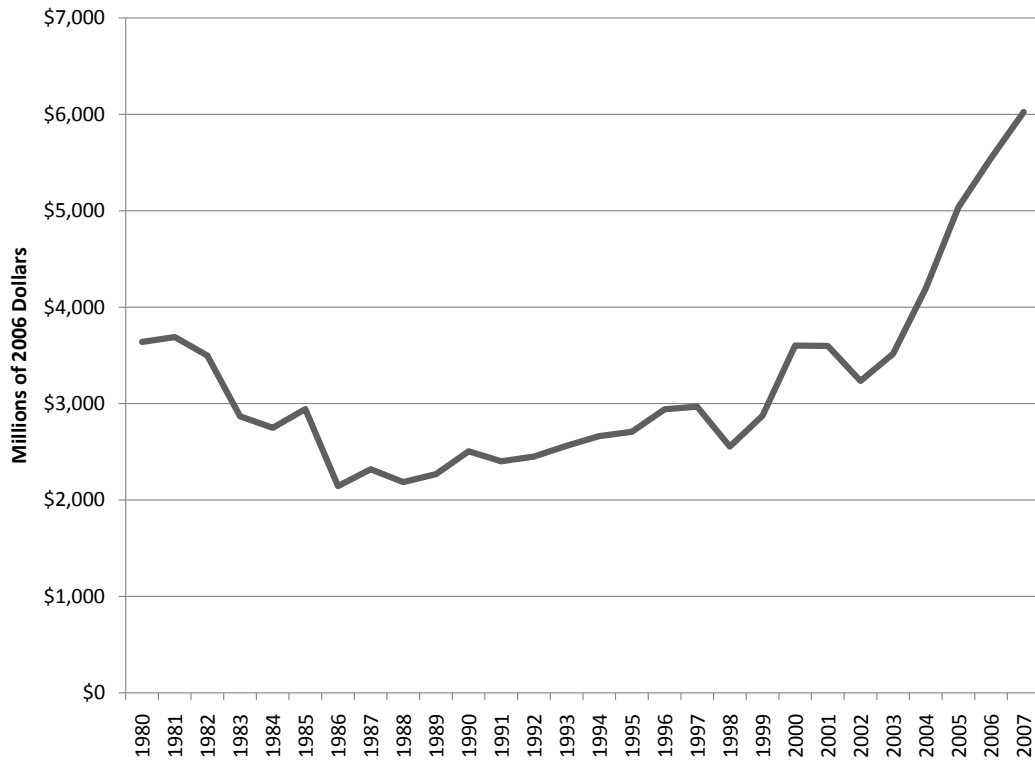


Table 1. Annual Traffic Delay, 1995, 2005 and 2007⁶

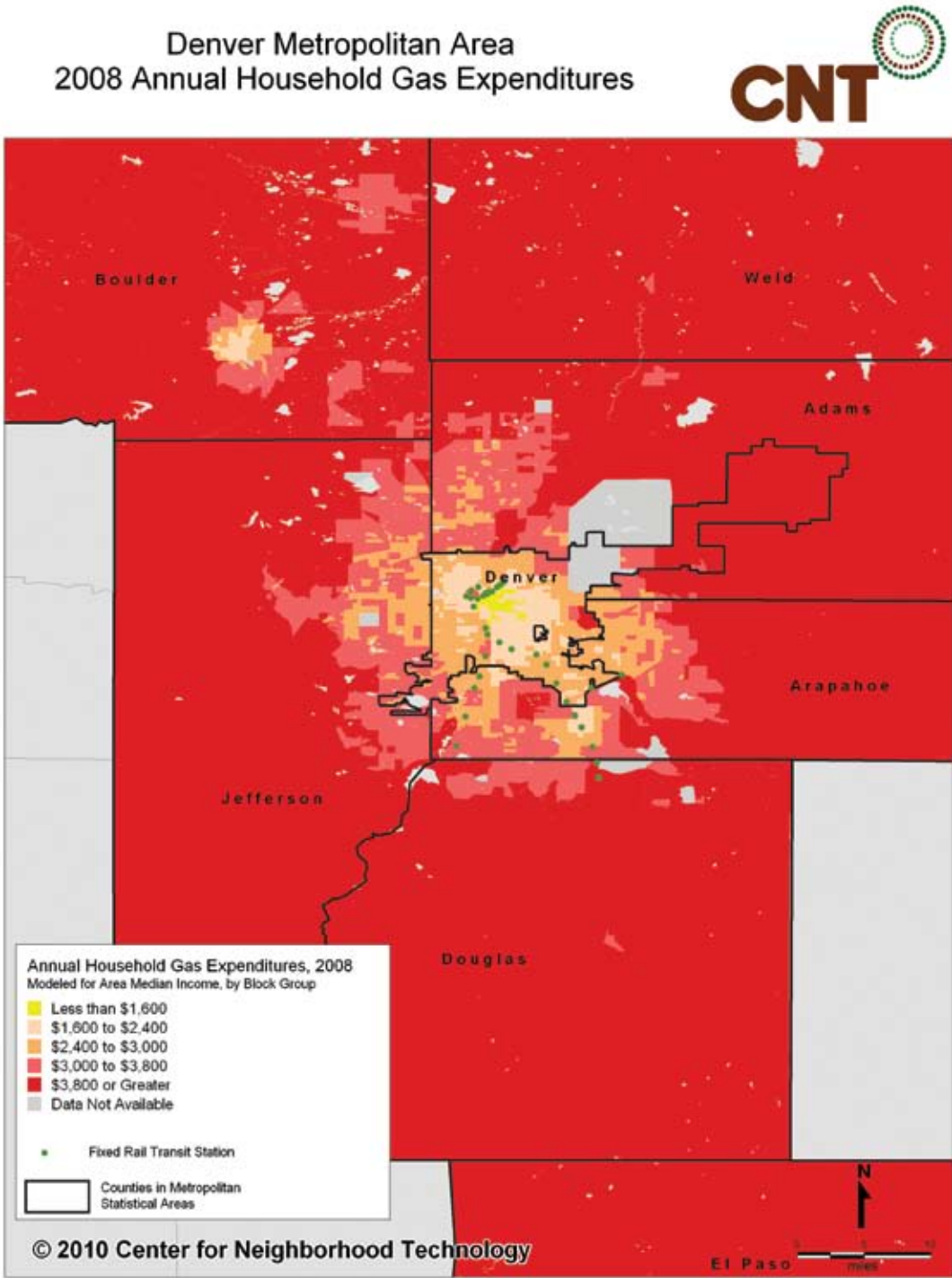
City	1995 Total Annual Traffic Delay (Hours)	2005 Total Annual Traffic Delay (Hours)	2007 Total Annual Traffic Delay (Hours)	Percent Increase in Traffic Delay, 1995-2007
Boulder	794,000	996,000	953,000	20%
Colorado Springs	2,266,000	7,330,000	6,457,000	185%
Denver	31,975,000	64,160,000	61,345,000	92%
TOTAL	35,035,000	72,486,000	68,755,000	96% (avg)

Figure 2. Inflation-Adjusted Motor Gasoline Expenditures in Colorado's Transportation Sector, 1980-2007¹⁰



Severe traffic congestion on I-70 is an all too common sight. Credit: DaveParsons.com on istockphoto.com

Figure 3. Annual Household Gasoline Expenditures in 2008¹¹



In 2007, Coloradans spent \$2.6 billion more on gasoline than they had just five years earlier.

Wasted fuel also worsens the state's growing global warming problem. Colorado's transportation sector is one of the main contributors to statewide global warming pollution. Producing more than 30 percent of Colorado's carbon dioxide emissions, the transportation sector is second only to electricity generation as the dirtiest sector of the state's economy.¹² With more residents driving more miles, global warming pollution from transportation increased 62 percent over the period between 1990 and 2007.¹³

The additional problem of high gasoline consumption is that Colorado relies heavily on imports from beyond state and national borders. Not only does this expose Coloradans to the fluctuations of the global oil market and spikes in the price of gasoline, but it also means that the money residents spend on fuel leaves the state. For the most part, money spent on gasoline does not create jobs in Colorado or support the state's economy.

The wasted time and money, lost economic opportunities, and environmental impacts of traffic in Colorado are likely to grow in coming years, as more families and individuals take up residence in our state. In fact, Colorado's population is projected to grow nearly 35 percent between 2000 and 2030, and even faster in the North Front Range—meaning more cars on the road, more dollars spent on gasoline, more pollution, and more time spent in traffic.¹⁴ The state's transportation problems, in other words, will only compound if they are left unaddressed.

The Benefits of Transit in Colorado

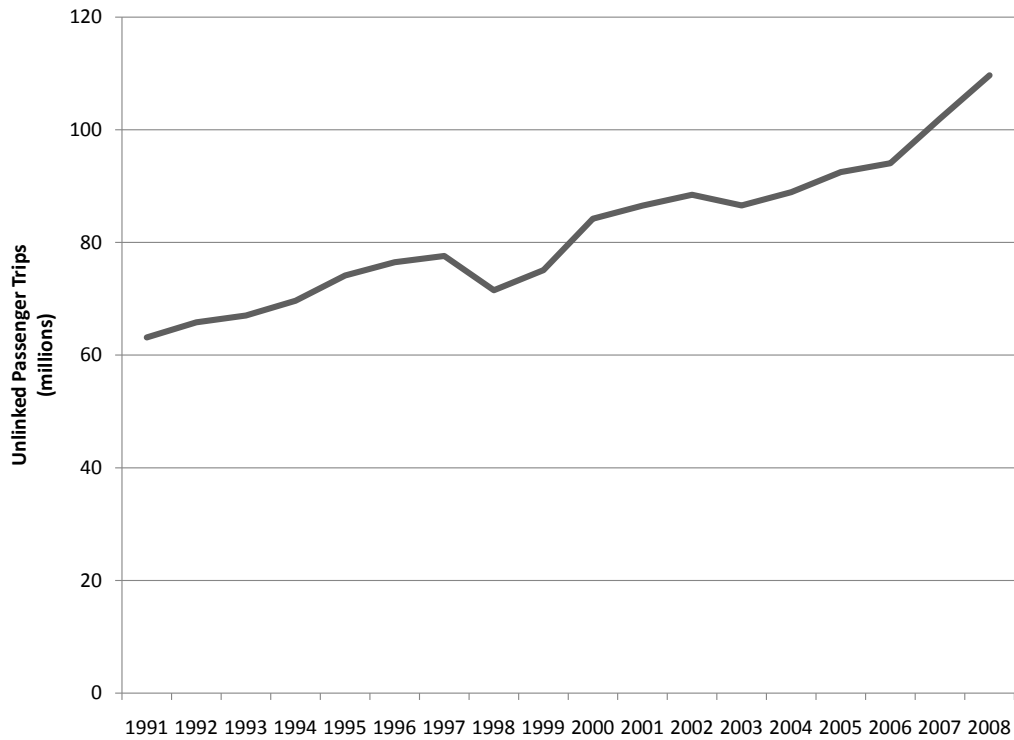
Over the last few years, many of the long-term trends that have defined Colorado's transportation system in recent decades—an annual increase in driving leading to ever-worsening congestion—have slowed, and in some cases even reversed. The number of miles driven per capita on Colorado's highways has declined since 2005, resulting in a decline in highway congestion in several cities.

There are many reasons for the recent declines in driving—with high gasoline prices and the economic downturn among them. But it is also true that many more Coloradans have come to see the benefits of public transportation. And by riding transit, Coloradans are making a measurable contribution toward reducing traffic congestion, saving oil, and curbing emissions of global warming pollution.

Transit ridership has been on a relatively steady increase across Colorado since the early 1990s. (See Figure 4.) Statewide, 74 percent more people chose to ride public transportation in 2008 than in 1991.¹⁵ Between 2007 and 2008, for example, transit ridership increased dramatically across the state—jumping by 8.5 percent in the Aspen area, just over 9 percent in Denver, and more than 17 percent in Grand Junction.¹⁶ Total miles traveled on transit have also risen. For example, passenger miles traveled on Denver's RTD increased by 95 percent from 1998 to 2008.¹⁷

The boom in transit ridership in Colorado is paying off in reduced congestion, lower expenditures on oil, and reductions in global warming pollution. A study by the Texas Transportation Institute, for example, quantified the benefits of existing transit service in terms of time and money, and found that the use of public transportation in Boulder, Colorado Springs and Denver saved more than 5.3 million hours of traffic congestion—662,000 work

Figure 4. Statewide Transit Ridership, 1991-2008¹⁸



days—and \$107 million in gasoline costs and lost productivity in 2007 alone.¹⁹ (See Table 2.) The previous year, statewide transit helped Coloradans avoid burning 14.7 million gallons of oil.²⁰

Taking transit also helps cut back on the global warming pollution that is dangerously changing our climate. In 2006, public transportation in Colorado helped the state avoid emitting 80,400 metric tons of carbon dioxide pollution.²²

In addition to these benefits, public transportation creates good, sustainable jobs for local communities. Investing in new transit projects creates design and construction jobs—often producing more jobs per dollar than investments in roads or bridges. For example, transit investments across the nation funded by the American Recovery and Reinvestment Act have produced twice as many jobs per dollar as spending on new road and bridge projects.²³

Table 2. Savings Due to Public Transportation, 2007²¹

City	Time Savings (hours)	Money Savings (2007 dollars)
Boulder	52,000	\$1,000,000
Colorado Springs	222,000	\$4,400,000
Denver	5,033,000	\$101,600,000
TOTAL	5,307,000	\$107,000,000

Transit also creates permanent jobs such as operators and mechanics, which stimulate local economies for the long-term through the goods and services these employees purchase with their wages.

Public transportation provides a host of other important, if difficult to quantify, benefits. Transit provides a source of mobility to the poor, elderly, children and disabled, many of whom cannot afford a car or cannot drive. Investments in transit have helped spark the economic revitalization of areas around transit stations, helping to create vibrant communities that are less dependent on the automobile. Transit riders are free from the responsibilities of driving, meaning that they can use their time to read, chat, catch up on the day's news or, in an increasing number of transit

vehicles, use wireless Internet to check e-mail or do important work.

More Coloradans are experiencing the benefits of transit than ever before—and the state as a whole is better off. But in order to take full advantage of the benefits of transit, Colorado must reevaluate its transportation priorities. To meet current challenges and plan better for tomorrow, Colorado must invest in a new vision for 21st century transportation. The projects described in the following pages comprise a good starting point, and should be part of that vision. Numerous other transit projects can additionally help move our state in the right direction, and all should be part of a new chapter in the story of Colorado's ailing transportation system.

A 21st Century Transportation Vision for Colorado

Colorado needs an efficient transportation system to support the state's economic recovery and future growth. By investing in a wide variety of transit options—from local buses and light rail to commuter buses and regional rail—Colorado can grow in smarter, cleaner and more efficient ways, while providing new transportation options to residents. The following projects can help Colorado achieve a 21st century vision for public transportation.

The projects listed in this section are not in order of priority. Transit investments must be evaluated on a range of criteria, from their impact on air quality and global warming emissions to their potential to spark economic development and improve quality of life. Investments in commuter rail, for example, deliver different benefits to different constituencies than investments in improved local bus service.

As part of a transportation network, however, new transit projects connect and add value to one another—and so are more

useful in combination than each one is alone. Together, these projects supply the vision of a new direction for transportation in Colorado, one in which the state would be wise to invest.

Goals of Improved Public Transit in Colorado

Any transit investment strategy for Colorado should have a blueprint to guide it—a set of goals that the state wishes to achieve. The state should set a target of completing investments, by 2030 at the latest, that would achieve the following goals:

- 1) Provide access to convenient, affordable, efficient transit service for residents of Colorado's biggest cities. This includes completing construction of FasTracks to adequately serve the 2.8 million Coloradans who live in the Denver metro area.²⁴ In other

communities, light rail and bus infrastructure can provide better local transit options. Commuter rail service can further connect workers and employers more efficiently on the regional level.

- 2) Develop alternatives to high-volume highway corridors. Use frequent, reliable and fast rail service to connect major corridors in the state. Bus service can connect smaller communities to rail hubs.
- 3) Integrate transit and land-use planning wherever transit projects exist. Use principles of efficient, compact development to combat sprawl and create a healthier future for Colorado's communities and overall economy.
- 4) Develop local public transportation networks in cities and towns across Colorado using a combination of transit services to provide appealing alternatives to driving.

Completing these infrastructure projects and adequately funding their reliable operation will create a Colorado that is more economically vibrant, less dependent on oil, less impacted by traffic on the roadways, and capable of meeting the transportation challenges of the 21st century.

Build Regional Rail Service

Rapid, reliable rail service along Colorado's two busiest travel corridors would draw millions of passengers annually. Though rail lines along I-25 and I-70 would meet very different travel needs, the impact of building two lines is more than twice that of building just one.²⁵ The new lines would create a backbone for the state's transit network.

Rail Service Along the Front Range

The majority of Coloradans live in the cities and towns stretching north and south along the Front Range. Decades ago, these were independent communities, but in the past 30 years, Fort Collins, Boulder, Denver, Colorado Springs and the numerous towns in between have grown and spread into one nearly continuous urban area. The region's transportation system has not kept up with this growth, creating terrible congestion on I-25 and secondary roads, and offering travelers few alternatives. Tens of thousands of residents work in one city and live in another, creating huge daily commute flows.²⁶ The majority of these commuters travel into Denver for work, but reverse commutes are common also.

More than 2 million more residents are projected to live in the Front Range region by 2030, a 61 percent increase.²⁷ Growth will be especially rapid in the North Front Range, with that region's population more than doubling. The number of jobs is projected to rise by 56 percent, but those new employment opportunities will not necessarily be close to projected new housing. (See Table 3.) This problem is especially pronounced in the Pueblo area, with employment increasing just 33 percent, compared to a 59 percent increase in population. The influx of residents commuting to new jobs will create congestion along the length of I-25 from Fort Collins to Pueblo.²⁸

Fast, reliable train service along the I-25 corridor would provide travelers an alternative to driving, something that residents are eager for. Multiple surveys of northern Colorado residents, for example, reveal stronger support for improved transit, especially rail, than any other option for improving transportation. More survey respondents wanted rail service along I-25 than wanted the highway widened to carry more vehicles.³⁰

The specific route a north-south rail line

Table 3. Projected Increase in Population Versus Jobs by 2030²⁹

Region	Population Growth	Job Growth
North Front Range Region	478,000	238,000
Denver Region	1,297,000	775,000
Pikes Peak Region	281,000	195,000
Pueblo Region	84,000	27,000

could take is still in the early discussion stages. A route that serves fewer stations would provide faster service, but could dampen ridership numbers. Trains could serve communities from Cheyenne to Trinidad, including Fort Collins, Denver, Colorado Springs and Pueblo. The trip from Fort Collins to Denver could take as little as 40 minutes by train, compared to an hour or an hour and a half by car, depending on traffic.³¹ Denver to Pueblo by train could take up to an hour and 40 minutes, half as long as driving during peak times.

In partnership with New Mexico and Texas, Colorado is proposing a north-south high speed rail corridor that would extend from Denver to El Paso through Albuquerque.³² Federal recognition of this high speed rail corridor would allow the state to compete for billions in federal funding for the study, design and construction of high speed train service.

Rail Service to the Eastern Rockies

The weekend after heavy snowfall in the winter or on summer weekends with beautiful weather, Coloradans and out-of-state tourists flock to the mountains to enjoy the state’s natural beauty and take advantage of its recreational resources. Often, however, the trip into the Rockies is marred by heavy traffic congestion, particularly at bottlenecks or when severe weather causes accidents. Rail service along I-70, the most heavily traveled of

those routes, could provide an alternative to driving and offer both residents and tourists an easier trip.

Fast and frequent passenger rail service into the mountains makes sense for several reasons. Scenic and recreational sites in the Rockies draw tourists from across the country, but I-70 is nearing capacity in some locations.³³ This congestion is a problem for Coloradans on weekend excursions and for the state’s tourism industry. Two-thirds of the 28 million overnight trips to Colorado in 2007 were made by out-of-state visitors.³⁴

Destinations along I-70 account for a surprisingly large share of intercity travel in Colorado, as shown in Table 4. And linking any mountain rail line to Denver and the airport is crucial to the system’s usefulness, enabling out-of-state visitors to forgo renting a car or flying into a small airport where weather conditions can disrupt service for days.

There are multiple rail alignments possible along I-70 from Denver to Avon. The most likely routing would use both existing rail right-of-way and new tracks. For example, train service with a maximum speed of 125 miles per hour could make the trip from Denver International Airport to Avon (a likely western terminus of the line) in approximately two and a half hours, the same time as a car if there is no traffic but an hour faster than a vehicle stuck in traffic congestion.³⁶

To be eligible for some of the billions of federal dollars that have been promised for high-speed rail projects, Colorado’s

Table 4. Annual Intercity Trips to Major Colorado Destinations³⁵

Destination	Millions of Trips	Corridor
Denver Airport	44.0	I-25 and I-70
Denver	36.6	I-25 and I-70
Blackhawk/Central City	12.0	I-70
Breckenridge	8.2	I-70
Vail	7.9	I-70
Colorado Springs	7.3	I-25
Keystone	5.7	I-70
Copper Mountain	4.7	I-70
Avon	4.6	I-70
Fort Collins	3.6	I-25
Boulder	3.6	I-25
Pueblo	1.8	I-25
Georgetown	1.5	I-70

rail service would need to travel at speeds of at least 110 miles per hour.³⁷ Achieving such speed will require a combination of straightening some sections of track, selecting locomotive technology that can handle steep grades, or picking new rail-road technology.

No matter how fast trains are able to run, speedy, reliable rail service along the I-25 and I-70 corridors is expected to draw significant numbers of passengers. Trains operating at 125 miles per hour along a mix of new and existing routes would carry 17 million riders, most of whom would be new transit riders who switch from driving.³⁸

Complete Denver's FasTracks System

The Denver metro region suffers from significant traffic congestion and residents are eager for alternatives to driving in congested traffic. In 2007, a survey of Denver-area residents identified inadequate transit and high traffic congestion as two of the top

three concerns for the region.³⁹ In 2009, even in the midst of economic turmoil, improving public transportation declined only to third place on respondents' list of top concerns.⁴⁰

In 2004, Denver metro area residents' desire for better public transit led to passage of a ballot measure approving a sales tax increase to fund a major expansion of light rail, commuter rail, and bus service. The FasTracks expansion plan promises to transform Denver's transportation system by creating a dense network of light rail, local bus lines, and bus rapid transit. Once the FasTracks network is completed, Denver should be a region where residents and visitors know they'll be able to get around easily and reliably even without access to a car.

The FasTracks plan includes construction of approximately 120 miles of new light rail and commuter rail, 18 miles of bus rapid transit, more than 50 new transit stations, and other transit enhancements.⁴¹ New transit lines will connect communities in every direction through downtown Denver, where Union Station is being rede-

veloped into a multi-modal transportation hub and a destination in its own right. Not only will the new service offer travelers a convenient transit trip from one side of the metropolitan area to the other, but it will also provide total travel times that are competitive with driving. For example, in 2025, rush-hour trips from various locales around the Denver area to Denver International Airport should be as much as 30 to 40 percent faster on transit than by car.⁴²

Construction has commenced on some parts of the FasTracks project. Construction of the West Corridor Line from the Jefferson County Government Center to downtown Denver is underway and the line is scheduled to open in 2012.⁴³ Upgrades to Union Station should begin soon. When the project is complete, the station will serve as a major multi-modal hub connecting the FasTracks system and allowing passengers to transfer seamlessly from one mode of travel to another.

Unfortunately, the reworking of Denver's transit network has been slower than planned due to higher than expected costs and lower than anticipated revenues. As Denver's Regional Transportation District (RTD) is trying to figure out how to deal with this funding shortfall, it is important not to lose sight of the value of constructing a comprehensive, regional transit system. The next two lines that are slated for construction are the East corridor and the Gold Line to Wheat Ridge.

East Corridor

East of downtown Denver, FasTracks will offer travel improvements to people coming and going from Denver International Airport (DIA) and points in between, such as Stapleton. In this corridor, currently served by I-70 and Pena Boulevard, congestion can be so severe that travel times are highly unpredictable.⁴⁴ More than a quarter of residents in this corridor have low incomes and thus are heavily dependent on limited bus service, which gets caught in



A light rail train at a stop on Denver's C Line.
Credit: EPA Smart Growth.

the same traffic that snags car drivers.⁴⁵ As the Denver metro area's population grows, traffic delays in this corridor are projected to more than double.⁴⁶ Several studies, issued over the past 15 years, have confirmed the need for rail service along this route.

The commuter rail line being planned for this corridor will cover 24 miles and link six stations. The ride from downtown Denver to the airport will take less than 30 minutes, with trains operating every 15 minutes for 22 hours a day.⁴⁷ Daily ridership in 2030 is expected to be nearly 38,000. Construction is scheduled to begin in 2011.

Gold Corridor

For the Gold Line to Wheat Ridge, RTD has proposed an 11-mile commuter rail line that will connect Union Station in downtown Denver with Wheat Ridge, passing through unincorporated Adams County and Arvada.⁴⁸ This area is currently served, in part, by I-70 and I-76.⁴⁹

The population and employment centers in this corridor are expected to grow in coming years, adding to congestion and lengthening travel times. Population is expected to increase by 34 percent and employment by 45 percent in the area served by the planned Gold Line. Without the new commuter rail line, travel time

Figure 5. Map of Planned FasTracks System⁵³



in a car from the end of the Gold Line to downtown Denver is predicted to increase by 35 percent in 2030.⁵⁰

RTD plans to address these problems by building a commuter rail line that heads straight north from downtown before turning west toward Wheat Ridge. The plans call for eight stations to provide access to

the route, scheduled to open in 2016. On weekdays, trains would operate from 4:00 a.m. to 12:30 a.m., with trains coming as often as eight times an hour during peak periods.⁵¹ The planned line is expected to carry a daily ridership of 17,000 to 20,000 by 2030, and would help reduce total vehicle miles of travel in the corridor.⁵²

Regionwide Transit-Oriented Development

FasTracks is helping to address the Denver metro region's transportation problems not only by offering travelers more alternatives to driving, but also by spurring transit-oriented development that should reduce travel needs. Transit-oriented development includes residential and commercial uses within walking distance of transit, allowing travelers to combine trips or eliminate some trips by car altogether. Commuters might drop off dry-cleaning on the way to catch the train, walk to a store during lunch to complete some errands, and stop by the florist on the way home, all without needing a car.

Denver's existing light rail lines have spurred new development at many of their 34 stations.⁵⁴ Since the light rail lines were announced and built, more than 11,000 residential units, 4,500 hotel rooms, and millions of square feet of commercial and retail space have opened within one-half mile of transit stations.⁵⁵ The proximity of these facilities to transit means that residents and workers are better able to get where they need to go via transit and leave their cars at home.

As new transit lines are completed, public policy that supports construction of more transit-oriented development would further enhance their benefit. Convenient transit and vibrant development are mutually reinforcing. As more people ride transit, more shops and restaurants can thrive near transit stops, and as development around stations increases, riding transit becomes more convenient and a greater time-saver. In areas surrounding stations included in the FasTracks plan, 2,500 residential units, 2.7 million square feet of retail space, and extensive government, office, medical and entertainment facilities have been constructed or are planned.⁵⁶

Improve Regional Transit in the North Front Range

The North Front Range has multiple local transit options. Greeley, Fort Collins and Loveland each operate bus systems that carry tens of thousands of passengers annually. However, passengers wishing to travel from one community to another, or to Denver, currently find it difficult to impossible to do so on transit.⁵⁷ Residents of the North Front Range could benefit from improved regional transit options.

Loveland, Greeley and Fort Collins have their own bus networks that serve each community separately. Fort Collins' Transfort system, designed to serve students and the most densely developed parts of town, carries almost 1.5 million

passengers annually.⁵⁸ In Loveland, the City of Loveland Transit (COLT) network links residential areas with downtown.⁵⁹ Greeley-Evans Transit connects major activity centers and has expanded in recent years as the communities have grown. As is also true for Transfort, Greeley-Evans Transit offers increased transit service during the school year to make travel easier for students and university employees.

What the region lacks is much transit between these communities. Currently, only two routes operate between North Front Range towns. The North Front Range Metropolitan Planning Organization has begun a two-year trial of the 34 Xpress, bus service between Loveland and Greeley, a trip that 30,000 people make each day by car.⁶⁰ During its first month of

service, the 34 Xpress carried 1,280 riders beyond local service areas.⁶¹ Loveland and Fort Collins also have a bus link known as FoxTrot. Limited funding, however, means that service is infrequent, and roadway congestion hampers reliability.

Commuters who live in one town but work in another would benefit from improved regional connections. While most Fort Collins residents who work are employed in Fort Collins, almost half of Loveland residents who work leave the city.⁶² More than 5 percent of workers who live in Fort Collins work in Loveland, 4 percent work in Greeley, and 8 percent work elsewhere. Of Loveland workers, 18 percent travel to Fort Collins, 4 percent to Greeley, 7 percent to Longmont and 16 percent to other destinations.

The key regional transit improvements needed in the North Front Range area include:⁶³

- Bus rapid transit from Loveland to Greeley,
- Rail or bus rapid transit along the US-287 corridor from Fort Collins to Loveland,
- Rail or bus rapid transit between Fort Collins and Greeley,
- Express bus service between Milliken and Berthoud, and
- Improved local transit service with more routes, more frequent buses, and longer hours.

Bus rapid transit (BRT) lines typically include a separate traffic lane for buses, priority for buses through intersections, and pre-paid fares to speed boarding. High-quality bus stops, improved pedestrian amenities and regular updates for riders about when the next bus is coming improve the experience for passengers. Though light

rail can provide better service and a more pleasant trip for commuters, the advantage of bus rapid transit service is that it can sometimes be constructed more quickly and at lower cost than a new rail line.

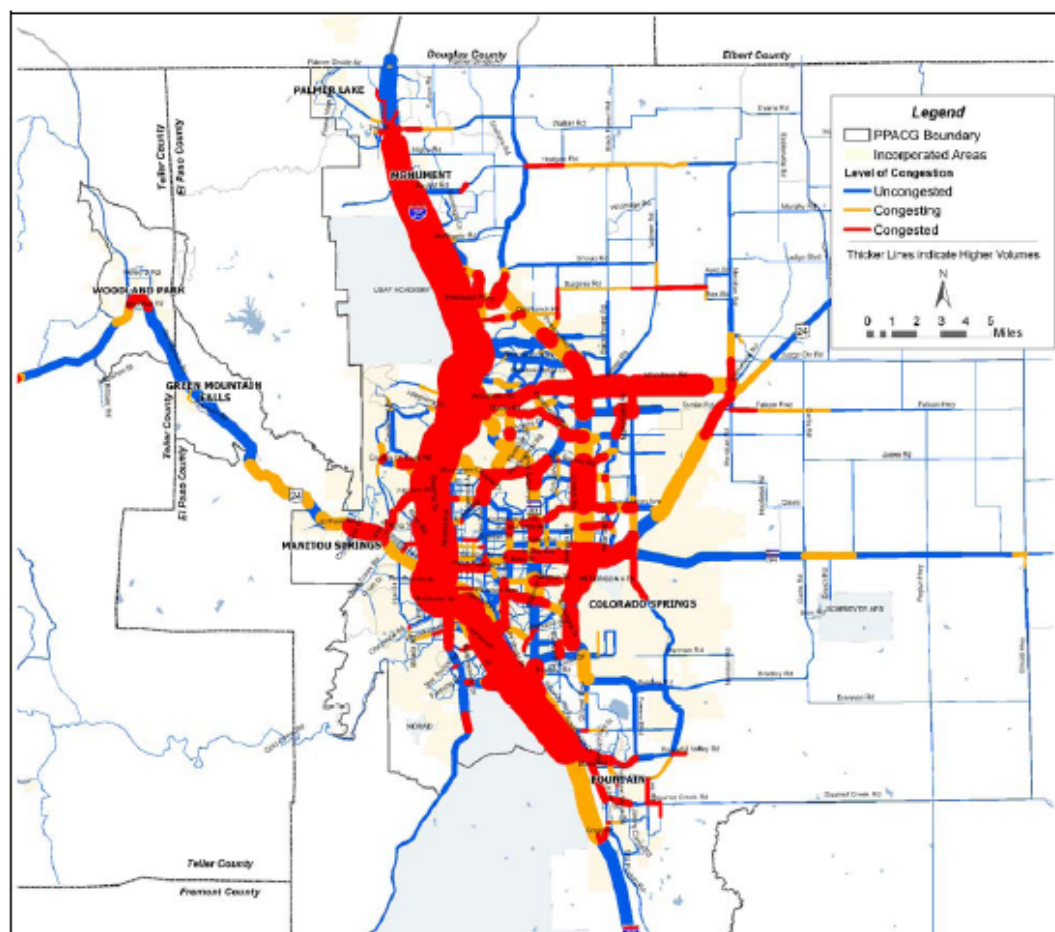
The North Front Range area also needs a transit link to Denver. The Northwest Corridor rail line of FasTracks will terminate in Longmont, leaving Loveland, Fort Collins and Greeley without a direct line to Denver. If a north-south high-speed rail line is built, Fort Collins and several other cities will likely have stations, but construction of this rail line is far from certain and its completion would likely be many years away.

The benefit of transit options in the North Front Range will be greater if the region encourages transit-oriented development. An analysis of potential transit routes shows that including transit-oriented development can reduce total driving. Over time, transit-oriented projects in the five locations considered—one each in Fort Collins, Windsor, and Greeley, and two in Loveland—could become major employment and residential centers.⁶⁴ Coupled with improved regional transit, these developments will offer North Front Range residents real transportation choices.

Improve Transit in Colorado Springs

Colorado Springs, the state's second largest city, suffers from frustrating and wasteful traffic congestion that likely will get worse in coming years as the area's population grows. Transit service is limited, as budget cuts have forced huge reductions in bus service, leaving travelers with no choice but to drive. Colorado Springs needs to restore the service that has been cut, and then consider expanding transit service to offer area residents more alternatives to driving.

Figure 6. Projected Traffic Congestion Levels in 2035⁶⁵



As the region's population increases—a 60 percent increase is expected by 2035—congestion is also projected to worsen. As seen in Figure 6, by 2035 many of Colorado Springs' major roads will carry more vehicles than they were designed to carry.

Currently, Mountain Metropolitan Transit offers transit service in the Pikes Peak area. Before recent funding cuts due to a downturn in sales tax revenue, Mountain Metropolitan Transit provided local and express bus service to Colorado Springs, Manitou Springs, Fountain, Falcon, Widefield, and Security, along with commuter bus service from Fountain to Denver with multiple stops along the way.

Though Colorado Springs suffers from

intense congestion and has a clear need for expanded transit services, a \$17 million budget shortfall in 2009 resulted in a massive scale-back of transit service.⁶⁶ Mountain Metropolitan Transit provided 3.8 million transit trips in 2008, up 12 percent from 2007.⁶⁷ For 2009, the agency had to cut 50,000 service hours—roughly 25 percent of its service—and raise fares by 20 percent, the combination of which caused ridership to plummet.⁶⁸ The agency expects to cut another 60,000 service hours in 2010, a 33 percent reduction from 2009.⁶⁹

These service cuts have repercussions for the entire community. More than 200 monthly transit pass users who work at Schriever Air Force Base no longer have



Lack of stable revenue has forced Mountain Metropolitan Transit to cut service. Credit: Evan McCausland

bus service to the base.⁷⁰ Roughly 70 transit workers lost their jobs.⁷¹ Anybody who relied on buses at night or on the weekend no longer has transportation. And cuts could continue next year: riders on the FrontRange Express (FREX) to Denver have service for 2010 because Mountain Metropolitan Transit sold nine buses, raising funds that will cover operating expenses for this year, but service is slated to be canceled in 2011.⁷²

Colorado Springs' highest priority must be restoring bus service that has been slashed by more than half in the past two years. But even reinstating service to historic levels still leaves many gaps in the area's transit infrastructure.

The key transit improvements that Colorado Springs needs include:

- High-speed rail links to Denver and Pueblo, as discussed in the "Build Regional Rail Service" section.
- Regional rapid transit. Four corridors in the Pikes Peak region have been identified as needing streetcar or bus

rapid transit lines. One north-south line would parallel I-25 and SH-115, providing transit service to Fort Carson, which is the area's largest employer with 15,000 employees.⁷³ The other north-south line would serve the same corridor as Academy Road. Two shorter east-west routes would reach Garden of the Gods, a city park that draws thousands of visitors, and Peterson Air Force Base, the area's third-largest employer.⁷⁴

- Expanded local bus routes would serve more residential and employment areas, giving people in those locations choice about how to travel between home and work.
- More frequent service would make trips by bus faster by reducing how long passengers have to wait for buses, particularly if they have to transfer from one line to another.
- "Call and ride" service in neighborhoods too spread out for conventional

bus service would give all residents access to some form of transit service.

These transit improvements, along with restoration of recent service cuts, would allow Colorado Springs to provide residents with more transportation choices and alternatives to driving.

Improve Transit for the Roaring Fork Valley

In sight of meadows full of wildflowers or mountain peaks covered in snow, travelers seeking to enjoy Colorado's beauty in the Roaring Fork Valley must struggle with snarled traffic. The highway linking Glenwood Springs, Carbondale and Aspen is the state's busiest rural highway and operates near capacity in some sections.⁷⁵ Improving regional transit by building bus rapid transit could provide better service for both residents and visitors within a few years.

Currently, the Roaring Fork Transportation Authority (RFTA) provides bus service to Aspen, Carbondale, Glenwood Springs, Rifle and points in between. Ridership on RFTA's local bus routes has skyrocketed in recent years, growing by more than 30 percent in the past five years to 4.4 million boardings annually.⁷⁶ Many riders are workers who live in areas with more affordable housing and who must commute to jobs in other towns, as well as skiers and other visitors who don't want to rely on a car.

RFTA plans to provide faster and more reliable service by constructing a bus rapid transit (BRT) line. BRT typically includes a variety of measures to speed boarding and travel and to provide an easy and pleasant experience for riders. New service can be added more quickly and at lower cost than a rail line, and in travel corridors where conventional bus service is inadequate BRT offers a way to improve transit service on a

relatively short timeline.

The first phase of RFTA's planned BRT line includes upgrades to bus stops along State Highway 82 from Glenwood Springs to Aspen, new express service to selected stops, and new lanes and traffic signals that give priority to buses at congested intersections.⁷⁷ The BRT service, called *VelociRFTA*, will begin by 2013 at the latest.⁷⁸

Funding for BRT service will come from local sales taxes, federal funds, and other sources. Voters in communities served by RFTA approved higher sales tax rates in November 2008.⁷⁹ RFTA issued \$27.5 million in bonds for the project.⁸⁰ Should costs rise, RFTA has voter approval to issue more bonds. Assuming that the federal budget proposed by President Obama for the 2011 fiscal year is approved by Congress, RFTA will receive \$24 million in federal transit funds.⁸¹

In the long-term, travelers in the Roaring Fork Valley and on the Western Slope may be best served by rail. Should traffic congestion continue to worsen despite BRT service, the reliability and speed of bus-based transit will decline. Geographic constraints make highway widening very expensive, so non-highway transit may be essential. The transit authority purchased the Denver and Rio Grande Western Rail line in 1997, securing a right-of-way for future passenger rail through the Roaring Fork Valley.⁸⁴ The Rocky Mountain Rail Authority examined the possibility of rail linking Grand Junction, Glenwood Springs and Aspen and found that regional rail service could improve travel options.

Improve Bus Service in Smaller Communities

Public transportation is often associated with big cities. But in many rural Colorado communities, transit plays a vital

role in linking people with employment, education, medical care and critical public services. Transit is particularly important for those who cannot always drive—the young, the elderly, the disabled and those who cannot afford the expense of owning a car.

In rural areas, transit may take a different form than in larger metropolitan areas. Fixed-route bus service operating on a set schedule may fulfill some transit needs, but rural transit providers often offer more flexible service, such as on-demand transit in which passengers can schedule a ride or be picked up at a location not on an established route. Vanpools—which use volunteer drivers and vehicles provided by a transit agency to provide shared-ride service—may also be an effective way to offer transit to commuters.

Sterling, Colorado, a town with a population of 14,000, has demonstrated how important and successful a form of fixed-route bus service can be in a small community.⁸⁵ The South Platte Regional Transportation Authority (RTA) began operating the Prairie Express in 2005 to connect employment, shopping and residential areas. Service is flexible: if passengers need to be picked up or dropped off from a location not on the route, drivers will make a detour.⁸⁶ Passengers who request that the driver deviate from the fixed route pay a slightly higher fee. In 2007, passengers took 8,853 trips.⁸⁷

RTA receives funding from several sources. The Northeast Colorado Association of Local Governments (NECALG) provided seed money until the RTA was able to begin collecting revenue from a 0.1 percent sales tax approved by voters.⁸⁸

Residents in the 9,600 square mile six-county area around Sterling have access to the on-demand County Express bus service, which requires an advance reservation.⁸⁹ In the first six months of 2008, County Express made more than 55,000 trips.⁹⁰

Unfortunately, the bus system in Sterling is an exception for Colorado's smaller communities. Rural areas and small towns in Colorado do offer transit service to the elderly and disabled population but too often don't provide any transit for the general population.⁹¹ A comprehensive transportation system in Colorado should include better transit in and between smaller towns.

Colorado has 10 rural transportation planning regions. The planning agencies for each region have identified local transit needs and suggested potential solutions. Most areas need transit that has a broader geographic reach and expanded service scope.

For example, some of the more rural areas of southeast Colorado currently lack any transit service and would benefit from on-demand transit options.⁹² Other areas that already have transit for seniors and the disabled need options that are available to the general public, and this expanded service should operate on longer hours than current service. Low-income individuals who need bus service to get to work need longer hours than seniors attending medical appointments.

In southwestern Colorado, the biggest need is for expanded service options. La Plata, San Juan, Archuleta, Montezuma and Dolores counties would benefit from the establishment of regularly scheduled transit service between Dove Creek and Pagosa Springs, with the schedule timed to allow people to attend medical appointments in Durango, replacing the on-demand service that currently serves only seniors needing medical care.⁹³ Commuters in Durango, Ignacio and Farmington, and in communities just over the border in New Mexico could use scheduled service also. Existing on-demand service could be made more convenient and reliable if it served several major destinations (such as Wal-Mart, the San Juan Basin Technical School, and the Southern Ute Casino) on a schedule.

In addition, to better serve commuters the southwestern counties could create a vanpool program in which transit agencies or another local government entity purchases vans and organizes commuters with similar work times and destinations to travel together. Whoever agrees to drive the van rides for free; other passengers pay a monthly fare. Likely city pairs for vanpool service are Dove Creek to Cortez, Cortez to Durango, and Pagosa Springs to Durango.

Overall, the greatest transit need for the Upper Front Range region, which includes

Larimer and Weld counties, is for transit service available to the general public.⁹⁴ This service would also help seniors who may have access to transit for medical appointments but who need transit for accessing other necessities.

The other rural transportation planning areas have identified similar shortcomings in transit availability. Modified fixed route transit, on-demand transit and vanpools are among the options for improving transit for Coloradans in small communities and rural areas.

From Vision to Reality: A 21st Century Transit System for Colorado

Colorado must make sound investments in public transportation if it hopes to remain competitive in the 21st century—a time that looks increasingly likely to be one of growing concern about global warming, continued congestion problems, and volatile oil prices.

At the same time, however, Colorado faces a transportation funding shortfall. Transit agencies rely heavily on sales tax revenue to fund operations and new construction. With the slowing economy, consumers have been purchasing fewer items and sales tax revenue has dropped. As a result, transit agencies have had to slash service—as in Colorado Springs—and potentially slow construction of new projects like FasTracks.

The federal economic stimulus package will provide an injection of much-needed dollars into Colorado's transit system. In February 2009, the state received \$102.7 million for transit projects.⁹⁵ These funds included \$12.5 million for rural areas, \$72.1 million for RTD, \$8.8 million for Colorado Springs, and smaller amounts for Fort Collins, Greeley, Pueblo and Mesa County. Using part of the first wave of stimulus funds to support public transit is a move

which represents an important first step in the right direction. However, far more must be done to plan for and fund the future of transportation in our state.

Colorado must solve its transportation finance problems in ways that ensure the continued safe operation of the state's existing transit systems and that will allow construction of new, much needed transit expansions. To achieve this, Colorado should develop a long-range, strategic plan for transit investments and operations, identify the price tag of completing that plan, and then work to obtain the necessary resources to get the job done. Colorado took an important step toward better planning by creating a Division of Transit and Rail within the Colorado Department of Transportation in 2009. The federal government recently granted Colorado \$1.4 million for studying statewide high speed rail and how that system could be linked to local transit, provided the state finds matching funds.⁹⁶

Many levels of government and other institutions have a role to play in achieving the goal of a 21st century transit system for Colorado.

Federal Government

The main federal transportation funding law—the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—expired in the fall of 2009, and was temporarily extended by Congress with allocations from general revenues. It is possible that the coming federal bill will be the most sweeping reform of federal transportation policy in nearly two decades. America’s aging transportation network is increasingly in need of costly repairs. Meanwhile, with the memory of soaring gas prices still fresh and concerns about oil dependence still acute, the downsides of the highway-centered investment policies of the last few decades are becoming increasingly apparent. In short, the status quo cannot continue.

Colorado officials should advocate for a new federal transportation funding law that makes a large investment in needed improvements to transit systems and intercity rail, while focusing federal highway investment on maintaining and repairing existing infrastructure. Federal money should be used in a targeted and strategic way to encourage transportation investments that minimize oil dependence, congestion, environmental pollution and sprawl, and encourage the development of compact, livable mixed-income communities where driving is an option, not a requirement.

Such a dramatic shift would benefit Colorado by providing additional resources for needed transit projects. In addition to pushing for new federal transportation priorities, Colorado should also work aggressively through existing avenues to obtain federal funding for transit infrastructure projects. A key step is to obtain federal recognition of the state’s proposed high-speed rail corridor along the Front Range and into the mountains, thereby allowing the state to compete for federal funding included in the February 2009 American Recovery and Reinvestment Act.

State Government

The good news for Colorado is that a sizeable part of our state’s public transit future lies within our control. Coloradans have good ideas about how to meet our transportation needs with public transit, but these ideas are frequently held back by a lack of funds. Other public policies must also be revised to support transit development and use.

Provide Reliable Funding for Transit

Colorado transit agencies rely on sales tax revenue, federal funds, and fares to cover operating costs. As has become all too evident in the past year, sales tax revenue does not provide a reliable source of funding. During an economic downturn, consumer spending slows, reducing revenues for transit agencies, while at the same time transit agencies face higher demand from cash-strapped residents. Due to funding shortfalls, Colorado Springs has slashed transit service by 33 percent. The Roaring Fork Transit Authority had a half-million dollar budget shortfall in 2009 but temporarily avoided service cuts by using reserve funds.⁹⁷ For 2010, RFTA has reduced the service it offers.⁹⁸ Service cuts during a recession are especially hard on riders, many of whom are trying to save money wherever possible, including by using transit instead of driving.

Until recently, Colorado was one of only a handful of states that failed to provide a dedicated funding source for public transportation. Legislation passed last year includes up to \$5 million in annual funding for transit projects and up to \$10 million for pedestrian/bicyclist safety.⁹⁹ The legislation also allows fee or toll revenue to be applied to transit projects that will help reduce traffic on state highways. While this legislation is a step in the right direction—and the first time Colorado has ever had state-level funding dedicated for

transit—Colorado needs to do much more to fund transit operation and expansion.

Colorado will never realize the full benefits of transit until the state embraces a more reliable system for funding public transportation. To capitalize on the economic, social and environmental benefits of transit, Colorado should designate an adequate and long-term state-wide revenue stream for public transportation.

A number of different revenue options could help Colorado fund its public transportation investments. Funding sources used across the country include transportation-based taxes and fees, such as a gas tax, vehicle registration tax, parking tax, rental car tax, tire or vehicle battery tax; tolls from publicly owned toll roads or revenues from congestion pricing; and development fees like development impact, storm water, or real estate transfer fees. In January 2008, the Colorado Transportation Finance and Implementation Panel completed *A Report To Colorado* that identified different revenue options and presented a number of funding scenarios. This 32-member panel, with representatives from every part of the state and various interest groups, has done the research. It is time for Colorado to review all the available options and move forward in creating sustainable transportation funding.

Of course, state lawmakers should expect some guarantee of good use in exchange for the badly needed funds. The state should conduct a comprehensive audit and review of existing transit systems and administrative agencies to eliminate wasteful spending, with added accountability measures over each transit project's lifetime.

Require Land Use Patterns that Support Transit

Sprawling land development patterns are difficult to serve with reliable transit service. Dispersed developments and isolated subdivisions with cul-de-sacs and

few through streets make it very difficult to design bus routes that can efficiently connect residential areas with commercial and employment centers. All too often, residential developments have inadequate pedestrian infrastructure, where the lack of sidewalks and bus shelters further deters would-be transit riders. In addition, when homes and businesses are spread out, few people live within walking distance of each transit stop. This results in low ridership on each route. If ridership is low, the cost per transit trip becomes too expensive for the community to provide transit access to all residents.

Encouraging development patterns that are more pedestrian- and transit-friendly will make transit accessible to more riders. Homes, offices, schools and shops should be situated in developments within walking distance of bus and rail lines. More compactly arranged buildings with condos, apartments and offices can be closest to transit, while single-family homes can be built slightly farther away but still within an easy walk of a bus or rail stop. Because including housing that serves a range of incomes can increase transit ridership and help systems compete for federal funds, public policy should ensure that transit-oriented development includes a diverse mix of housing options.

Adopt Other Policies That Support Transit

Colorado should align other public policies with its vision for a 21st century transportation system that offers Coloradans transit options in addition to driving.

- Local governments should adopt land-use plans and zoning reforms that allow for and encourage compact development in and around transit stations. New developments should be designed so that fixed-route transit service is possible.

- The state should require that all proposed transportation investments be evaluated for their impact on oil dependence and global warming pollution. Government buildings should be located, to the extent possible, in areas with accessible transit service.
- If the state privatizes any roads—generally a bad deal for the public in which a private operator pays a fee to the state in return for the right to charge drivers to use the road—the arrangement must not preclude or discourage improvements to transit. In some states, road privatization contracts have labeled transit improvements as unfair competition with the toll road, forcing the state to compensate the toll road operator.

Conclusion

Colorado's existing transit network is an asset for the state and it provides a strong backbone for transit expansions to help address congestion from a growing population, assist the state in cutting its global warming pollution, and insulate residents from future increases in gasoline prices.

There are myriad potential solutions to Colorado's transportation funding challenges, but obtaining money for transportation improvements is only half the battle—the state also needs a visionary, forward-looking plan for investing that money in ways that create and sustain a safe, affordable and extensive transportation system for the 21st century. The projects listed in this report should make up the core of Colorado's transit “to-do” list over the coming years. The state simply cannot afford to allow these projects to remain undone—for the sake of mobility, consumers' pocketbooks, and environmental concerns.

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