

STATE OF TRANSPORTATION IN COLORADO



MARCH 2012





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1. WHY WE LOVE COLORADO

“Colorado is one of the premier places in the United States to live, explore, work and conduct business. It is a state where the best and the brightest from around the world come to work hard and play hard. Colorado’s economy and dynamic institutions of higher education are matched by diverse communities. Compared to any other state in the country, Colorado is home to the healthiest, most active people who take advantage of the unparalleled variety and quality of our natural beauty and outdoor recreation opportunities. We have important natural resources to help fuel America, and one of the highest-educated workforces in the world. Colorado is home to some of the world’s finest artists, musicians and athletes who can be seen in any number of galleries, theaters and stadiums. Colorado’s culture and lifestyle together with a friendly business climate and reasonable cost of living, provide the rewards of life and business no other state can match. **This is the Colorado Advantage.**”

(Source: The Colorado Advantage from Colorado Blueprint, October 2011)

2. TRANSPORTATION AND THE COLORADO LIFESTYLE

Mobility is the key to accessing our quality of life and continuing our economic growth. The very things that make Colorado so attractive are dependent on a well-maintained, functioning transportation system. Our highways, airports, transit systems, local roads, bike paths, and sidewalks provide Coloradans with the ability to access jobs, medical and educational facilities.



Transportation provides the foundation that allows us to travel to the mountains and connect our cities, towns, and communities so we can enjoy economic health and the Colorado lifestyle.

Much of Colorado’s interstate highway system dates back to the Eisenhower and Kennedy administrations, with many bridges and significant portions of pavement now in need of major reconstruction. The demands placed on Colorado’s transportation system continue to increase with our growing population and our need to stay economically competitive.

Colorado has long been a pivotal crossroads for the nation, but an aging transportation infrastructure and growing need for additional capacity have the state at another “crossroads:” will residents and businesses support spending on improvements to Colorado’s roads, rails and runways? Or, are Coloradans willing to accept a lesser quality of life and economic vitality as our transportation system declines?

There is a lack of awareness of the problems facing transportation. Many don’t realize how little we, as citizens, pay for transportation, nor how our state’s declining revenues will soon reach the point where the impacts are going to be felt throughout the state.

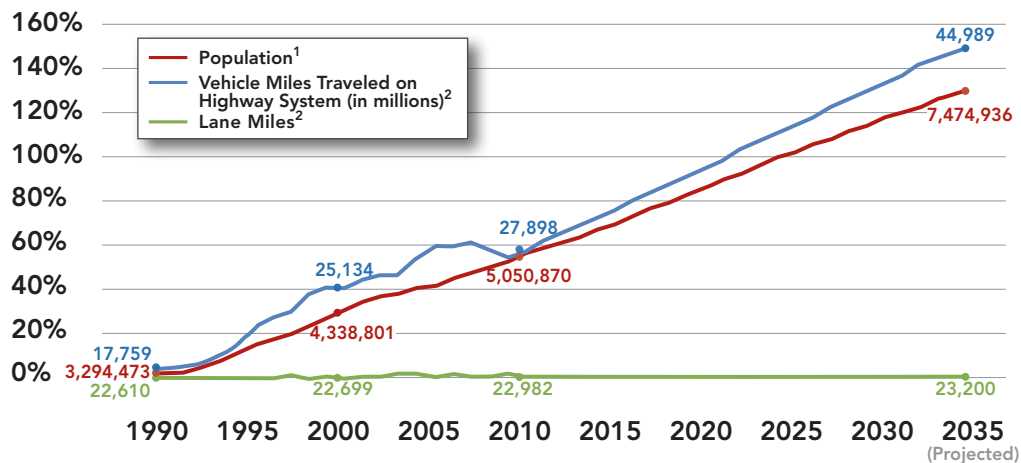
“Colorado’s culture and lifestyle together with a friendly business climate and reasonable cost of living provide the rewards of life and business no other state can match.”

3. WHERE ARE WE TODAY?

Increasing Demands on our Aging Infrastructure

Demands placed on our transportation system are increasing to the point where Colorado can no longer provide the system we have come to expect. Over the past 20 years, Colorado's population has increased by about 53 percent—from 3.3 million to 5 million. An additional 2.5 million people are expected by 2035—a further increase of 48 percent. Travel on our highway system has increased at an even greater rate during that same time period—a 57 percent increase from 17.8 billion to 27.9 billion miles of vehicle travel. This increase has occurred on a highway system that has grown by less than 2 percent, from 22,610 to 22,982 total lane miles of state highway.

Colorado Actual and Projected Growth: 1990–2035



With very little increase in highway lanes to accommodate the increased travel and population, we are spending more time in traffic and causing more wear on our roadways, many of which were not built to handle this increased demand.

It's easy to take our transportation system for granted. Coloradans have enjoyed a relatively functional transportation infrastructure: the average work commute in the state's largest metropolitan area is only 22 minutes,³ our safety systems are improving, our snow and ice control is top notch. So, what's the problem?

Our highways are becoming more and more crowded and our transportation infrastructure—primarily the roads on which we drive—is aging. It may be hard to see, but to use a vehicle analogy: the paint job may look nice, but what's under the hood is going to cause serious problems if not maintained ... or fully overhauled.

Colorado's Transportation System Challenges

¹Colorado State Demography Office

²Colorado Department of Transportation—Division of Transportation Development

³Denver Regional Council of Governments, Cycle 2, 2011 Focus Travel Model

“Over the past 20 years, Colorado's population has increased by 53 percent . . . and by 2035, it will increase again by another 48 percent.”

Rockfalls

Blizzards

\$60 million a year on snow removal

Highest mean elevation of any state (6,800 feet)

Avalanches

Colorado has some unique challenges. Crews deal with avalanches, floods, damaging freeze-thaw cycles and often extreme fall and spring blizzards. This requires costly, yet necessary, maintenance efforts.

Current conditions at a glance:

- Highest mean elevation of any state at 6,800 feet
- About \$60 million spent annually on snow removal, including keeping over 35 high-mountain passes open year round (the largest pass inventory of any state)
- More than 7,300 lane miles (33 percent of the state highway system) in need of complete reconstruction
- More than 750 rockfall sites, with the funds to mitigate only about five of those locations each year
- Many CDOT equipment vehicles are old and kept running 12 to 15 years beyond their service life, on average, requiring costly maintenance
- 32 percent of urban state highways are congested⁴



Declining Revenues

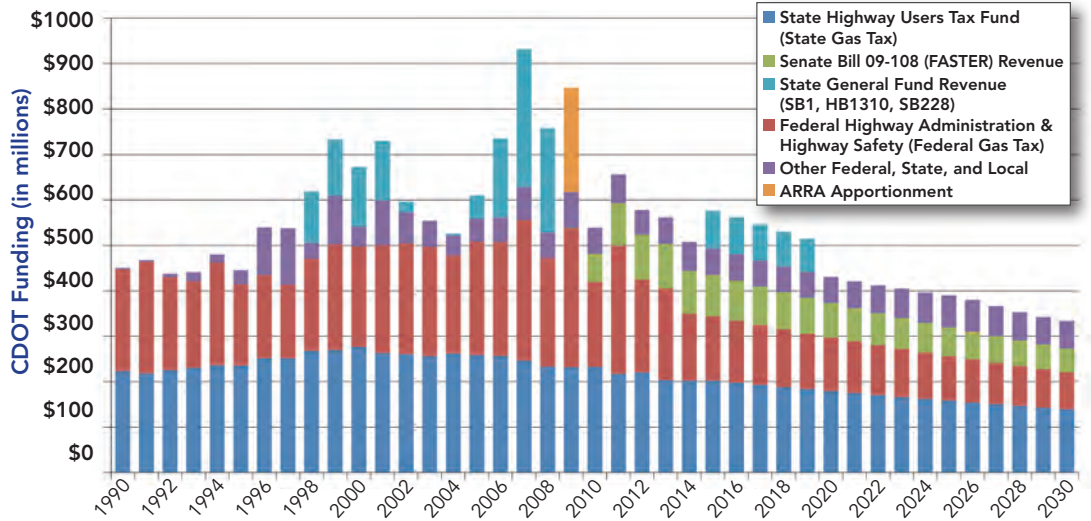
Over the past five years, CDOT's budget has decreased by about 30 percent—from \$1.6 billion in fiscal year 2007, to \$1.1 billion in fiscal year 2012. Rising construction and materials costs have further hindered CDOT's ability to deliver the same level of improvements and service that was possible in the past decades. Adjusting CDOT's budget to account for inflation, CDOT is projected to have about one quarter of the resources it did in 2001. Currently in Colorado, due to inflation, each dollar spent on transportation is worth only 42 cents, as compared to 1991, the last time the state gas tax was raised.⁵



⁴Colorado Department of Transportation – Division of Transportation Development 2010
⁵Colorado Department of Transportation – Division of Accounting and Finance

Inflation-Adjusted CDOT Funding Sources by Fiscal Year Actual 1990–2011 and Projected 2012–30

Revenues Deflated by Denver-Boulder Consumer Price Index



Efficiency and Effectiveness

Some may suggest the solution to the transportation funding dilemma is improved efficiency and less wasteful spending. There has been significant progress made in improving efficiencies within CDOT:

- Priorities have been re-focused on the most critical programs and projects, including a more aggressive maintenance program to preserve our investments further into the future.
- Process improvement efforts are yielding results.
- All routine maintenance work is done by CDOT employees. According to 2009 federal data, the cost for this CDOT-performed maintenance is about \$25,000 per highway centerline mile per year.⁶ This per-mile expenditure is slightly below the national average, even though Colorado has one of the most difficult to maintain systems in the country.
- The vast majority of CDOT construction work is contracted out to the private sector (all work over \$150,000). That means investments in transportation are directly related to construction and other related jobs.
- CDOT's multi-faceted traffic safety program aimed at reducing traffic crashes has resulted in about a 40 percent reduction in fatal traffic crashes on Colorado highways from 2002 to 2011. This reduction is nearly double the national average, and makes Colorado the leader among states in reducing fatal traffic crashes.

Even with cost-saving efforts, the magnitude of the transportation need is out-pacing maintenance on our system—already, maintenance of the transportation system accounts for almost the entire discretionary CDOT budget.

⁶Federal Highway Administration <http://www.fhwa.dot.gov/policyinformation/statistics/2009>

4. HOW DID WE GET HERE?

A Visionary Approach to Transportation Funding

Funding for transportation dates back to the early 1900s, with legislation to improve state roads and federal aid to complete a national highway network. The Federal Highway Act of 1921 provided funding for a paved system of two-lane interstate highways. It was during this time period that Colorado was able to build the highways we still travel today, like US 40 over Berthoud Pass in 1938, US 50 across southern Colorado and over Monarch Pass in 1939 and US 85 along the Front Range in 1938. In 1952, the Denver-Boulder Turnpike opened as a toll road. It became a freeway—US 36 in 1966, when the bonds were paid off ahead of schedule.

President Dwight D. Eisenhower signed the Federal-Aid Highway Act of 1956 that provided funding for the interstate program, hailed as the “largest public works project in American history.” This program is what allowed for the completion of Interstate 25 in 1969, I-70—including the Eisenhower-Johnson Memorial Tunnels (first bore in 1973, second bore in 1979)—and Glenwood Canyon in 1992.

INTERSTATE SUCCESS

Perhaps no transportation project has meant more in uniting Colorado and stimulating access, recreation, commerce, and tourism than I-70, and the Eisenhower-Johnson Memorial Tunnels (EJMT) on I-70 west of Denver in particular. At the time, many people questioned the need for the tunnels and suggested the Colorado Department of Highways was crazy to even consider such a visionary project. In today's funding environment, the Eisenhower Tunnel would likely not be built.

Construction Costs in Today's Dollars

TUNNEL BORE	YEAR	COST	2011 \$\$
Straight Creek/ Eisenhower	1973	\$117 million	\$1.9 billion
Johnson	1979	\$145 million	\$1.1 billion
Total		\$262 million	\$3 billion

Benefits

- Provides all-season east-west route under the continental divide
- Average 30-minute drive time saved
- Improves interregional connections and interaction
- Increases commercial transportation

The many major milestones in our transportation history have each contributed to the economic health of Colorado. More recently, in the Denver metropolitan area, the completion of C-470 in 1988 and the connection of E-470 as a tolled beltway in 2003 opened new economic development opportunities and provided a bypass alternative to I-25. E-470 was built with bonds, receives very few tax dollars, and is owned and managed by a special governmental authority while users of the roadway pay for its construction and maintenance through tolls.



Maintaining our Assets

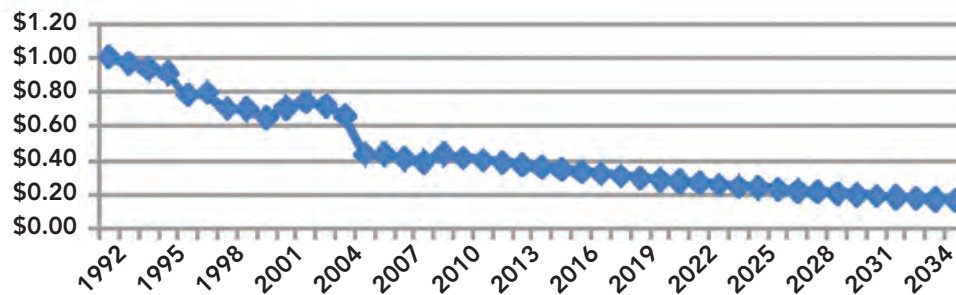
While critical to the development of our highways and interstates, today's transportation funding picture is very different. States are being forced to solve their transportation problems with less help from the federal government. And while the infusion of federal funds throughout history has been invaluable in building our highways and interstates, there has never been a plan to adequately account for the costs to maintain and replace these assets in the future—and the share of federal funds available for Colorado's transportation system is diminishing. In 1959, over 51 percent of the state's transportation funding was federal; but today that number has shrunk to 37 percent⁷.

Paying for Transportation

State motor fuel taxes are the primary source of funding for Colorado's local roads and state highways. This system of paying for highways has been in place since Colorado instituted a one cent per gallon state gas tax in 1919. The United States government followed suit with a one cent per gallon federal gas tax in 1932. Both state and federal gas taxes increased gradually over the years (about one cent per year on average) but have remained stagnant since the early 1990s. The state gas tax was last raised more than 20 years ago, remaining at 22 cents per gallon since 1991, while the federal gas tax was last raised to 18.4 cents per gallon in 1993. Gas tax revenues are dependent upon the number of gallons sold, not the sale price. When gas prices increase, the amount of tax paid remains the same per gallon.

Purchasing Power of Colorado's Motor Fuel Taxes

(Based on actual revenues through FY 2011 and projected thereafter; assuming no change in motor fuel tax rates)



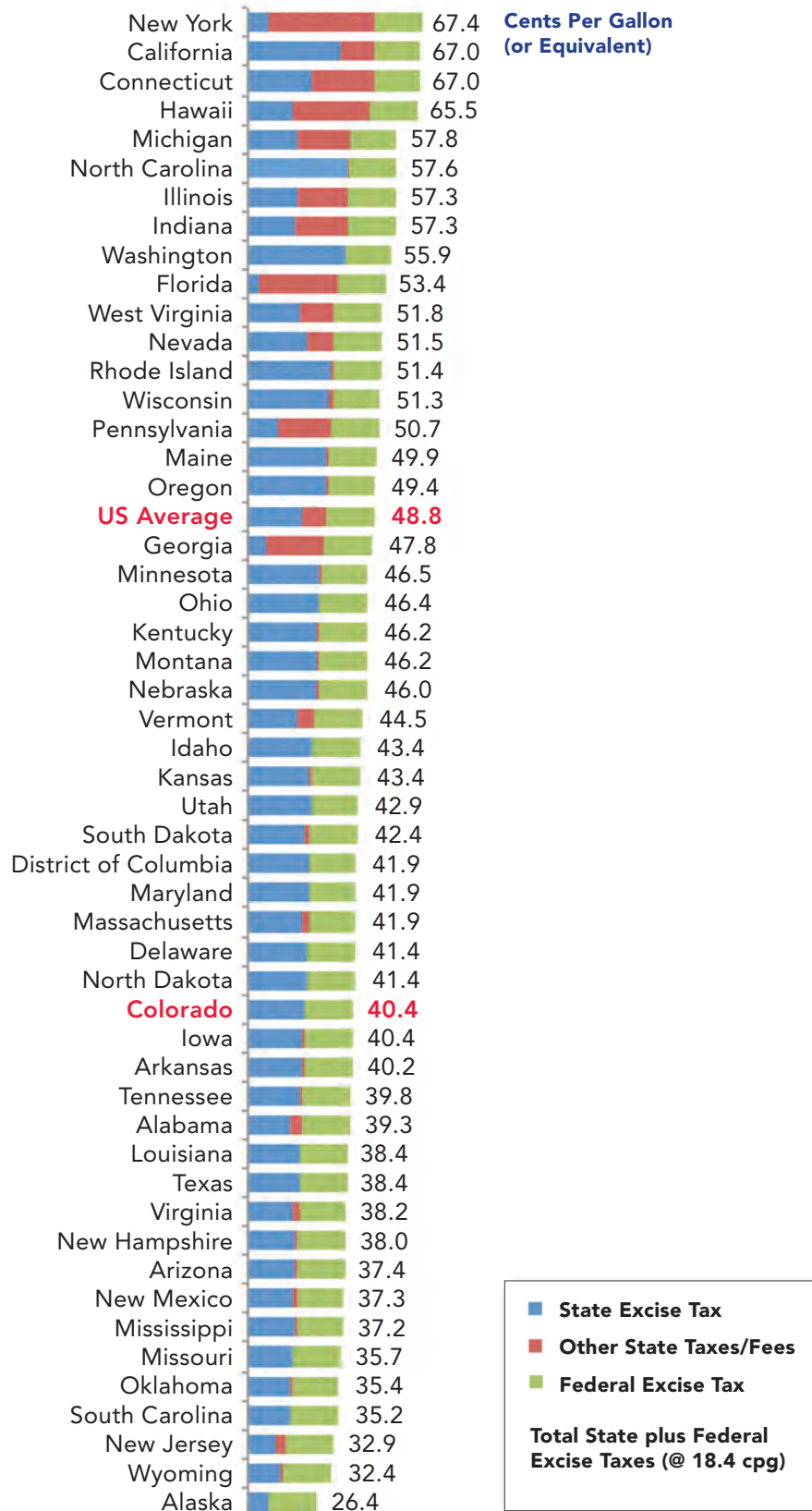
Along with gas tax revenues, CDOT also receives a small portion of motor vehicle registration fees, the FASTER (Funding Advancement for Surface Transportation & Economic Recovery) bridge and safety surcharge, daily rental car surcharges and oversize/overweight vehicle permit fees. The majority of these funds are collected and deposited into the Highway Users Tax Fund (HUTF). Distribution of the HUTF is complex and includes appropriations to the Colorado Department of Revenue as well as the Colorado State Patrol, with the remaining funds allocated to cities/counties (40 percent) and to CDOT (60 percent) based on statutory formulas. Roughly speaking, only about half of the total collected for the HUTF actually flows to CDOT.

Despite the fact that Coloradans are driving more than ever, the increased fuel efficiency of motor vehicles has led to a decline in expected transportation funding. (While these vehicles offer environmental benefits, they still travel the same highways that must be maintained). Add to this funding decline the fact that construction costs are increasing an average of 4.4 percent each year. Can you imagine trying to live today on the same salary you earned twenty years ago?

“Can you imagine trying to live today on the same salary you earned twenty years ago?”

⁷Colorado Department of Transportation – Division of Accounting and Finance

Gasoline Motor Fuel Taxes as of January 1, 2012⁸

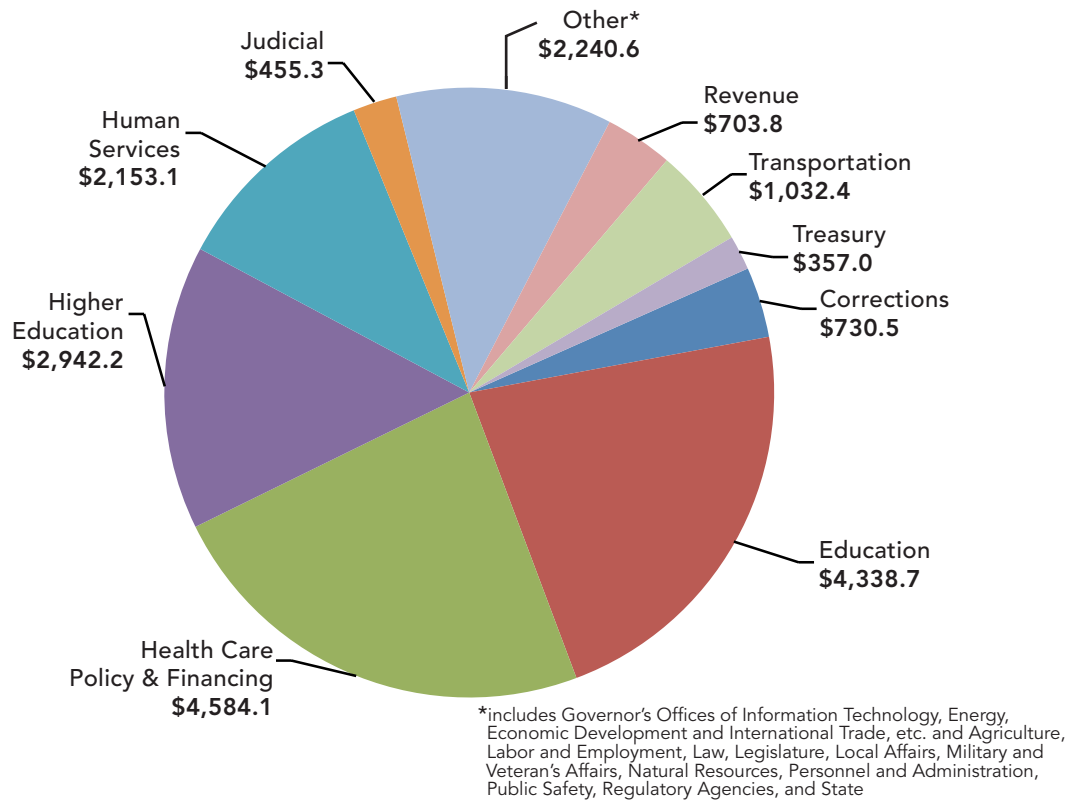


⁸Colorado Department of Transportation – Division of Accounting and Finance

Over the past decade or so, CDOT has received state General Fund transfers for transportation from Colorado income and sales tax revenues, but the availability of revenue from the General Fund was inconsistent and dependent upon the health of the state's economy. As a result of the recession, in 2009, there are no longer any state General Fund revenues dedicated to transportation.⁹

Colorado FY2011 Actual Allocations

[All funding sources by state agency (in millions)]



FASTER is Making a Difference

Recently, state legislators approved a modest hike in vehicle registration fees to raise money for bridge building and highway safety projects via FASTER, Senate Bill 09-108. While these funds have significantly increased Colorado's ability to improve its structurally deficient bridges and maintain a high percentage of our bridges in good/fair condition, they have only had a small impact in the overall transportation needs of the state.

The Transportation Bargain

Today, transportation is one of the most affordable services provided in Colorado. The problem is that it is not easy to recognize since you don't receive a monthly bill like you would for cable television or utilities. Someone who drives 12,000 miles per year in a car that gets 18 miles per gallon pays just \$22.50 per month in federal and state gas tax to drive on Colorado highways—less than what the average person pays each month for their mobile phone bill. Colorado is below average in what we pay for gas tax and is ranked 33rd in the nation for the amount of gas tax paid per gallon as compared to other states.¹⁰

⁹Colorado Department of Transportation – Division of Accounting and Finance

¹⁰American Petroleum Institute: <http://api.org/Oil-and-Natural-Gas-Overview/Industry-Economics>

“If tourists get bogged down trying to access Colorado’s world-class recreation, it is likely to mean skiers and rafters lost to other states.”

5. TRANSPORTATION HELPS COLORADO PROSPER

To compete in commerce and tourism, Colorado requires a transportation network with the capacity, quality, and technology to safely and efficiently move travelers throughout the state. The state’s economy cannot thrive if motorists entering Colorful Colorado transition from a smooth, well-maintained roadway in a neighboring state to patched pavement that suggests to visitors that they may want to bypass Colorado on the next trip.

If motorists in our metropolitan areas cannot get to work in a timely and efficient manner, the state’s business climate suffers. Companies may choose to locate in other states or decide not to expand, resulting in fewer jobs for Coloradans. And if tourists get bogged down trying to access Colorado’s world-class recreation, it is likely to mean skiers and rafters lost to other states.

Good transportation facilities enhance our quality of life in so many ways: providing safe travel, shortening commutes, creating more personal time with family and friends, connecting population centers with statewide recreation opportunities, and improving access to critical medical care facilities.

Good transportation facilities also support economic development. They provide a network for our farmers and ranchers to deliver their products to market. They connect employees to their companies, increasing the pool of available workers within a reasonable commute. They also attract new companies and encourage the expansion of existing Colorado businesses.

Protecting the Environment

CDOT recognizes the importance of the environment in our state’s lifestyle and economy. In fact, one of CDOT’s operating principles is to promote a transportation system that is environmentally responsible and encourages preservation of nature and enhancement of the created environment for current and future generations. Our quality of life is enhanced by the clean air and pristine views that result from reducing congestion and vehicle emissions, and cleaner waterways resulting from timely and environmentally-sensitive maintenance practices. Sustainability is key to maintaining our state’s unique environment; transportation plays a major role in this by efficiently operating roads to reduce congestion, enhancing multi-modal connections, managing travel demand and leading with green building practices.

Safer Highways

Despite declining revenues for transportation safety projects, Colorado has made significant progress over the last three decades in making our highways safer. Along with education and enforcement, investments in engineering projects focused on improving safety have contributed to a significant decline in traffic fatalities over the last decade, despite the fact that more people are driving on our highways. Had these efforts not been made and past trends continued, it is estimated that 1,783 people would have been killed in traffic crashes in 2010 in Colorado. Instead, there were 449 deaths—far too many still, but a demonstration of the real benefits of investments in transportation safety.



6. SUSTAINING OUR CURRENT CONDITIONS

Sustaining the transportation system we enjoy today to prevent it from declining will require more of an investment.

Bridges: There is good news. As stated, Colorado has benefited recently from a dedicated source of funding via increased vehicle registration fees by way of SB 09-108, or FASTER. FASTER is dedicated funding for safety improvements and the repair or replacement of the worst of Colorado's 3,450 bridges on state highways, and it is proving to be an example of what can be accomplished with a new, consistent source of funding. Partly as a result of FASTER, Colorado now ranks among the top states for bridge condition with about 94 percent of our bridges in good or fair condition (or projected to be), thanks to nearly \$100 million annually for bridge rehabilitation.

Still, the I-70 viaduct in Denver, east of I-25, represents a future concern due to its high cost of replacement (over \$800 million) and inadequate funding available for its replacement. Engineers estimate the I-70 viaduct in central Denver has between 10 to 20 years left before costly and extensive repairs or replacement become critically needed. This highway serves an average of 150,000 vehicles a day and is a direct link to Denver International Airport and is the major east-west thoroughfare across Colorado.

Pavement Condition: CDOT spends about \$150 million per year on projects to maintain and improve the roadway surface of Colorado's nearly 23,000 lane miles of state highway, yet 52 percent of Colorado's state highways are rated in "poor" condition. That's up from just 40 percent in poor condition 2006. What's more, 33 percent of the state's highways have deteriorated to the point of needing full reconstruction—a cost of \$8.6 billion. Additional funds would allow a more proactive maintenance schedule and would stretch the life of existing roadways, reducing the need for inefficient reconstruction. It's the same as maintaining your vehicle—if you keep that vehicle's maintenance up to date, you save money on more costly fixes or on the cost of a new car in the future.

HIGHWAY PAVEMENT TREATMENT CATEGORY	PAVEMENT TREATMENT BENEFIT (Dependent upon traffic levels)	COST PER LANE MILE*	
		2012	2035
Preventative Maintenance: Crack sealing, chip sealing the surface, resealing concrete pavement joints	Adds 1–5 years of additional life to the pavement	\$45,000	\$101,000
Minor Rehabilitation: 1- to 4-inch thick asphalt overlay or a hot asphalt recycling	Adds 7–12 years of additional life to the pavement, depending upon traffic levels	\$211,000	\$466,000
Major Rehabilitation: Asphalt overlay greater than 4 inches thick or concrete "white topping" (concrete over asphalt)	Adds 13–20 years of additional life to the pavement, depending upon traffic levels	\$289,000	\$637,000
Reconstruction: Remove and replace entire road structure including asphalt, concrete and roadbase	Provides an estimated service life of 25 years	\$1,172,00	\$2,586,000

*Treatment cost predictions assume 3.5% inflation rate.

Over the next ten years, CDOT's budget for highway surface treatment is expected to continue to average \$150 million. That is approximately \$90 million short per year just to sustain current pavement conditions, much less increase the percentage of highways in good condition.



It has been shown in other states that Colorado could get more out of its transportation infrastructure investments if it focuses more on asset management. This approach—essentially taking care of our highway's "health" before it develops a critical condition—could allow us to extend pavement life and achieve the lowest long-term pavement maintenance costs. But to reach the levels we need to best sustain the system would require a significantly higher short-term investment. The higher investment could level off over time with a lower overall maintenance cost to the system—lower than we are spending today.



Maintenance and Operations: CDOT has been focused on getting more out of our existing system by maximizing resources and improving operations. The goal of the department is to spend money where it does the most good over the long run to maintain, operate, and upgrade equipment and infrastructure.

CDOT currently spends about \$240 million on snow removal and roadside maintenance, signs and roadway striping. To provide a significantly higher level of service would require an additional \$30 million per year.

Transit: Transit is a critical element of an integrated statewide transportation system. There are major gaps in interregional transit services, impacting Coloradans' ability to travel between communities and access resources and services that may not be available locally. Without choices in transportation modes, access to jobs and other quality of life locations can only be reached by driving. The highway system will not be able to keep pace with population growth; as congestion increases, transit alternatives will allow us to get more out of the existing infrastructure. In addition, those who are unable or can't afford to drive need a reliable, well-connected transit system.

The examples of funding shortfalls facing transportation programs are many.



7. TRANSPORTATION VISION

It's difficult to envision a greater future when you are struggling to make ends meet. But if you look back over time, that's exactly what has occurred with transportation. Throughout history, Coloradans have aspired to greater safety and ease of mobility. Then, they wanted to be able to enjoy all areas of the state with the fewest limitations of geographic barriers. These aspirations led to visionary projects like the engineering marvels of elevating I-70 through Glenwood Canyon and boring the Eisenhower-Johnson Memorial Tunnels; channeling vital recreation and commercial corridors through environmentally sensitive Vail, Monarch and Wolf Creek passes; and the T-REX (Transportation Expansion) Project that added highway lanes and light rail to the south Denver metropolitan area. All of these transportation projects have changed how we experience Colorado by improving our access and our mobility, and doing so while maintaining a sensitivity to the local communities and environment.



The question facing Coloradans is—what should we aspire to next? How mobile do we want to be? What do we want transportation to look like in the future?

Today, Colorado could aspire to additional lanes on corridors up and down the Front Range to provide relief from traffic congestion and more reliable travel times.

Improvements that will increase mobility and reduce congestion on the I-70 mountain corridor west of Denver would help commercial, local, and recreational traffic move smoothly without long delays. As much of the recreational traffic on I-70 originates in the Denver and Front Range corridor, this solution would consist of new highway lanes and a transit system that links seamlessly with transit systems (bus and rail) already established and those that will be established in the future. This includes the Regional Transportation District's FasTracks improvements and a rail/transit connection to Denver International Airport, the only airport in the continental U.S. that has the room to expand its capacity. Linking local and regional transit systems with a mountain corridor system would encourage travelers to leave their personal vehicles behind and use public transportation instead.

Transit systems and highway lanes aren't the solution for every area. In rural Colorado, the vision for a highway corridor may simply mean adding guardrails, shoulders, or passing lanes to reduce traffic fatalities and improve safety.

“It's difficult to envision a greater future when you are struggling to make ends meet.”

“At some point, CDOT may abandon certain roads as state highways or even return some roads to gravel.”

8. WHAT ARE OUR OPTIONS?

Coloradans are going to be faced with a choice.

Do nothing. Continuing to operate in the current funding environment without an increase will require tough choices and trade-offs. Transportation funding will continue to decrease, construction costs will continue to increase, and the buying power of the gas tax will continue to dwindle. The average delay on congested roadways will increase from 17 to 44 minutes by 2035;¹¹ we will spend more time in traffic congestion and less time with our families. Roadways will continue to deteriorate, costing drivers their comfort and wear and tear on their vehicles, and burdening future generations with an excessive amount to rebuild. Heavy vehicles will be subject to lengthy detours because they may have to be restricted from certain bridges unable to safely accommodate their weight. Snow removal services may have to be reduced and perhaps certain mountain passes will remain unplowed or closed for the winter. At some point, CDOT may abandon certain roads as state highways or even return some roads to gravel as other states are currently considering.

Do something. There are a number of options to consider that will preserve our transportation system or actually improve it. All of these options require an increase in transportation funding. The funding levels will vary depending upon whether we want to sustain our current conditions or achieve a bigger vision for Colorado.

9. COLORADO'S TRANSPORTATION FUNDING FUTURE

No Additional Investment/Smaller Additional Investment

With the continued decline in transportation funding, our transportation system will deteriorate. If we want to sustain our current conditions, the system will require some investment. If we choose to make improvements over the existing condition, a greater investment is needed.

CATEGORY	CURRENT CONDITION	OVER THE NEXT 10 YEARS					
		DO NOTHING (No Additional Investment)		SUSTAIN CURRENT CONDITIONS		GOAL	
		Outcome	Additional Funds/Year (in millions)	Outcome	Additional Funds/Year (in millions)	Outcome	Additional Funds/Year (in millions)
Bridges	94.5% at Good/Fair	92.8% at Good/Fair	\$0	94.5% at Good/Fair	\$60	95% at Good/Fair	\$80
Pavement	48% at Good/Fair	Less than 31% at Good/Fair	\$0	48% at Good/Fair	\$90	60% at Good/Fair	\$280
Equipment	At 165% of useful life (running 20–25 years)	At 175% of useful life (running 25–30 years)	\$0	At 165% of useful life (running 20–25 years)	\$1.5	At 110% of useful life (running 10 years)	\$14
General Maintenance*	B- Level of Service	C+ Level of Service	\$0	B- Level of Service	\$7	B Level of Service	\$30

*General maintenance covers snow/ice control, litter removal, tunnel/rest area maintenance and other CDOT functions.

¹¹Colorado Department of Transportation—2035 Statewide Plan

BRIDGES

Do Nothing. With the current funding levels, the amount of bridge deck area in the good/fair category will decline slightly over the next 10 years to 92.8 percent.

Sustain Current Conditions: Invest an additional \$60 million/year to sustain current conditions with 94.5 percent of bridge deck area in good/fair condition.

Achieve Goal: Invest an additional \$80 million/year and the goal of 95 percent of bridge deck area in good/fair condition will be met.

PAVEMENT

Do Nothing: With the current low funding levels, pavement will deteriorate and the amount of pavement in good/fair condition will drop from 48 percent of the system down to less than 31 percent of the system in 10 years.

Sustain Current Conditions: Invest an additional \$90 million/year to sustain current conditions with 48 percent of the pavement in good/fair condition.

Achieve Goal: Invest an additional \$280 million/year to apply an asset management approach to extend pavement life and decrease long-term pavement maintenance, resulting in 60 percent of the pavement in good/fair condition.

EQUIPMENT

Do Nothing: With the current low funding levels, more equipment will exceed 175 percent of its useful life.

Sustain Current Conditions: Invest an additional \$1.5 million/year to sustain the current average condition of equipment at 165 percent of its useful life.

Achieve Goal: Invest an additional \$14 million/year to replace old equipment, thereby reducing the overall age of the equipment fleet, reducing maintenance, and increasing the efficiency of highway maintenance.

GENERAL MAINTENANCE

Do Nothing: The current funding levels will result in a decreased maintenance level of service to "C+."

Sustain Current Conditions: To sustain the current level of maintenance will require an additional investment of \$7.3 million/year. General maintenance includes nine categories: planning, scheduling and training; roadside facilities; roadside appearance; structure maintenance; rest areas, buildings and grounds; tunnel maintenance; traffic services; roadway surface; and snow and ice control. The last three categories require the greatest amount of funding.

Achieve Goal: Invest an additional \$30 million per year to improve the level of service to "B" providing improved snow and ice control, traffic services, and other maintenance programs.





Achieve a Bigger Vision

For Colorado to truly thrive and for our future transportation network to grow, a greater financial investment will be required.

Statewide, CDOT's transportation vision includes not only maintaining our system before it deteriorates, but leads to achieving our goals for pavement and bridges, enhancing safety, and improving interregional connections. A statewide increase in user fees would enable us to achieve this statewide vision, and might be implemented in the following ways.

SAFER RURAL HIGHWAYS: Shoulders, pullouts, passing and acceleration/deceleration lanes are critical to motorists' safety. To address these safety needs would require an additional \$100 million per year.

TRANSIT CONNECTIONS: Coloradans must be able to travel to and from other areas in the state. An investment of an additional \$15 million per year would improve interregional bus service between Colorado's major cities along the Front Range and connect DIA to the I-70 west mountain communities providing choices for many of our state's residents and visitors.

CONGESTION RELIEF: In urban areas and in other congested areas of the state, the greater need is to address mobility and congestion issues. Making operational improvements and managing transportation demand are both critical, but these efforts alone won't solve the problem. Capacity issues could be addressed through a regional sales tax and increased use of managed lanes on our most congested corridors.

Improving mobility in the state's most congested and urban areas would require an additional \$500 million per year for new lanes along the Front Range and within other heavily traveled corridors. Investing in these improvements is an investment in Colorado's economy—it would result in a more efficient delivery of goods, improved work commutes and easier personal travel. Utilizing managed lanes on these corridors is one way to ensure we get the most out of those improvements, using tolling and allowing transit on these lanes.

I-70 WEST MOUNTAIN CORRIDOR: The I-70 west mountain corridor is critically important to Colorado. It's a lifeline for commerce and freight. Our tourism industry depends on it as do mountain communities. And, for many Coloradans who enjoy skiing and other recreational activities, I-70 is the route that connects them with these options. An investment of \$500 million to \$1 billion per year would improve the highway capacity and build a transit line within the next 20 years, preserving the beauty of the corridor and building for Colorado's future.

“For Colorado to truly thrive and for our future transportation network to grow, a greater financial investment will be required.”

10. OPTIONS

The funding options below are just a sampling of what could be raised to fund transportation. Some options make sense for solving statewide needs like maintenance or paving. However, in some areas of the state, the transportation needs may be just within that region. This is especially true of urban areas that are experiencing increasing traffic congestion. In these cases, a regional and state option could be combined to address a particular need.

TRANSPORTATION FUNDING OPTION	ESTIMATED YEARLY REVENUE (average per year for 10 years)
Index Current State Gas Tax to Inflation	\$89 million for state highways and \$59 million for local roads
10 Cent State Gas Tax Increase	\$176 million for state highways and \$117 million for local roads
10 Cent State Gas Tax Increase, Indexed to Inflation	\$275 million for state highways and \$183 million for local roads
0.5 Cent State Sales Tax Increase	\$416 million
0.5 Cent Regional Sales Tax Increase	Varies by region; could be enacted by a Regional Transportation Authority
2.0% Severance Tax Increase (tax on oil and gas income)	\$113 million
2.0 Cent VMT Fee (fee for each mile traveled)	\$586 million
Tolling of new lanes in congested corridors	Adding a variable toll that adjusts with congestion levels would pay for about 1/3 of construction cost of new lane.

Transportation Matters

Simply put, transportation matters. It is critical to the Colorado lifestyle and affects an average of 2.6 million people who travel more than 76 million miles on Colorado highways each day.

Transportation provides Coloradans with mobility and choice. It allows us access to jobs, and provides us with the freedom to live where we want to live. Less time in traffic means more time with our friends and families.

Transportation supports Colorado's economy. It encourages businesses to grow and expand and new businesses to relocate here. It provides visitors with the ability to access our ski areas and Colorado to thrive as a tourism destination. It allows our farmers to transport their goods to market.

Transportation provides access. We can get to the medical facilities of our choosing, enjoy our mountains, and our elderly can get to the grocery store.

Transportation ensures our safety. When we invest properly in transportation, traffic accidents on our highways are reduced.

Transportation is sustainable and can preserve Colorado's scenic beauty and natural environment. Today's transportation system is not the same transportation system of the past. Transportation projects today mitigate negative environmental impacts. When traffic flows smoothly, emissions are reduced, improving the health of Coloradans.



TRANSPORTATION NEEDS VARY ACROSS THE STATE.

Eastern Plains Transportation Facts

Key Needs:

- Maintain and enhance current truck routes
- Improve pavement and bridge condition
- Increase maintenance
- Fix inadequate shoulders
- Widen narrow bridges to accommodate wide loads
- Add passing lanes to enhance safety
- Improve rail crossings

Examples:

I-76 from Denver to Nebraska is part of the Heartland Express designation in Colorado. The corridor is an important freight connection to areas within Colorado and also to Chicago and areas east. The projected population and employment levels indicate that passenger and freight traffic volumes are expected to increase by significant levels. Currently, the highway is in fair to poor condition. The highway is in need of interchange and drainage improvements and also safety upgrades. For example, the steeper roadway slopes cause concern for errant vehicles being able to recover safely. The freight traffic and heavy trucks that depend on this roadway cause excessive wear and tear making reconstruction of this rutted and crumbling interstate a priority. The estimated cost for these needed improvements is over \$200 million.

Like many rural Colorado highways, the 27-mile stretch of **State Highway 52 between Dacono and Prospect Valley** is in need of adequate shoulders and passing lanes. The corridor saw 37 accidents, including five fatal crashes between 1996 and 2010 that may not have occurred if there had been a passing lane and/or more shoulder width on the highway.

“On State Highway 52 . . . five fatal crashes may not have occurred if there had been a passing lane or more shoulder width.”

Western Slope and Mountain Areas Transportation Facts

Key Needs:

- Provide local and regional transit services to connect communities and offer additional modes for accessing services (housing, medical, etc.)
- Add passing lanes and adequate shoulders to enhance safety
- Reduce wildlife-vehicle collisions
- Improve connections to other communities for tourism and economic development
- Preserve land and the environment in transportation improvements
- Improve pavement and bridges for freight traffic and other large passenger vehicles

Examples:

State Highway 13 in northwest Colorado is a strong inter/intra-regional highway that provides local access and a north-south connection between Rifle and Wyoming. This highway has experienced huge increases in heavy vehicle use as a result of the area's energy extraction including coal, oil, oil shale and natural gas, and is a major route linking I-70 in Colorado to I-80 in Wyoming—critical for freight and commerce. While passenger and freight traffic are projected to increase, local communities are concerned with increasing safety, preserving the rural character of the area, encouraging tourism and recreation and certainly supporting the energy, freight and agricultural traffic. In order for all this to occur, the highway is in need of passing and acceleration/deceleration lanes, adequate shoulders, road surface improvements and bridge repairs. Additionally, wildlife mitigation efforts would enhance safety on this rural highway. The identified need for transportation improvements to this highway is about \$100 million.

On US 285 between Bailey and Fairplay, trucks account for up to 10 percent of the traffic. As US 285 serves as an important alternate route to I-70, traffic can increase significantly during incidents or closures on the interstate. There are several problem locations on the corridor that experience a higher than normal frequency of traffic crashes due to high winds, winter driving conditions, and wildlife. Curves in the road create a concern for safety and often result in drivers hitting guardrail and losing control. By adding passing lanes and widening shoulders where necessary, vehicles and trucks could better share the road. Improvements such as wildlife crossings, new guardrail and curve straightening could reduce traffic crashes by 25 percent. Additionally, this could provide a better alternative to I-70 west, freeing traffic on the interstate. Without these improvements, US 285 will experience more congestion in the future and can expect an increase in traffic crashes of up to 25 percent at certain locations.

I-70 west mountain corridor: About 30 percent of tourism and visitor spending in Colorado occurs in the mountain resort region, which relies on I-70 west as the main conduit. If I-70 west becomes too congested, these visitors may decide to recreate elsewhere, devastating many of these mountain communities. A one percent decline in tourism spending in the mountain resort region means an annual loss of \$25 million in business revenue. The impact of I-70 congestion in Colorado totals \$839 million per year (2005 dollars). This is a decrease in tourism spending, value of time lost for residents, loss of productivity and business efficiency, and state, county and city retail sales tax revenue decrease. The 2010 Colorado Visitor Profile found that Colorado remains first in market share for skiing across the U.S. and it is critically important that I-70 congestion not impact that.

“About 30 percent of tourism and visitor spending in Colorado occurs in the mountain resort region, which relies on I-70 west as the main conduit.”

“Travel congestion in Denver, Colorado Springs and Boulder costs drivers \$1.35 billion in delays and wasted fuel.”

Front Range Transportation Facts

Key Needs:

- Ensure adequate maintenance to preserve the existing system
- Expand capacity of most congested corridors
- Provide increased transit services
- Provide a balanced multi-modal transportation system (transit, bicycle, local and regional roadways) to move people, goods and information.

Examples:

Travel congestion in Denver, Colorado Springs and Boulder costs drivers \$2 billion in delays and wasted fuel.¹² If lanes were added in the most congested corridors such as I-25 north, I-70 and C-470, we would be able to maintain/reduce the amount of time drivers spend sitting in traffic. These additional lanes could encourage more transit development, getting more people out of their vehicles and reducing shipment delays to businesses and grocery stores helping costs stay low.

Interstate 70 is the transportation backbone for east-west travel in the Denver region and the state, serving the growing development identified within the region as well as interregional and interstate travel. Of great concern is the I-70 viaduct, one of Colorado’s largest and busiest bridges that is nearing poor condition. On two separate projects, the state recently spent over \$30 million in repairs in an effort to extend the bridge’s life, but these repairs only stall the inevitable need for the viaduct’s full replacement. Additionally, the corridor is experiencing rapid growth and development. This includes new development areas and redevelopment areas with substantial residential populations and business activity. The land use and development trends within the corridor will result in additional demands on the already strained existing transportation system.



¹²Texas Transportation Institute 2010 Urban Mobility Report



Currently, I-70 is nearing or has exceeded capacity, carrying between 35,000 and 195,000 vehicles per day (east of Airport Boulevard and east of I-270, respectively) depending on the location in the corridor. Forecasted traffic for the year 2030 is expected to be between 120,000 and 267,000 vehicles per day for those same sections by 2030. The current capacity for those corresponding sections averages 90,000 and 180,000 vehicles per day, respectively. This increase in traffic will result in more congestion, longer delays, and increased potential for crashes. Without improvements, hours of congestion experienced by travelers on I-70 in the corridor will continue to increase. Currently, the highway between I-270 to I-225 experiences congestion during 12 percent of the day. By 2030, that period will increase to 42 percent of the day without improvements. Improvements are anticipated to cost from \$1.5 billion to well over \$2 billion (in 2009 dollars) depending upon the specific improvements.

C-470 is just one example of how highways in Colorado's urban areas are experiencing significant congestion problems. Commuters who must use C-470 every day on their commutes are spending less time with their families due to their congested drives. Existing delay during peak travel periods on C-470 between Kipling Parkway and I-25 is approximately 11–18 minutes per vehicle. That means a commuter is spending about 30 minutes less per day at home with their family, just on that short stretch of highway, and it is only going to get worse. By 2025, the peak travel time delay per vehicle between Kipling Parkway and I-25 is estimated to be 20–22 minutes, resulting in over 2,900 vehicle-hours of delay in the peak hour. As traffic volumes increase, C-470 will be more prone to congestion and accidents, and thus, reliability will continue to worsen. Existing Levels of Service during peak hour operations range from Level of Service "C" to Level of Service "F."

“ This increase in traffic will result in more congestion, longer delays, and increased potential for crashes. ”