



Colorado Freight and Passenger Rail Plan



COLORADO
Department of Transportation



COLORADO
Department of Transportation
Office of the Executive Director

February 15, 2024

Under Governor Polis' leadership, the State of Colorado has been undergoing significant change over the last five years, and our transportation system is no different. With this Plan and other recent steps, the State of Colorado and CDOT have moved from talking about bold ideas towards implementing them. The Colorado State Freight and Passenger Rail Plan captures this shift from the perspective of the rail infrastructure in our state.

During the life of this Plan, Colorado will turn 150 years old. As it has in the last 150 years, rail will play a pivotal role in the State's strength and future growth. The State's and CDOT's top priorities are moving rapidly toward service on Front Range passenger rail from Pueblo to Fort Collins and mountain rail from Denver to the Mountains to serve Colorado residents for the next 150 years. This Plan will help unlock historic federal funding for rail and guide efforts to strengthen passenger rail and enhance safety on Colorado railroads.

Since the 2018 plan, Colorado has created the Front Range Passenger Rail (FRPR) District through the passage of SB 21-238, giving them the power to levy a sales or use tax after the approval of said tax from voters of the District. Currently, the FRPR District is working with CDOT to prepare a Service Development Plan (SDP) for the FRPR System and was officially accepted by the Federal Railroad Administration (FRA) into the Corridor Identification and Development (Corridor ID) Program on December 8, 2023. Our presence in the Corridor ID program guarantees that federal funding will be available to support project implementation and positions us to be a highly competitive application for future construction funding.

Likewise, CDOT is developing a SDP for the mountain rail network thanks to the Transportation Commission's October approval of \$5 million to fund the study of both introducing a mountain rail network and the interconnectivity with that system. With an expected sharp decline in coal traffic within and through Colorado, there is an enhanced opportunity for increased passenger rail traffic from Denver to Craig. Local leaders in the Yampa Valley and the Fraser Valley have indicated a desire for increased rail options within their region. Ultimately, the mountain rail network has the potential to increase connections between the mountains and the Front Range by offering an attractive, affordable, and reliable alternative to driving.

With bold steps, all of this change can take advantage of new funding made available by the Infrastructure Investment and Jobs Act (IIJA) which offers \$102 billion in total rail funding, including \$66 billion from advanced appropriations and \$36 billion in authorized funding. This funding has encouraged greater collaboration between States and Class I railroads, with both BNSF and UP working with CDOT on plans to improve rail infrastructure across the state. We are eager to carry this work forward and deliver more travel options throughout Colorado.

Shoshana Lew, Executive Director
Colorado Department of Transportation





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Commonly Used Terms

SFPRP—The State Freight and Passenger Rail Plan, or “Rail Plan,” is the overarching strategic document that charts the future of rail in Colorado and provides guidance on key issues and opportunities, priority recommendations, and implementation steps to advance rail across the state.

Organizations

CDOT—Colorado Department of Transportation, the state agency responsible for managing the state’s multimodal transportation system.

FRA—Federal Railroad Administration, the agency responsible for overseeing freight and passenger railroads in the United States.

DTR—CDOT’s Division of Transit and Rail, the division responsible for planning, oversight, and operation of transit and passenger rail activities within Colorado.

District—The Front Range Passenger Rail District, created in 2021, is responsible for the planning, developing, financing, and operation of a passenger rail system along the Front Range. The District supersedes the Southwest Chief and Front Range Passenger Rail Commission.

Rail Operators

Class I Railroads—typically known for the long-haul transportation of commodities and defined as a rail carrier earning annual revenue greater than \$505 million; only seven Class I railroads operate currently in the U.S.

Class II Railroads—typically known as regional railroads and defined as mid-sized in terms of operating revenue.

Class III Railroads—typically known as Short Line Railroads serving small towns or industries or hauling last mile deliveries for larger railroads; designation includes terminal and switching railroads.

RTD—Regional Transportation District, which operates light and commuter rail service in the greater Denver region.

Amtrak—National Railroad Passenger Corporation, the national provider of long-distance, intercity passenger rail service in the United States.

Scenic Railroad—Collectively, the state’s seven scenic railroads providing tourist service on historic routes.

TRAC—Transit and Rail Advisory Committee, which includes representatives from across the state to advise CDOT on multimodal transportation issues, including passenger rail.

FAC—Freight Advisory Council, which includes public and private stakeholders who advise CDOT on freight related issues and needs.

Key Terms

Front Range—The state’s most populous region, generally extending from Fort Collins to Trinidad.

Front Range Passenger Rail—Describes proposed future rail service connecting Pueblo to Fort Collins without specific alignments or service types. Future extensions could be to Cheyenne and into New Mexico.

Intercity Rail—Long-distance passenger service generally greater than 50-mile route distances, including Amtrak routes, as well as future high speed rail service.

Commuter Rail—Short-distance passenger service generally less than 50 miles, including RTD’s service in the Denver region.

Multimodal—General term for all integrated passenger transportation modes, including transit, rail, car, air, pedestrian, and bicycle.

Intermodal—Describes the transfer of freight between modes, such as rail to truck, and describes intermodal container shipments commonly used in international shipping.



INTRODUCTION AND OVERVIEW

Colorado moves by rail. Anything that is grown, mined, or made needs to be moved. Freight rail transports the wheat used to brew craft beer, the fertilizer nurturing Olathe sweet corn and Rocky Ford cantaloupes, the drywall and lumber used to build homes, and the energy to power our schools and office buildings, as well as anything that can be loaded in a truck—including the truck itself. Colorado’s commuter and light rail systems move Colorado residents in increasing numbers to and from work, school, or the airport and provide travel options for everyday trips. Intercity passenger rail service on Amtrak makes Colorado a competitive place in which to do business and provides visitors access to big cities, small towns, and our global tourist destinations. Colorado’s residents, visitors, and businesses rely on rail to move people and products into and around the state and to destinations around the globe.

To keep Colorado’s economy competitive and our communities livable, we must continue to maintain our existing rail infrastructure, while preserving future capacity and improving mobility. Rail provides significant environmental benefits compared to moving people by automobiles and products by truck. Improving and expanding rail in Colorado can offset investment and maintenance needs of the highway system, reduce congestion, improve safety, and benefit local economies. Colorado’s Rail Plan guides policies, planning, improvements, and investments to support the state’s future vision for rail systems that are a critical component of our multimodal transportation system and that enhance mobility and advance economic vitality for all Coloradans.

About This Rail Plan

Colorado’s Rail Plan is the most recent comprehensive plan to address freight and passenger rail transportation across the state. This plan continues the work and priorities established in Colorado’s 2018 State Rail Plan and is consistent with plan guidance issued by the Federal Railroad Administration (FRA). This Rail Plan helps CDOT and our planning partners better understand the complexities of the rail systems that Colorado businesses, residents, and visitors rely on, by:

- **Defining** a vision and strategic goals for our rail systems;
- **Illustrating** and analyzing the role of rail in Colorado’s economy;
- **Assessing** current conditions and identifying needs and issues;
- **Examining** future trends and their impact on rail service demand in Colorado;
- **Prioritizing** potential projects and creating a rail service and investment plan;
- **Identifying** short- and long-term strategies to address needs and issues; and
- **Developing** a short-list of critical implementation steps to keep Colorado moving by rail.

This Rail Plan provides a framework for future action by CDOT and public and private partners. It is a resource for rail planning partners to understand current issues and future needs, connecting trends and issues to opportunities and providing priority strategies and implementation pathways for future action.



To achieve Colorado’s vision for the future of rail, this Rail Plan:

- **Complies** with the Federal Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and is consistent with planning requirements of the FRA and State of Colorado;
- **Engages** key stakeholders in the planning process and encourages education and communications initiatives to reach the traveling public and decision-makers;
- **Develops** CDOT’s networks and partnerships with key public and private planning partners, including rail operators;
- **Enables** access to Federal and state funding sources, including future competitive Federal grant opportunities and potential state or local funding sources; and
- **Identifies** a framework and high priority strategies for future action, study, coordination, and communication.

This Rail Plan will be updated on a four-year cycle to reflect changing conditions, needs, and opportunities. CDOT and partners will regularly review the framework, strategies, key actions, and coordination opportunities identified in this Rail Plan to ensure that this plan is flexible, agile, and responsive to stakeholders and the traveling public.

Statewide and Regional Planning

The efficient movement of people and products is critical to keep Colorado’s economy moving. Yet, the rail transportation issues and needs of Colorado’s industries and residents are constantly changing and rapidly evolving in response to global economic forces, national trends, and local opportunities. CDOT, together with planning partners and stakeholders, is continually looking ahead and planning to meet future needs.

CDOT plans ahead to create the best system possible with limited resources. Like setting a household budget, CDOT and planning partners must prioritize projects that provide the greatest benefits at the lowest costs. How do we make major investment decisions when project needs far outweigh resources? How do we prioritize among expanding intercity passenger rail service, enhancing station areas, improving the safety of at-grade rail crossings, supporting freight rail infrastructure improvements, or preserving railroad rights-of-way for future use? CDOT makes these decisions by approaching state and regional planning through a continuous, comprehensive, and collaborative process, consistent with Federal and state requirements. Planning enables CDOT to decide what is important, where to start, and what steps are necessary to implement improvements and achieve our strategic goals. The Rail Plan reflects this considerate approach to planning and incorporates data and analysis that inform our decision-making, including establishing goals and objectives, prioritizing resources, and developing implementation plans.

CDOT’s roadmap for the future is the Statewide Transportation Plan (SWP). The SWP provides the strategic direction for Colorado’s transportation system and balances the need to maintain the existing system against important priorities of expanding the system, providing more travel choices, and increasing efficiency and safety.

Statewide goals identified in the SWP include:

- **Safety**—The future of Colorado is zero deaths and serious injuries so all people using any transportation mode arrive at their destination safely.



- **Mobility**—Reduce travel time lost to congestion and improve connectivity across all modes with a focus on environmental impact, operations, and transportation choice statewide.
- **Asset Management**—Maintain a high-quality transportation network by working to maintain a state of good repair for all assets and a highly traversable road network.

The SWP is the umbrella document for CDOT’s family of regional, modal, and operational plans, including safety, operations, asset management, transit, bicycle and pedestrian, freight, and this Rail Plan. These plans are fully integrated and support the overall goals of the SWP to ensure that CDOT is moving forward with policies and projects that leverage limited funding and provide the best return on our investments. While the SWP provides high-level guidance and sets strategic goals, the Rail Plan focuses on extensive stakeholder engagement and data analysis to develop strategic priorities specific to freight and passenger rail. These goals, strategies, and implementation recommendations advance statewide goals and will be integrated into future statewide plans.

Rail Planning in Colorado

The Rail Plan is not the first or only rail-specific planning effort in Colorado. CDOT continuously examines the needs of Colorado’s freight and passenger rail systems and conducts specific studies to address current and future issues. These previous planning efforts helped set the stage for this 2023 Rail Plan, which provides a comprehensive look at current challenges and emerging opportunities across all rail transport in Colorado.

State legislation created CDOT’s Division of Transit & Rail (DTR) in 2009. DTR is responsible for planning, developing, operating, and integrating transit and passenger rail into the statewide multimodal transportation system. DTR works in coordination with public and private rail providers to plan, promote, and implement investments in transit and passenger rail services statewide, with the goal of providing a coordinated multimodal system to meet Colorado’s transportation challenges now and in the future. DTR’s primary functions include administering Federal and state grant programs; planning for transit and rail service; coordinating with agencies and stakeholders; complying with Federal and state regulations; and providing transit services.

CDOT’s Division of Transportation Development (DTD) integrates freight rail services into multimodal freight and statewide transportation plans and coordinates with freight railroads through the Freight Advisory Council (FAC). DTR and DTD work cooperatively to address both passenger and freight needs and issues throughout the state. CDOT’s Division of Project Support manages the Federal railway-highway crossing safety program, which funds safety improvements to crossing infrastructure and equipment and grade separation projects. In 2021 the General Assembly of Colorado enacted the Front Range Passenger Rail District responsible for the planning, developing, financing, and operation of a new passenger rail system across 13 counties. The District superseded the disbanded Southwest Chief and Front Range Passenger Rail Commission.

Plan Development Partners and Process

Colorado’s Rail Plan was guided by input from residents, businesses, and community leaders; freight and passenger rail operators and industry representatives; agency partners; and elected officials. Together, this diverse set of stakeholders provided ideas and insights that helped shape this Rail Plan to position Colorado to proactively address freight and passenger rail issues and priorities.

CDOT works with transportation planning partners, regional economic development organizations, industry associations, businesses, and private and public railroads to plan and coordinate transportation across Colorado’s rail systems. Colorado’s freight rail system is privately owned, operated, and funded. Amtrak funds and operates



intercity passenger rail, while RTD funds and operates the Denver metro area commuter and light rail network. The Front Range Passenger Rail District will plan, design, and operate a new passenger rail system, working independently, but in close coordination with CDOT and local partners. Colorado is also home to scenic and historic railroads that are owned, operated, or supported by the State of Colorado, local governments, non-profit organizations, or private businesses.

CDOT works closely with these public and private partners to ensure that rail planning is coordinated and helps to advance policies and projects that make these systems safer, more efficient, more reliable, and more accessible. To develop a plan for the future of rail in Colorado, CDOT collaborated with transportation planning partners to understand freight and passenger rail needs now and well into the future. This integrated Rail Plan documents Colorado's overall vision and strategic goals and provides CDOT with strategic guidance, identifies critical investments, and directs implementation actions to keep Colorado's people and goods moving by rail.

CDOT DTR led the development of this Rail Plan. Planning efforts were coordinated with DTD's Multimodal Planning Branch, along with CDOT Engineering Regions, Transportation Planning Regions (TPRs), and regional planning partners such as metropolitan planning organizations (MPOs). Private railroads and business leaders were directly involved in developing this Rail Plan through committee engagement and stakeholder outreach. The SFPRP was developed in cooperation with the Colorado Freight Plan (CFP), recognizing that freight rail is a common element to both plans, and thus improvements, policies, and plans must be coordinated across modes.

CDOT recognizes and appreciates the partners who helped develop and shape this Rail Plan with their insights and ideas.

Federal and State Planning Requirements

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) is intended to improve passenger rail service, operations and facilities across the country. PRIIA focuses on intercity passenger rail, including Amtrak's long-distance routes, state sponsored corridors, and the development of high-speed rail corridors. PRIIA tasks states to develop statewide rail plans to set policy involving freight and passenger rail transportation within their boundaries, establish priorities and implementation strategies to enhance rail service in the public interest, and serve as the basis for Federal and state rail investments. The legislation mandates a standardized rail plan format, lists minimum rail plan content, and codifies procedural requirements for rail plan preparation.

This Rail Plan meets Federal requirements, including PRIIA requirements, and is consistent with state planning guidance issued by the Colorado Transportation Commission. Approval of Colorado's Rail Plan will make the state compliant with 49 U.S. Code § 22102 concerning state rail plans and state rail administration.

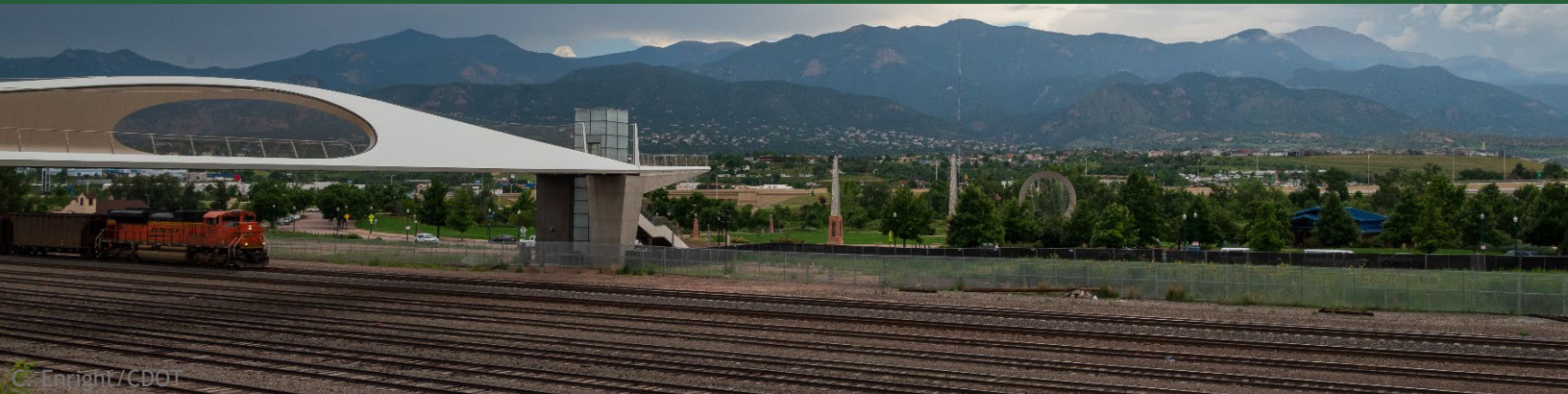
This Rail Plan follows PRIIA guidance and is outlined in six chapters:

1. **The Role of Rail in Statewide Transportation** summarizes the key goals and objectives of this Rail Plan and describes the current and proposed future role of rail in Colorado, rail-related governance and oversight agencies, state rail funding authority, and freight and passenger rail planning initiatives.
2. **Colorado's Existing Rail System** presents an overview of existing freight and passenger rail systems, including trends and forecasts, and summarizes critical needs and issues.
3. **Proposed Passenger Rail Improvements and Investments** presents potential investments in passenger rail and identifies service needs and opportunities.



4. **Proposed Freight Rail Improvements and Investments** presents potential investments in freight rail and identifies service needs and opportunities.
5. **Rail Service and Investment Program** identifies fiscally constrained rail funding within a short-range 4-year program and summarizes known and fiscally unconstrained vision improvements for the passenger and freight rail system over a 20-year program.
6. **Coordination and Review** summarizes stakeholder involvement and key issues and needs addressed in the development of this Rail Plan.

The **Appendices** includes a glossary of common terms and acronyms, profiles of freight railroads operating in Colorado, presentation materials generated through the rail planning process, and excerpts of industry and public survey efforts undertaken during the development of this Rail Plan.



CHAPTER 1. THE ROLE OF RAIL IN STATEWIDE TRANSPORTATION

This chapter of Colorado’s State Freight and Passenger Rail Plan describes Colorado’s rail vision and goals, summarizes existing freight and passenger rail systems, and identifies the entities involved in governing and funding the state’s rail systems. Colorado’s population is projected to grow from 5.8 million in 2020 to 7.3 million residents by 2045. Over 88 percent of future population growth is anticipated to occur along the Front Range corridor in existing communities and new planned developments. This growth will increase demand for efficient and safe multimodal transportation options for the traveling public. Colorado’s communities, residents, businesses, and visitors benefit from freight and passenger rail service that is coordinated with, and connected to, the state’s transit, highway, air, bicycle, and pedestrian transportation systems.

As Colorado’s population increases, the state faces growing transportation challenges, including longer travel times, increasing climate impacts, worsening air quality, deteriorating infrastructure, and rising risk of highway crashes. Connected passenger and freight rail services can relieve demand and reduce reliance on highway systems by providing efficient alternatives for moving people and goods. Freight railroads can move one ton nearly 500 miles per gallon of fuel, making rail three to four times more fuel-efficient than moving goods by truck.

Reliable freight and passenger rail services attract businesses to the state and help Colorado successfully compete with other states that are already investing in critical freight rail infrastructure and expanding passenger rail service. Communities across Colorado depend on freight railroads to move agricultural and natural resource commodities to market and residents rely on a wide variety of consumer goods that are moved into the state by rail. The continued development of commuter rail, intercity passenger rail, and now planned high-speed passenger rail enable Colorado’s tourism industry to attract visitors from around the world and link key destinations.

This State Freight and Passenger Rail Plan is prepared to fulfill the state rail plan requirement under Section 303 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and follows the Federal Railroad Administration’s State Rail Plan Guidance, issued in September 2013. The Colorado Department of Transportation will work on coordination with partners across the state to advance the state’s vision for rail and implement the critical actions and investment opportunities identified.



1.1 Colorado’s Rail Vision and Goals

This Rail Plan establishes an ambitious vision for the future of rail in Colorado. This vision reflects the importance of establishing Colorado’s rail systems as critical and integral components of the state’s multimodal transportation system. A focus on providing robust mobility options for both products and people emphasizes the importance of freight and passenger rail connections and accessibility. This planning effort and vision also concentrate on advancing economic development through rail infrastructure and services to increase the economic competitiveness of Colorado’s communities through freight and passenger rail connections.

Colorado’s Rail Plan



Our Vision

Our Goals

<p>Build a robust and safe rail network for passengers and freight that is an integral element of Colorado’s multimodal transportation system and supports access to sustainable mobility for all people, goods, and services.</p>	<p>Ensure that Colorado’s rail systems are SAFE and SECURE</p> <p>EXPAND and IMPROVE Colorado’s rail systems for passengers and freight</p> <p>Provide users and travelers with greater MOBILITY and CONNECTIVITY options</p>	<p>PRESERVE and MAINTAIN critical corridors and infrastructure to support Colorado’s rail systems</p> <p>Advance ECONOMIC VITALITY and ENVIRONMENTAL QUALITY of Colorado’s communities and regions</p>
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Our Priority Strategies

<p>Advance Passenger Rail</p> <ul style="list-style-type: none"> Support the Front Range Passenger Rail and Mountain Rail Corridors Integrate findings of relevant studies to identify consensus potential future passenger rail alignments Document future capacity considerations and constraints on potential passenger rail corridors Develop and maintain priority list of mobility, connectivity and accessibility improvements needed to improve existing passenger rail service and/or support future service 	<p>Strengthen Rail Coordination</p> <ul style="list-style-type: none"> Continue to develop partnerships and consultation with public and private rail operators Support efforts to ensure full implementation of positive train control Coordinate with partners to identify and fund safety, security, and crossing needs Support and participate in joint efforts to improve safety and security 	<p>Integrate Planning Processes</p> <ul style="list-style-type: none"> Consider guidelines or directives that integrate freight and passenger rail issues and needs into CDOT planning processes Develop program for freight-focused workshops or summits to connect local and regional planning partners with industry Establish process to share information with local planning partners and the public on outcomes of freight and passenger rail studies Craft information, policies, or guidelines to better align local decision-making and statewide rail priorities 	<p>Enhance Economic Connections</p> <ul style="list-style-type: none"> Develop ongoing coordination processes and communication channels with economic organizations and planning partners Quantify regional trade relationships and commodity flows and apply findings to customize transportation plans Support state and regional economic development and education partners in evaluating and responding to freight and logistics workforce needs and labor supply Develop a statewide export, manufacturing, and trade and logistics transportation strategy 	<p>Address Freight Rail Needs and Issues</p> <ul style="list-style-type: none"> Identify potential projects that address rail-related infrastructure constraints or rail access, safety and connectivity improvements Continue coordination with Class I railroads to identify planned or needed improvements Develop inventory of short-line rail service constraints Explore feasibility of a freight railroad assistance program Expand SB37 abandonment reporting process to identify additional rail-related infrastructure at risk
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Our Action Plan



Rail Plan goals align with Colorado’s Statewide Plan, Colorado Freight Plan, Statewide Transit Plan, and the guiding principles of CDOT and the Division of Transit and Rail. Together, Colorado’s vision, goals, and priority strategies provide the framework and strategic direction for evaluating future opportunities, acting on recommendations, pursuing improvements and investments, and aligning future decision-making. This strategic framework for rail in Colorado will guide future implementation activities and planning efforts, not only for CDOT



but also for public and private rail partners and stakeholders across the state. Rail Plan goals are aligned with the objectives and future improvements proposed in the Rail Service and Investment Program described in Chapter 5.

1.2 The Role of Rail in Colorado

Rail shaped Colorado's settlement and development. Most of the state's highways and roadways are adjacent to existing, or now abandoned, rail corridors, building on the same paths first carved by the railroads. For example, U.S. Highway 24 in Colorado, follows the same route as the Colorado Midland Railway, which was completed in 1890 and linked Colorado Springs, Leadville and Grand Junction. Throughout Colorado, communities were established around the facilities associated with the railroads, including rail junctions, passenger stations, mine sites, or agricultural elevators. Even in places where the railroad tracks no longer exist, the communities continue to thrive. In many cases, abandoned rail rights-of-way and rail corridors now provide green spaces and recreational access to Colorado's great outdoors.

Today, railroads continue to shape Colorado's communities and industries by playing a vital role in growth and development. Class I freight railroads serve traditional and emerging industries in the state and provide important connections to national markets and international ports and trade gateways. Regional and short line railroads provide essential last-mile connections to key agricultural industries and natural resource production sites throughout the state. Freight rail service provides Colorado businesses and consumers with environmentally efficient and safe options for moving goods, compared to highway movements.

Colorado's railroad network was developed beginning in the 1860s and served as the primary mode of transportation for both passengers and freight. In 1913, over 5,700 miles of railroads connected Colorado communities and railroad traffic reached a high point in the state. However, as personal automobiles and trucking on public roads became more widespread and as interstate highways expanded, the way Coloradans traveled and moved goods shifted. Automobiles, highways, and commercial airlines replaced trains as the preferred mode for short and long-distance travel. For decades Amtrak long-distance service was the only passenger rail service operating in the state. Freight railroads in Colorado were gradually abandoned as mining and other natural resource industries declined in significance.

More recently, railroad service and operations have grown with interest from communities and recognition of the role rail plays in the statewide transportation network. In 2017, nearly a decade after service was discontinued, the Winter Park Express passenger rail service resumed, connecting Denver to Winter Park Resort. Since 2014, Southeast Colorado communities have supported Amtrak's Southwest Chief and collaborated to improve track and infrastructure conditions in order to secure the future of this route. In 2021, privately funded passenger rail service began operating to connect visitors traveling from Denver to Moab, Utah across the Union Pacific Central Corridor line. In 2021, the Front Range Passenger Rail District was established to advance future passenger rail service along the Front Range corridor.

Freight and passenger rail services play a critical role in Colorado's multimodal transportation system. Rail provides a safe, efficient, and competitive option for moving both products and people and provides essential connections for travelers and rail customers across Colorado.



1.2.1 Colorado's Freight Rail System

As of 2023, 13 privately owned freight railroads operate in Colorado. These railroads operate on 2,545 route-miles of track and maintain a wide array of equipment, yards and terminals, maintenance facilities, and crossings throughout the state. Colorado's freight rail network directly serves 48 of the state's 64 counties and provides critical connections for local economies.

Two Class I freight railroads operate in Colorado: BNSF Railway (BNSF) and Union Pacific (UP). Combined, these railroads operate more than 80 percent of freight track miles and carry the most freight by volume and by value. Excluding coal, rail tonnage into and out of Colorado is expected to increase from a baseline of 7.7 million tons in 2020 to 12.6 million tons in 2040. Intermodal rail shipments, which involve transporting containerized cargo, account for a growing volume of rail traffic in the U.S. and in Colorado. The top intermodal commodities on Colorado's rail system include miscellaneous mixed shipments, empty semi-trailers, and food products. Primary commodities handled by Colorado's Class I railroads include coal, non-metallic minerals, cement and aggregates, farm and food products, consumer products, automobiles, and metal and timber products. Class I railroads are privately-owned and make significant private investments in Colorado every year to maintain and improve services to their customers. On average, a freight train can carry the load of 280 or more trucks and move a ton of freight nearly 500 miles on a gallon of fuel, helping to reduce highway congestion and ease vehicle emissions.

Colorado's Class III regional railroads and short line railroads provide essential regional connections to Class I railroads and serve customers in agricultural and natural resource producing regions. They provide the first and last mile of connections to the national freight rail network. These private railroads operate approximately 20 percent of freight track miles in the state. Short line railroads are valuable assets to local economies, and the services they provide are crucial to some of Colorado's most important regional industries. Short line railroads directly employ hundreds of Coloradans and indirectly support many more jobs by providing freight connections among the national freight rail network and major utilities, manufacturers, and agricultural producers.

Freight rail plays a vital role in Colorado's multimodal transportation system by providing safe and efficient transport of critical heavy weight or hazardous materials, by providing long-distance and interstate connections for Colorado producers and consumers, and by supporting the economic competitiveness of Colorado's communities and regional economies.

1.2.2 Colorado's Passenger Rail System

The primary passenger rail system in Colorado consists of light rail, commuter rail, and long-distance passenger rail systems, supplemented with a robust scenic and tourist rail network. Colorado's intercity passenger rail network is experiencing growth and renewed interest. Amtrak, the National Railroad Passenger Corporation, operates two interstate routes as part of its national long-distance service network and one intrastate route as a seasonal service within Colorado. Amtrak is currently the only provider of intercity passenger rail service in the state. While ridership of Colorado's Amtrak routes increased between 2015 and 2019 (226,364 and 270,232 passengers, respectively), the impacts of the COVID-19 pandemic resulted in a decline in ridership between 2019 and 2021 to 114,529. By 2022 ridership had started to recover to 190,587 passengers. Amtrak's passenger routes in Colorado include:

- **California Zephyr** is a daily long-distance train that runs between Chicago and San Francisco, connecting Colorado to Oakland/Emeryville, Salt Lake City, Omaha, and Chicago and other locations in between. The Zephyr traverses the state with stops in Fort Morgan, Denver, Fraser/Winter Park, Granby, Glenwood Springs,



and Grand Junction. Amtrak Thruway bus service provides access to Alamosa, Buena Vista, Colorado Springs, Fairplay, Frisco, Gunnison, Pine Junction, Poncha Springs, Pueblo, Salida, and Vail.

- **Southwest Chief** is a daily long-distance train that runs between Chicago and Los Angeles, connecting southeast Colorado to Los Angeles, Albuquerque, Kansas City, and Chicago. Colorado stops include Lamar, La Junta, and Trinidad. Connecting through-ticket services on Amtrak Thruway bus service provides access to Denver, Colorado Springs, and Pueblo via Raton, New Mexico, for points between Raton and Los Angeles, California.
- **Winter Park Express** is a seasonal rail service operated through a partnership between Amtrak and the Winter Park Resort. It connects Denver Union Station directly to the ski area and serves primarily residents and tourists.

The Regional Transportation District (RTD) provides light rail and commuter rail services throughout the Denver metro area. In 2020, light rail ridership totaled 10,464,678 while commuter rail ridership totaled 4,954,167.

Passenger rail services play a critical role in Colorado’s multimodal transportation system by providing a transportation alternative to personal vehicle use and travel choices for residents and visitors. Light rail and commuter rail in the Denver metro area provide commute and travel options for residents and connect to pedestrian and cyclist networks, park-n-rides, and other commuter facilities, including bus depots and transfer stations. Amtrak intercity passenger rail provides connections to Colorado and long-distance travel options for visitors and residents.

1.2.3 Colorado’s Scenic and Historic Railroads

Colorado is home to seven scenic railroads that operate on standard or narrow-gauge tracks, and, in one case, on a cog rail system. These railroads are located in the communities of Cripple Creek, Durango, Silverton, Georgetown, Leadville, Manitou Springs, and Cañon City. Scenic railroads typically operate under private or local Government authority and are either publicly or privately funded or maintained. The State of Colorado and the State of New Mexico jointly own and operate the Cumbres & Toltec Scenic Railroad. The State of Colorado owns and supports the Georgetown Loop Railroad with service provided by a private operator. The Royal Gorge Route Railroad operates on rights-of-way owned by private freight railroads. Colorado’s scenic railroad corridors generate significant economic activity in the communities and regions in which they operate. Scenic railroads play a role in Colorado’s multimodal transportation system by providing destinations for travelers and enhancing the economic vitality of the regions in which they operate.

1.2.4 Colorado Freight and Passenger Rail Systems

Class I Railroads—two Class I freight railroads operate in Colorado: BNSF Railway (BNSF) and Union Pacific Railroad (UP).

Class II Railroads—three regional railroads operate in Colorado: Kansas & Oklahoma Railroad (KO), Kyle (KYLE), and Nebraska, Kansas, & Colorado Railway (NKCR).

Class III Railroads—eight short line railroads operate in Colorado: Cimarron Valley Railroad (CVR), Colorado & Wyoming Railway (CW), Colorado Pacific Railroad (COPR), Colorado Pacific Rio Grande Railroad (CXRG), Denver Rock Island Railroad (DRIR), Great Western Railway of Colorado (GWR), Rock and Rail (RRRR), and Utah Railway (UTAH/DPR).



RTD Light Rail and Commuter Rail—six light rail lines and four commuter rail lines operate across RTD’s system serving the Denver metropolitan area.

Amtrak California Zephyr—a daily long-distance train that runs between Chicago and San Francisco with stations in along the I-70 corridor in Colorado.

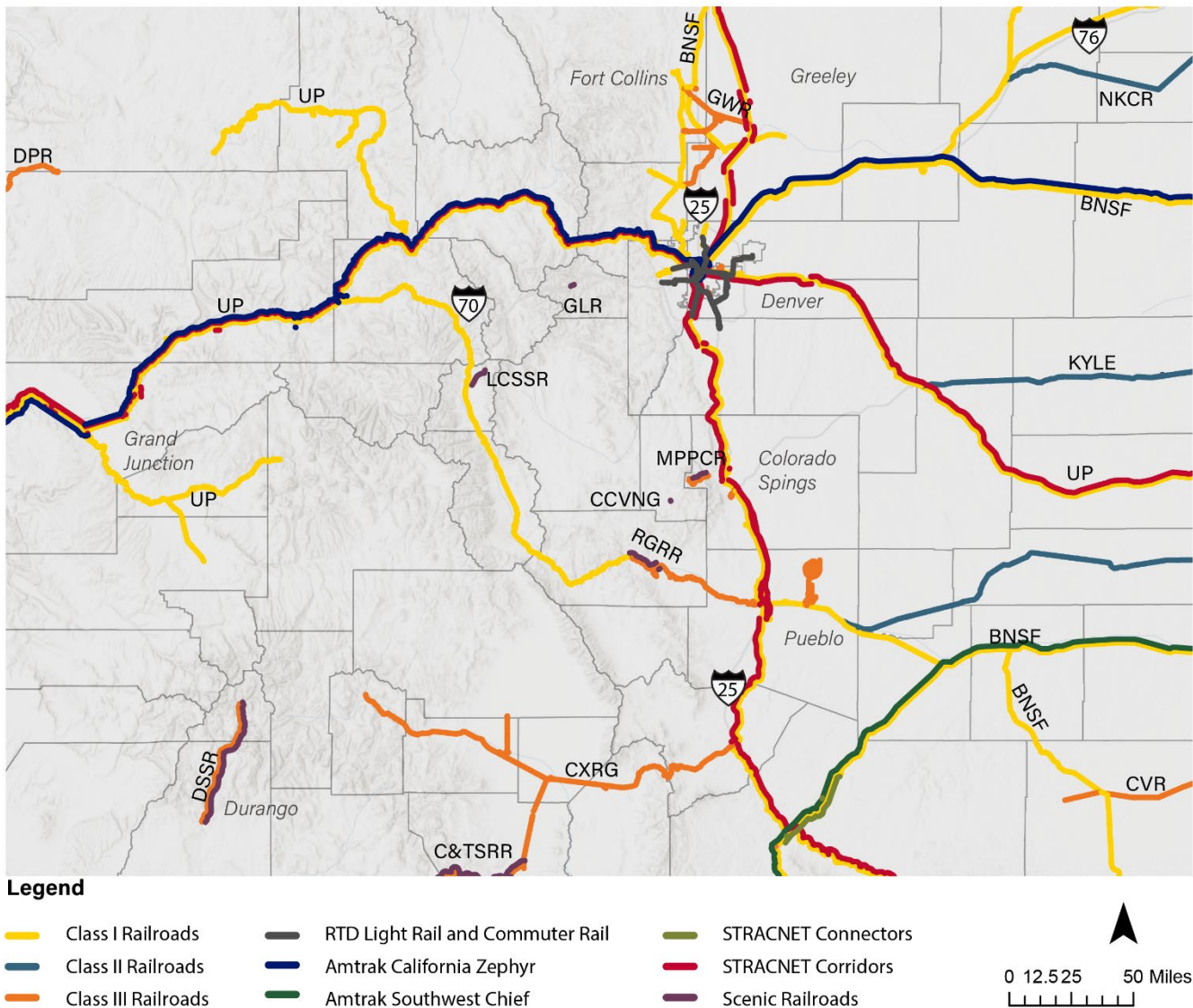
Amtrak Southwest Chief—a daily long-distance train that runs between Chicago and Los Angeles with stations in Southeastern Colorado

Strategic Rail Corridor Network (STRACNET) Corridors and Connectors—are civil railroad lines designated as critical to national defense.

Scenic Railroads—seven scenic railroads operate in the state providing excursions for visitors and preserving Colorado’s historical railroading past: Cripple Creek and Victor Narrow Gauge Railroad (CCVNG), Cumbres and Toltec Scenic Railroad (C&TSR), Durango and Silverton Narrow Gauge Railroad (DSSR), Georgetown Loop Railroad (GLR), Manitou and Pike’s Peak Cog Railway (MPPCR), Royal Gorge Route Railroad (RGRR), and Leadville Colorado and Southern Railroad (LCSSR).



Figure 1. Map of Colorado Freight and Passenger Rail Systems, 2022



1.3 Institutional Governance of Rail in Colorado

Private businesses own, maintain, and operate nearly all rail infrastructure in Colorado. These private railroads work cooperatively with state and local agencies to plan and coordinate rail services and infrastructure and are regulated by Federal and state agencies. Each railroad determines the use of its privately-owned infrastructure, rights-of-way, and other assets. Federal, state, and local agency rail activities in Colorado include long-term strategic planning, coordination, safety grant administration, as well as project planning and programming processes conducted in coordination with private operators. The following subsections identify the public agencies involved in planning and overseeing Colorado’s freight and passenger rail systems.



1.3.1 Federal Agencies

Surface Transportation Board (STB) is an independent adjudicatory and regulatory agency directed to resolve railroad rate disputes, to review proposed railroad mergers and acquisitions, and to regulate railroad abandonments. The agency has jurisdiction over railroad rate and service issues, as well as rail restructuring transactions, such as mergers, line sales, line construction, and line abandonments. The STB is an independent decision-making body administratively affiliated with the U.S. Department of Transportation (U.S. DOT).

Federal Railroad Administration (FRA) is an agency of the U.S. DOT with authority to develop and enforce freight and passenger rail safety regulations, administer railroad assistance programs, conduct research and development in support of improved railroad safety, and set national rail transportation policy. The FRA regulates rail safety on all railroad classes, except light rail. Under PRIAA, FRA provides guidance to states in developing state rail plans. FRA also administers Federal grants to Amtrak and provides fiscal oversight of Amtrak spending.

Pipeline and Hazardous Materials Safety Administration (PHMSA), an agency of the U.S. DOT, develops and enforces safety regulations, including transporting hazardous materials by rail. In coordination with the FRA, PHMSA provides rulemaking, oversight, guidance, education, and resources to improve the safety of transportation hazardous materials by rail.

Federal Transit Administration (FTA), an agency of the U.S. DOT, provides financial and technical assistance to local transit agencies, including light and commuter rail systems. FTA provides grant funding to rail systems and railroad operators for safety and capital improvements and certifies the safety of passenger rail systems.

Transportation Security Administration (TSA), an agency of the Department of Homeland Security, is responsible for the safety of national passenger transportation systems, including passenger rail. The Transportation Security Administration provides rulemaking, enforcement, education and training, guidance and oversight, and support to improve the safety and security of passenger rail systems.

1.3.2 State Agencies

Colorado Department of Transportation

CDOT provides the safe and efficient movement of people, goods, and information throughout Colorado. CDOT is responsible for designing, constructing, operating, and maintaining state multimodal systems; managing infrastructure assets; conducting multimodal planning; and improving transportation safety. For this Rail Plan, CDOT serves as both the *State Rail Transportation Authority* and the *State Rail Plan Approval Authority*. The FRA requires designation of these authorities for the purposes of state rail planning. CDOT's Division of Transit and Rail coordinates passenger rail planning activities, while freight rail activities are coordinated through other CDOT Divisions. Rail-related responsibilities of key CDOT divisions include:

- **Division of Transit and Rail (DTR)** develops policies and priorities for transit and passenger rail issues. In 2009, state legislation created the DTR with responsibilities to plan, develop, operate, and integrate transit and rail into the statewide transportation system. DTR coordinates with other divisions of CDOT, regional transit agencies, Amtrak, private rail operators, and other stakeholders to coordinate passenger rail planning and improvements.
- **Division of Transportation Development (DTD)** coordinates statewide and regional multimodal planning activities, including freight rail coordination. DTD integrates planning products from different regions and divisions, engages the public and planning partners, provides data and analysis, and formulates policy. Within



DTD, the Freight Mobility and Safety Branch coordinates freight planning activities, including freight rail-related planning and policy development and supports the FAC.

- **CDOT Engineering Regions** coordinate the planning, design, construction, maintenance, and operations within their area of the state. Regional planning staff support planning efforts and communicate with citizens, local jurisdictions, and elected officials.
- **CDOT Division of Project Support** manages the Federal railway-highway crossing safety program. This program, funded through the Federal Highway Administration (FHWA), is commonly known as the Section 130 Program. This program provides Federal funding, administered by CDOT, to improve and upgrade railway-highway crossing infrastructure and equipment.

Various oversight and advisory committees also provide feedback on CDOT's plans, programs, and projects. The responsibilities and members of these committees vary, but they provide guidance and recommendations for improving Colorado's multimodal transportation network. The following represent key CDOT committees with influence on rail planning and policy:

- CDOT manages the state's transportation system under the direction of the **Colorado Transportation Commission**. The Transportation Commission consists of 11 Governor-appointed commissioners representing urban and rural areas of the state. Responsibilities include approving the statewide plan and statewide transportation improvement program; adopting CDOT's budget and approving expenditures; advising the Governor and Legislature on transportation issues; and formulating policies on CDOT management and decision processes.
- **Statewide Transportation Advisory Committee (STAC)** was created by state statute to advise CDOT on policy and to provide regional perspectives on transportation issues. Committee members include one representative from each TPR and Colorado's two Tribal governments. The STAC provides a forum for discussing state and regional transportation issues and provides guidance to CDOT on policies and programs.
- **Transit and Rail Advisory Committee (TRAC)** was formed in 2011 to advise the DTR. Members include representatives from public and private transit providers, railroads, regional and local agencies, and the public. The TRAC provides advice and decision-making on public transit and passenger rail policies and priorities.
- **Freight Advisory Council (FAC)** was formed in 2015 as an independent council to guide CDOT on freight issues and to coordinate with private sector partners. The FAC provides a platform for freight industry representatives, businesses, and the public to coordinate on freight issues and to advise CDOT.

Colorado Public Utilities Commission

Operating as a division of the Colorado Department of Regulatory Agencies, the **Colorado Public Utilities Commission (PUC)** regulates utilities and facilities. The PUC administers a state funded rail safety crossing program and has primary jurisdiction over all public highway-rail crossings, including opening, closing, upgrading, signaling, construction of overpasses or underpasses, and the allocation of costs. All economic jurisdiction over railroads that are part of the national railroad system come under the jurisdiction of the Surface Transportation Board. The PUC is the designated State Safety Oversight Agency for rail fixed guideway public transportation systems in Colorado, which includes RTD.



Colorado Department of Higher Education

Under the Colorado Department of Higher Education, History Colorado is a 501(c)(3) charitable organization and an agency of the State of Colorado. History Colorado provides funding to scenic railroads through historic preservation grants. History Colorado owns the Georgetown Loop Railroad property and assets, with operations provided by a private vendor.

1.3.3 State Authorities

Cumbres & Toltec Scenic Railroad Commission

The states of New Mexico and Colorado purchased the Cumbres & Toltec Scenic Railroad (C&TSRR) in 1970. In 1977, the Cumbres & Toltec Scenic Railroad Commission (C&TSRC) was created as a bi-state agency to act on behalf of the two states in overseeing the operation of this railroad. The C&TSRC consists of four members, two from each state, appointed by their respective state Governor and is responsible for setting policies for the management of the C&TSRR and contracting with vendors to provide railroad operations.

1.3.4 Regional Authorities

Front Range Passenger Rail District

The General Assembly of Colorado established the Front Range Passenger Rail District (District) in 2021 for the purpose of planning, designing, developing, financing, constructing, operating, and maintaining an interconnected passenger rail system along the front range. The District is a political subdivision separate from CDOT with the authority to levy taxes, through ballot measures, to fund and support rail programs, including establishing station area improvement districts to construct and maintain the necessary train stations to support the proposed passenger rail system and a potential Southwest Chief spur or reroute to Pueblo, CO. The District is required to work collaboratively with RTD to ensure interconnectivity with any passenger rail system operated by or for the District and with Amtrak on interconnectivity with Amtrak's Southwest Chief, California Zephyr, and Winter Park Express trains. The District coordinates with CDOT to ensure that any system is integrated into the state's multimodal transportation system and does not impair the efficiency or safety of, or otherwise adversely affect, existing transportation infrastructure or operations. The District is comprised of 13 counties from the Wyoming to New Mexico borders.

Regional Transportation District

The Regional Transportation District (RTD), established in 1969, is the public transit agency operating in the greater Denver-Aurora-Boulder metropolitan region. RTD transit services include local bus, light rail, commuter rail, shuttle, and paratransit services. The RTD rail system operates ten rail lines (4 commuter and 6 light rail lines) 365 days a year to more than 50 stations throughout the metropolitan area. In 2004, RTD began implementing the voter approved transit expansion program, FasTracks, which features 122 new miles of commuter and light rail, an intermodal hub at Union Station, as well as bus rapid transit system expansions. Development at and around the system's transit stations is an important element of the FasTracks program.



1.4 State Financing Authority and Rail Funding

1.4.1 Funds, Grants, and Loans

General Fund Transfers

The Colorado General Assembly periodically authorizes the transfer of General Funds to CDOT for strategic transportation investments. Colorado Senate Bill 18-1 (SB-1) established transportation funding from the general fund to the state highway fund, the highway users tax fund, and a new multimodal transportation options fund for 2018 to 2039. General Fund transfers must be used to implement strategic programs and projects approved by the Colorado Transportation Commission. At least 10 percent of these General Fund transfers were allocated for transit-related capital improvements. These monies, administered by CDOT DTR, fund projects of regional and statewide significance. Funds may be used to support passenger rail services through planning or design, construction, or other capital improvements.

SB23-283, titled Mechanisms For Federal Infrastructure Funding and approved in May 2023, clarifies that money from the fund that is already authorized to be expended for the purpose of project planning support can also be used for Federal funding opportunities associated with Infrastructure Investment and Jobs Act (IIJA, 2021) and Inflation Reduction Act. The bill requires the state treasurer to make two transfers on July 1, 2023: transfer \$84 million from the general fund to the “Infrastructure Investment and Jobs Act” cash fund, and transfer \$5 million from the general fund to the state highway fund for use by the department of transportation to develop comprehensive operational capacity to maximize utilization and implementation of Federal infrastructure funding.

Highway-Rail Crossing Signalization

SB 16-87, effective June 6, 2016, appropriated \$240,000 for the 2016-17 fiscal year. Beginning with the 2017-18 fiscal year, \$240,000 with a 2% annual inflation adjustment will be credited to the highway-rail crossing signalization fund.

Funding Advancements for Surface Transportation and Economic Recovery Act

SB 09-108, the Funding Advancements for Surface Transportation and Economic Recovery Act of 2009, is also known as FASTER. FASTER allows CDOT to improve roadway safety, repair deteriorating bridges, and support and expand transit. This fund generates nearly \$200 million per year for CDOT: \$80 million for safety, \$100 million for bridges, and \$15 million for transit. Transit funds are split between local transit grants and statewide projects. CDOT competitively awards \$5 million for local transit grants and \$10 million for statewide, interregional, and regional projects. FASTER funds have been used to fund investments in passenger rail service planning, station area and platform improvements for Amtrak, and support for RTD capital equipment and commuter rail corridor improvements. No funding from this program can be used to condemn land for relocating a rail corridor or line.

Colorado State Infrastructure Bank

The Colorado State Infrastructure Bank (COSIB), a revolving fund created by the Colorado General Assembly, is authorized to provide loans to public and private entities to finance transportation projects. The COSIB operates four distinct programs for highways, transit, aviation, and rail. The objective of the COSIB is to seek loan applications for transportation projects that both benefit from assistance and meet terms for loan repayments.



The proposed project must ultimately have revenue sources available to it to repay the loan. Historically, the program is primarily used for aviation-related projects.

State Rail Bank Fund

In 1997, the General Assembly enacted SB-37, concerning the disposition of abandoned freight and passenger railroad rights-of-way in Colorado. This legislation also created the State Rail Bank Fund in state statute to provide the authority and funding to acquire abandoned railroad rights-of-way. Appropriations for moneys in the State Rail Bank Fund may be requested and used to acquire, maintain, improve, or dispose of rail lines, railroad right-of-way, or any other purpose necessary to carry out the implementation of Colorado's rail preservation policies. The State Rail Bank has been used only once. In 1998, \$10.4 million was allocated for the purchase of the NA Towner rail line from the UP.

1.4.2 Public-Private Partnerships

Colorado Transportation Investment Office

The Colorado Transportation Investment Office (CTIO) is a public-private entity within CDOT that is empowered to pursue innovative and efficient financing opportunities for CDOT projects, including public-private partnerships. Authorized in 2009, CTIO may impose tolls and other user fees, issue revenue bonds, and enter partnership agreements. State legislation does not limit CTIO by mode and allows innovative financing of any surface transportation infrastructure projects. CTIO, in partnership with CDOT, purchased the former UP Burnham Yard property in central Denver with the express intent of enhancing rail and transit mobility as well as leveraging other opportunities for redevelopment and roadway network enhancements.

Public-private partnerships are commonly long-term contracts between a private party and a Government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance. RTD has used public-private financing for several notable projects in the recent past, including the Denver Union Station redevelopment. RTD's Eagle project was a \$2.2 billion, 36-mile, 3-line commuter rail system procured through a 34-year public-private design-build-finance-operate-maintain contract. The State of Colorado established an office within the Department of Personnel and Administration to oversee public-private partnerships undertaken by the State and is actively partnered with CDOT and CTIO on several projects, including Burnham Yard.

1.4.3 State Rail Funding in Colorado

Colorado currently provides no dedicated or recurring state funding for freight or passenger rail capital investments. CDOT's Division of Project Support administers the FHWA Railway-Highway Crossings (Section 130) Program which provides Federal funding for railway-highway crossing improvements. CDOT DTR may award FASTER funds to rail projects of regional or state significance. FASTER funds are awarded on a discretionary and competitive basis. Between 2012 and 2022, CDOT invested approximately \$35 million in rail safety, capital infrastructure projects, and rail planning initiatives.



1.5 Past Freight and Passenger Rail Initiatives

Colorado has a long history of supporting freight and passenger rail investments. The first state rail plan was developed in 1979 and updated in 1980, 1981, 1984, 1985, 1991, 2012, and 2018. This Rail Plan serves as a comprehensive policy plan that updates earlier rail plans and draws on parallel rail planning efforts. Beginning with light rail studies for Denver in the early 1970s, CDOT, RTD, and local and regional organizations have supported several critical rail planning efforts in the state, including studying the feasibility of high-speed passenger rail service, considering intercity passenger rail, evaluating advanced guideway system connections, and examining the potential of freight rail relocation.

The following studies laid the groundwork for advancing passenger rail throughout the state.

- [1997 CDOT, Colorado Passenger Rail Study](#)
- 1997 RTD, Guide the Ride Program
- [1998 CDOT, I-70 Mountain Corridor Major Investment Study](#)
- [2000 CDOT, North Front Range Transportation Alternatives Feasibility Study](#)
- [2002 CDOT, Eastern Colorado Mobility Study](#)
- [2004 RTD, FasTracks Program](#)
- [2005 CDOT, Public Benefits Study](#)
- [2007 CDOT, Rail Relocation for Colorado Communities Study](#)
- [2008 Denver Union Station, Environmental Impact Statement](#)
- [2009 CDOT, Colorado Freight Roadmap](#)
- [2009 Amtrak, Pioneer Line Feasibility Study](#)
- [2010 Rocky Mountain Rail Authority, High Speed Rail Feasibility Study](#)
- [2011 CDOT, I-70 Mountain Corridor Programmatic Environmental Impact Statement and Record of Decision](#)
- [2011 CDOT, North I-25 Environmental Impact Statement](#)
- [2012 CDOT, State Freight and Passenger Rail Plan](#)
- [2014 CDOT, Mountain Corridor Advanced Guideway System Feasibility Study](#)
- [2014 RTD, Northwest Area Mobility Study](#)
- [2014 FRA, Southwest Multi-State Rail Planning Study](#)
- [2014 CDOT, Colorado Interregional Connectivity Study](#)
- [2015 CDOT, North I-25 Environmental Impact Statement Commuter Rail Update](#)
- [2015 CDOT, Statewide Transit Plan](#)
- [2017 CDOT, Interregional Connectivity Study Interoperability Report](#)
- 2020 Front Range Passenger Rail Commission, [Alternatives Analysis Report](#)
- 2022 Southwest Chief and Front Range Passenger Rail Commission, [Transition Report](#)
- 2022 CDOT, Southwest Chief Thru-Car Service Study
- 2023 CDOT, [Front Range Passenger Rail Service Development Plan \(begins\)](#)
- 2023 Front Range Passenger Rail District, [Corridor Identification and Service Development Program \(Applied\)](#)



1.5.1 Corridor Development Initiatives

The last 20 years have seen the implementation of many study concepts for freight and passenger rail operations in Colorado, while other ideas and plans continue to evolve. Rail planning efforts in Colorado have considered using existing freight railroad track in combination with the creation of new passenger rail corridors to complete an expanded passenger rail network across the state and to improve efficiency on existing freight rail corridors. Past initiatives have advanced coordination, planning, environmental assessments, and feasibility work to identify three corridors as the state's top priority rail opportunities: **Front Range Passenger Rail Corridor** along I-25 from Fort Collins to Pueblo; the **Southwest Chief** route in southeastern Colorado; and the **Mountain Network Vision** from Denver to communities on the Western slope and across the state. A timeline of critical developments and key plans and studies in support of Colorado's three emerging rail transportation corridors are summarized below.

Front Range Passenger Rail Corridor

In 2010, the Rocky Mountain Rail Authority, tasked with conducting a high-speed rail feasibility study, provided critical momentum for evaluating passenger rail service along the Front Range Corridor. Several recent studies have provided a foundation of work and helped to understand the needs, challenges, community and public preferences, and potential for passenger rail along this corridor.

In 2021, the Colorado General Assembly enacted legislation to form the Front Range Passenger Rail District. The FRPR District Act (SB 21-238) established a district that covers 13 counties along I-25 between Wyoming and New Mexico. The District has the authority to levy taxes, through ballot measures, to fund and support rail programs, including establishing station area improvement districts to construct and maintain the necessary train stations to support the proposed FRPR system and a potential Southwest Chief connection to Pueblo.

In 2020, CDOT and the Southwest Chief & Front Range Passenger Rail Commission (predecessor to the current District) completed an Alternatives Analysis that evaluated corridors for passenger rail service to the major population centers, considered governance options, and conducted stakeholder outreach. The Alternatives Analysis showed that FRPR is technically feasible and can be implemented using existing transportation corridors. It also demonstrated overwhelming public support for FRPR. The Alternatives Analysis recommended a system whereby passenger trains operate on shared track with freight operations, which would decrease the initial investment capital needed to implement future FRPR service. In conjunction with this effort, CDOT and metropolitan planning organizations along the Front Range incorporated FRPR into their planning documents, and the Southwest Chief & Front Range Passenger Rail Commission secured a CRISI grant to develop a formal Front Range Passenger Rail Service Development Plan (SDP).

The FRPR SDP process began in 2023 and will evaluate route, stations, service, infrastructure, operations, costs, and financing, culminating in an implementation plan for initial train service. The SDP considers how to use existing rail infrastructure and leverage railroad and community partnerships and multimodal connections to create a train service people are excited to ride. In 2023, the District submitted an application to be included in the FRA's Corridor Identification and Service Development Program.

Southwest Chief Corridor

In 2011, Amtrak began to express its concern to the states of Kansas, New Mexico, and Colorado regarding the future of the **Amtrak Southwest Chief** route, which connects Chicago to Los Angeles and traverses southern Colorado with stops in Lamar, La Junta, and Trinidad over tracks owned by BNSF. BNSF was unwilling to maintain



tracks beyond freight service requirements to meet passenger service standards. BNSF estimated that \$97 million in capital improvements and \$111 million in ongoing maintenance over 10 years was necessary to upgrade the line to passenger service standards. To continue efficient passenger service, Amtrak, the Federal Government, and state and local governments would need to fund track maintenance and upgrade responsibilities. Faced with these funding uncertainties and the possibility that Southwest Chief passenger rail service to some communities in Kansas, Colorado, and New Mexico could end, local communities began organizing in support of continuing this Amtrak route. A broad coalition of local governments and advocacy organizations spearheaded efforts to secure funding for necessary track improvements to retain Southwest Chief service in the region.

In 2014, a coalition led by Garden City, Kansas, applied for Federal Transportation Investment Generating Economic Recovery (TIGER) VI funding. The Southwest Chief Route Improvement Project was awarded \$12.5 million in funding and made improvements to existing track, including new rail, turnouts, and grade crossings. In 2015, a TIGER VII grant application for the Southwest Chief Route Advancement and Improvement Project was awarded to a coalition led by the City of La Junta. This project enabled Amtrak to continue service along the Southwest Chief route in Colorado by continuing the rehabilitation of the BNSF La Junta Subdivision. In 2018, a TIGER IX award for the Amtrak Southwest Chief Route Stabilization Project continued work along the route. Beginning in 2020 and funded through a 2019 CRISI grant, the Southwest Chief Thru-Car Service Study is an ongoing project to understand a range of potential service options for passenger rail in Southeast Colorado. The alternatives being considered will include operational strategies as well as capital investments—needed to support expanded service.

The State of Colorado, southeastern Colorado communities, and Colorado advocacy and business organizations have been critical in guiding grant efforts and building support for the Southwest Chief service to continue and expand in the state. In 2014, the Colorado General Assembly authorized the Southwest Chief Rail Line Economic Development, Rural Tourism, and Infrastructure Repair and Maintenance Commission. This 2014 group worked to ensure the continuation of Amtrak Southwest Chief service and to coordinate Federal grant applications. In 2017, the Colorado General Assembly passed legislation replacing the original commission with the Southwest Chief and Front Range Passenger Rail Commission (SWC&FRPRC). The mission of this renewed group was to preserve existing Amtrak Southwest Chief service in the state and to explore additional Amtrak rail service between La Junta and Pueblo with possible extension of service to Walsenburg. The SWC&FRPRC was disbanded in 2021 following the creation of the Front Range Passenger Rail District by the Colorado General Assembly.

Colorado entities have received several major Federal funding awards to improve the Amtrak Southwest Chief:

- CDOT in collaboration with the Kansas Department of Transportation (KDOT) and the BNSF Railway was awarded \$9.16M in Federal funds through the FY2018 CRISI Program to implement safety improvements for the Amtrak Southwest Chief on BNSF tracks between Dodge City, Kansas and Las Animas, Colorado. The rail line was upgraded to meet national safety standards, including installation of Interoperable Electronic Train Management System (iETMS) technology and implementation of Positive Train Control (PTC).
- The SWC&FRPRC in partnership with CDOT, Pueblo County, the City of La Junta and ColoRail was awarded \$225k in Federal funds through the FY2019 CRISI Program to evaluate an extension of the Amtrak Southwest Chief to Pueblo and Colorado Springs, including coordination with Pueblo and Colorado Springs train station analyses.
- The City of Trinidad was awarded \$2.79M In Federal funds through a FY2021 RAISE grant to replace the last 34 miles of unrehabilitated track on the Southwest Chief route, including 29 miles of bolted rail with new Continuous Welded Rail (CWR) and approximately 4.8 miles of embedded CWR; approximately 15 panel



turnouts; and approximately 20 panelized grade crossings. The work would occur in Kansas between MP 364 and MP 391 and in Colorado between MP 471 and MP 492.

- In 2022, Pueblo and Colorado Springs, in coordination with local partners and transit agencies, selected preferred alternatives for passenger rail station locations.

Mountain Corridor Network Vision

In 2023, CDOT prepared a Mountain Network Rail Vision describing concepts for a proposed system for Colorado's mountain corridor. The proposed system is based on the concept of leveraging the existing rail corridors (both active and out of service), with the goal of providing passenger access to destinations of both summer and winter recreation, as well as commuter access for employees of recreational areas. CDOT anticipates that the costs of system construction and implementation range between \$4.3-6.1 billion, factoring in construction of new track in areas where it has been removed or left out of service, new stations, positive train control and signaling infrastructure, and other miscellaneous improvements to ensure system reliability and functionality. Ongoing operating costs and agreements for track usage with the host railroads would be critical, and a negotiated per-train-mile rate would need to be determined in future service planning.

Fully built out as proposed, the system would consist of approximately 620 miles of additional train service, with 345 miles of new train service and 273 miles of added and enhanced passenger train service, resulting in one of the largest expansions of passenger rail service in the United States. Potential future corridors would connect Denver to Grand Junction along the route of the current California Zephyr; Denver to Craig along and expanding the current route of the Winter Park Express; Glenwood Springs to Pueblo along Tennessee Pass; Glenwood Springs to Aspen within right-of-way of the historic Denver and Rio Grande Western Railroad; and future branch service to communities.

Delivery and operations could be implemented in partnership with freight railroads, likely complementing procurement of private firms for various financing and concession elements. Given the significant tourism revenue potential on the mountain corridor, this could be a good candidate for public private partnerships. Operationally, the concept for the system is to combine starter rail service along existing alignments, with complimentary bus or shuttle spurs to access key destinations that do not currently have rail service. On the Denver to Craig route, the rail service could potentially use an existing spur line to connect to the Yampa Valley Regional Airport (HDN), which is the eighth busiest in the state and provides vital access to Steamboat Springs. Routes would utilize secondary routes on CDOT right-of-way where possible to avoid traffic on I-70 and leverage "scenic routes" that pass many towns that are growing destinations. The state and rail operator would partner with regional transit providers to connect systems that exist and are planned into new routes, co-develop technology platforms for route and schedule planning and fare integration, and collaboration on investment opportunities where possible.



CHAPTER 2. COLORADO'S EXISTING RAIL SYSTEMS

Chapter 2 describes the critical role that freight and passenger rail plays in enhancing Colorado's economic vitality and quality of life in communities across the state. Railroads efficiently transport agricultural, natural resource, energy, and consumer products within and into the state and move Colorado products to markets, terminals, international seaports and trade gateways to Canada and Mexico. Intercity passenger rail provides critical long-distance and interstate connections for Colorado residents and visitors. For workers and businesses, commuter rail service in the Denver metro area provides mobility options and attracts new residents and major employers to the Front Range. Colorado's historic and scenic railways attract visitors, boost local economies, and help preserve the state's railroading past. This chapter of Colorado's Rail Plan provides an overview of Colorado's freight and passenger railroads, including:

- Description of the existing freight rail, intercity passenger rail, commuter rail, and scenic rail systems;
- Accounting of passenger rail service performance measures;
- Summary of public financing for rail improvements;
- Overview of rail safety and security programs and issues;
- Analysis of the economic and environmental impacts of rail;
- Synthesis of trends impacting future rail demand; and
- Description of issues and opportunities for freight and passenger rail.

2.1 Description and Inventory of Existing Freight and Passenger Rail Systems

Rail services in Colorado are complex with many operators, transport functions, customers, markets, facilities, and rail lines. Private businesses, the Federal Government, regional public agencies, the state Government, and local non-profit organizations own, operate, and maintain Colorado's rail systems. While most rail systems connect to North American freight and passenger rail networks, other rail systems provide transportation options solely within the state. Rail moves bulk goods, automobiles, agricultural commodities, consumer products, daily commuters, intrastate travelers, domestic visitors, and international tourists. Each Colorado rail system faces distinct challenges and presents unique opportunities.



The subsections that follow provide an overview of Colorado’s primary rail systems, operators, services, and lines.

2.1.1 Existing Freight and Rail Service

Colorado’s Freight Rail System

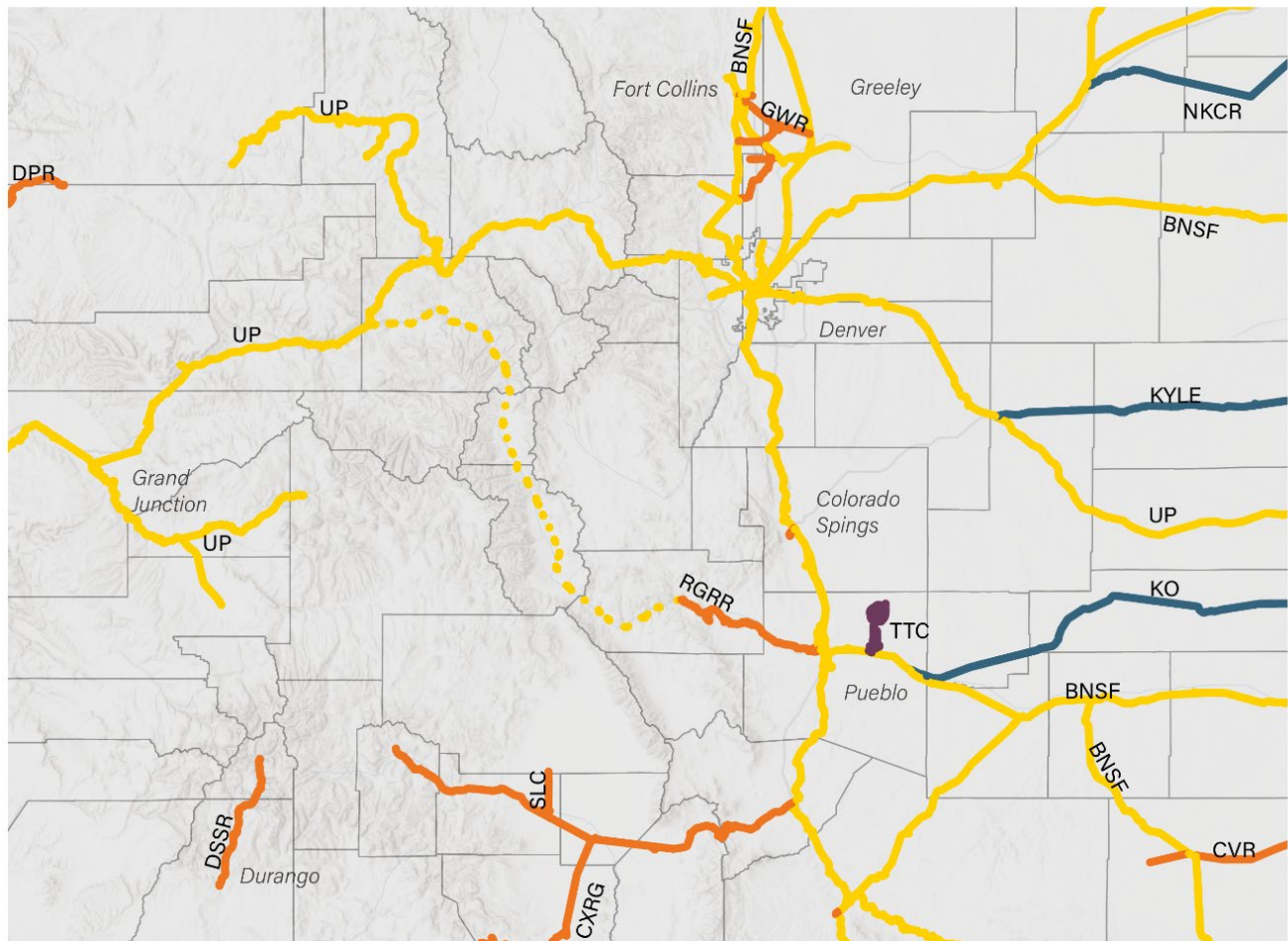
Railroads ship wheat from Colorado’s Eastern Plains to seaports for export overseas; transport coal from the Western Slope of Colorado to power plants for electrical generation; haul cement, gravel, and limestone from quarries in southeast Colorado for use in construction materials across the country; move crude oil from northeast Colorado; transport wind turbine blades made in northern and southern Colorado; and deliver automobiles and everyday products to consumers along the Front Range of Colorado. Freight rail provides safe and efficient transportation for these products and hundreds of other goods used every day by consumers, manufacturers, farmers, and producers. Rail service provides critical links for regional economies that depend on farming, ranching, extraction, energy, and mining.

Colorado freight railroads moved more than 143 million tons of product through, into, and out of the state in 2019, according to Surface Transportation Board’s Carload Waybill Sample data. This dataset is commonly referred to as “Waybill Data” and is a stratified sample of carload waybills for all U.S. rail traffic submitted by rail carriers terminating 4,500 or more revenue carloads annually, and provides data on freight rail movements, tonnage, and value handled. At the time of the development of this rail plan, 2019 Waybill data was the most recent available. CDOT will continue to request and analyze more recent data through plan implementation efforts.

In Colorado, 13 privately owned freight rail companies operate over 2,545 route miles of track. The STB categorizes railroads into classes determined by operating revenue. Colorado systems include two Class I railroads, three Class II regional railroads, and eight Class III short line railroads. Colorado’s two Class I railroads are BNSF and UP which together own and operate over 1,968 miles of track - the majority in the state. These rail systems are the primary arteries for rail cargo traveling to and from Colorado and provide important connections for rail traffic to the national rail networks and international markets. Compared to the national operations of BNSF or UP, Colorado’s regional and short line railroads focus on regional and local services and provide rail access to specific customers and regional industries, usually in connection with Class I carriers. Short line railroads operate line-haul services that connect multiple customers to the national rail network or may operate switching or terminal railroads that serve a specific facility or rail yard. The FRA owns the Transportation Technology Center (TTC) in Pueblo, Colorado providing a national research and development facility for freight and passenger rail technology and operations testing. Colorado’s freight railroads are shown in Figure 2. One rail line in the state is currently considered inactive. Shown in a dashed line in Figure 2 is the Tennessee Pass line that is owned by UP but currently out of service.

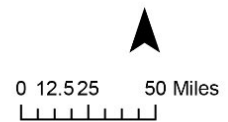


Figure 2. Colorado Freight Rail System and Railroads Map, 2022



Legend

- Class I Railroads
- Class II Railroads
- Class III Railroads
- Transportation Technology Center



Freight Rail Movements in Colorado

In 2019, Colorado’s freight railroads moved more than 44.5 million tons of goods and products into, from, and within the state (excluding through movements). Railroads transport approximately eight percent of all freight handled in Colorado. For key commodities such as coal, chemicals, wheat, grain, and paper products, railroads handle a significant portion of all movements—up to 85 percent of all coal, for example.

Over two-thirds of rail cargo volume in Colorado is generated by “through movements” or rail traffic that passes through the state en route to other destinations. Much of this through traffic is north-south movements of coal and other commodities. Inbound commodities, or rail traffic destined for Colorado, totaled 26.3 million tons with a revenue value of \$1.29 billion in 2019. Outbound commodities, or rail traffic originating in Colorado, totaled 12.3 million tons valued at \$686 million. Intrastate movements occur solely within the state and represent a small portion of total rail movements. In 2019, intrastate rail commodities totaled 5.8 million tons with a revenue value of \$76.9 million.



Freight Rail Commodities and Trading Partners

Colorado's rail market includes trading partners in states coast to coast. The tables on the following pages highlight the top four state trading partners for rail tonnage and rail revenue inbound to Colorado and outbound from Colorado.

Commodities are grouped into six major industries, including the following product types, as categorized within Waybill data:

- **Farm and Food** (Farm, Food, and Kindred Products)
- **Coal and Petroleum** (Coal, Crude Petroleum, Natural Gas, and Related Products)
- **Mining** (Clay, Concrete, Stone, Metallic Ores, Nonmetallic Minerals, Primary Metal Products)
- **Intermodal and Mixed Freight** (Freight Forwarder Traffic, Mail or Contract Traffic, Misc. Freight Shipments, Shipping Containers, Small Packaged Shipments)
- **Bulk Goods** (Chemicals or Allied Products, Lumber or Wood Products, Printed Matter, Pulp, Paper or Allied Products, Rubber or Misc. Plastics, Waste Hazardous Materials, Waste or Scrap Materials)
- **Manufactured Products** (Apparel or Related Products, Electrical Equipment, Fabricated Metal Products, Furniture or Fixtures, Instrument, Photo Equip, Optical Equipment, Machinery, Manufacturing Products, Ordnance, Textile Mill Products, Transportation Equipment)

Several states show up as key trading partners across multiple commodities in both inbound and outbound shipments. For example, Wyoming, Texas, Illinois, and California are major trading partners for Colorado. Improving and expanding rail connections to these states is critical for Colorado's key industries and producers. Outbound rail movements and rail services are particularly important to Colorado-based producers, farmers, manufacturers, and transportation and logistics companies. Goods and products made in Colorado provide significant value-added to local economies and contribute to Colorado's gross economic output. Ensuring that these industries have access to efficient and cost-effective rail service is vital. For example, much of eastern Colorado's winter wheat harvest is shipped by rail to Texas for international export. Coal produced on the Western Slope fires power plants or is exported to international markets through California and Illinois. Bulk products such as chemicals, pulp paper, and waste and scrap are shipped by rail to processors and manufacturers in California and Illinois. Manufacturers across Colorado rely on rail service to move machinery and equipment to international seaports and distribution centers in Iowa, Texas, Illinois, and other gateways.

The following tables highlight rail tonnage and value for key state trading partners by summarized commodity groupings.



Table 1. Total Inbound and Outbound Rail Tons, by Commodity Group and State, 2019

Commodities	Top Inbound Trading Partners		Top Outbound Trading Partners	
Mining	Illinois—2,552.4 Wyoming—762.4	Wisconsin—2,476.2 Minnesota—392.8	Texas—622.9 Iowa—110.8	New Mexico—112 Nebraska—108.7
Coal and Petroleum	Wyoming—9,417.4 Montana—8.4	New Mexico—28.2	California—2,026.4 Texas—677.1	Illinois—1,297.3 Tennessee—318.4
Bulk Goods	Utah—330.2 Wyoming—270.2	Idaho—282.4 Oregon—180.9	Missouri—413.8 Utah—169.3	Louisiana—313 California—151
Intermodal and Mixed Freight	Illinois—503.7 Texas—174.2	California—424.7 Utah—142.6	California—373.9 Utah—62.8	Illinois—282.6 Washington—24.5
Manufactured Products	Illinois—290.5 California—68.7	Texas—115.6 Missouri—38.1	Iowa—95.1 Texas—67.7	Illinois—72.5 Washington—25.8
Farm and Food	Montana—148.9 North Dakota—119.9	Nebraska—148 Minnesota—85.4	Washington—42.8 Illinois—4.2	California—13.9 Missouri—3.9

Source: Surface Transportation Board Waybill 2019 | Tonnage represents thousands of tons

Table 2. Total Inbound and Outbound Rail Revenue, by Commodity Group and State, 2019

Commodities	Top Inbound Trading Partners		Top Outbound Trading Partners	
Mining	Wisconsin—\$119.8 Minnesota—\$18.9	Illinois—\$94.2 Utah—\$16.5	Texas—\$11.8 Nebraska—\$3.8	Minnesota—\$4.3 New Mexico—\$3.4
Coal and Petroleum	Wyoming—\$117.7 Montana—\$0.160	New Mexico—\$0.624	California—\$77.3 Texas—\$37.8	Illinois—\$61.4 Tennessee—\$13.5
Bulk Goods	Idaho—\$22.1 Wyoming—\$14.9	Oregon—\$15.4 Utah—\$14.6	Louisiana—\$18.2 Utah—\$10.5	California—\$13.4 Missouri—\$9.3
Intermodal and Mixed Freight	California—\$62.3 Texas—\$20.3	Illinois—\$48.4 Washington—\$13.9	California—\$36.4 Utah—\$6.3	Illinois—\$21.4 Washington—\$5.1
Manufactured Products	Illinois—\$72.8 California—\$26.2	Texas—\$39.8 Missouri—\$9.3	Iowa—\$18.5 Texas—\$13.2	Illinois—\$15.6 Oregon—\$3.8
Farm and Food	Montana—\$5.8 Nebraska—\$4.9	North Dakota—\$5.6 Minnesota—\$3.7	Washington—\$2.4 Texas—\$0.752	California—\$1.3 Illinois—\$0.180

Source: Surface Transportation Board Waybill 2019 | Values represent millions of dollars



Trends in Commodity Movements

Railroads can move heavy or bulky goods that are outputs or inputs of farming, forestry, mining, or energy industries, as well as mixed freight, automobiles, and intermodal trailers and containers. National and global macroeconomic trends, drought and weather conditions, international trade flows, and fluctuations in commodity prices affect supply and demand of these commodities. As a result, rail traffic generated by commodities such as coal, grain, or metals can change from year to year, and long-term changes in national markets affect rail movements in Colorado.

Total rail freight tonnage moved into, out of, within, and through Colorado has been decreasing from 154.8 million tons in 2014 to 143.2 million tons in 2019. While inbound rail tonnage in Colorado increased over this period by almost 3 million tons, this growth was offset by declines in outbound, within, and through rail traffic. Declining demand for coal from the Powder River Basin deposits in Wyoming accounted for most of the decline in through rail movements since 2009.

Table 3. Colorado Freight Rail Movements by Tonnage, 2009 to 2019

Flow	2009	2014	2019	Change 2014-2019
Inbound to Colorado	18.4M	23.4M	26.3M	12.4%
Outbound from Colorado	19.8M	22.6M	12.3M	-45.6%
Within Colorado	9.3M	8.5M	5.8M	-31.9%
Through Colorado	116.3M	100.3M	98.7M	-1.6%
Total	163.8M	154.8M	143.2M	-7.5%

Source: Surface Transportation Board Waybill Sample, 2019

Data from 2009 and 2014 are drawn from STB Waybill data obtained for the 2018 Rail Plan. Between 2014 and 2019, many of the commodity types nationally remained steady except for coal. While coal remains the top commodity in tonnage originating, terminating, and moving within the state, the decline in total tonnage both inbound and outbound is evident and mirrors national trends, as shown in Tables 4 and 5. Coal production in Colorado has fallen by 69 percent since 2005 due to operational changes in mines and competition with natural gas for electricity generation. According to the U.S. Energy Information Administration, 40 percent of all coal mined in Colorado is exported by rail to other states. Demand for coal is likely to continue to decline resulting in fewer rail movements and reduced revenues for Class I railroads. This trend may affect rail traffic on key lines in Colorado and result in reduced rail service, particularly on rail lines serving Colorado’s Western Slope and Northwest communities.

Other top commodities transported by rail from Colorado have also declined, including cement, steam engines and turbines, animal byproducts, malt liquors, and paper waste. Over the same time, some products produced in Colorado and shipped outbound have seen substantial growth in rail movements, including undisclosed hazardous materials, gravel and sand, field seeds, potassium or sodium compound, malt, metal scraps, and freight of all kinds. Farm and food products remain among the top commodities originating in Colorado.



Table 4 highlights the top commodities originating in Colorado in 2019 and change since 2014.

Table 4. Top Rail Commodities Outbound from Colorado by Tonnage, 2009 to 2019

Top 20 Outbound Commodities	2009	2014	2019	Change 2014-2019
Coal	21,288,586	13,323,623	5,285,621	-60%
Grain	1,287,619	946,867	1,008,741	7%
Flammable Liquids	0	0	777,170	N/A
Portland Cement	1,222,504	1,200,703	697,692	-42%
Gravel or Sand	0	16,160	549,840	3302%
Freight of All Kinds Shipments	470,560	457,240	512,800	12%
Engines, Turbines, Power Transmission Equipment	0	183,494	303,591	65%
Potassium or Sodium Compound	114,600	157,600	249,800	59%
Primary Iron or Steel Products	272,908	235,886	239,864	2%
Semi-Trailers Returned Empty	162,560	239,920	234,560	-2%
Animal By-Products, Inedible	194,140	259,720	226,840	-13%
Undisclosed Hazardous Materials	8,760	3,920	224,432	5625%
Malt Liquors	682,600	348,600	214,280	-39%
Metal Scrap or Tailings	643,200	149,520	210,392	41%
Malt	132,680	128,320	192,196	50%
Paper Waste or Scrap	183,240	171,760	103,560	-40%
Misc. Nonmetallic Minerals, not else classified	103,120	118,320	88,236	-25%
Field Seeds	23,440	15,440	84,808	449%
Flammable Compressed Gases	0	0	83,892	N/A

Source: 2019 STB Waybill and 2018 Rail Plan.

Top commodities shipped by rail into Colorado are consistent from 2014 to 2019. Coal for electrical generation remains the top commodity, though it decreased significantly over that period. Today, top rail-shipped products such as gravel, steel, and lumber products are used in construction industries, and consumer products such as motor vehicles are imported to meet the needs of Colorado’s growing population. Shipments of agricultural products such as grain tend to rise and fall depending on global markets and production within the state. Changes in tonnage of other products used in industrial processes are subject to changes in the state’s economy, the ability of in-state producers to meet demand, and competition with truck movements.

Table 5 highlights the top commodities terminating in Colorado in 2019 and change since 2014.



Table 5. Top Rail Commodities Inbound to Colorado by Tonnage, 2009 to 2019

Top 20 Inbound Commodities	2009	2014	2019	Change 2014-2019
Bituminous Coal	16,405,364	9,538,694	9,454,020	-1%
Gravel or Sand	1,382,332	4,093,960	5,875,888	44%
Freight of All Kinds Shipments	794,040	1,118,680	1,332,280	19%
Primary Iron or Steel Products	398,440	860,692	980,504	14%
Lumber or Dimension Stock	312,920	611,440	649,360	6%
Motor Vehicles	296,120	588,600	597,880	2%
Potassium or Sodium Compound	455,632	397,360	504,960	27%
Misc. Wood Products	224,720	446,000	456,360	2%
Broken or Crushed Stone	248,248	74,190	436,944	489%
Portland Cement	790,132	458,464	394,464	-14%
Grain	1,010,564	590,335	375,250	-36%
Chemical or Fertilizer Mineral Crude	201,156	279,911	321,056	15%
Metal Scrap or Tailings	511,968	339,344	293,036	-14%
Corrosive Materials	0	0	283,368	N/A
Ashes	119,360	243,156	250,020	3%
Nonmetal Minerals, Processed	88,200	146,200	249,240	70%
Lime or Lime Plaster	218,640	238,548	233,048	-2%
Wet Corn Milling or Milo	318,840	185,640	222,040	20%
Fiber, Paper, or Pulpboard	253,240	175,880	214,240	22%
Flammable Liquids	0	0	192,848	N/A

Source: 2019 STB Waybill and 2018 Rail Plan

Future Freight Rail Corridors

No significant investments in entirely new freight rail lines or corridors are planned in Colorado for the near future. UP and BNSF continue to upgrade track and facilities to accommodate increased demand and a greater diversity of rail-served industries and commodities. Interest in Colorado from regional economic development organizations and business for new sidings, rail-served industrial parks, and redevelopment of out-of-service elevators or rail facilities into intermodal terminals remains high, and new investments in rail industrial sites are occurring. In 2019, BNSF broke ground on a new Logistics Center in Hudson, Colorado to address the needs of the growing Colorado market. Economic development organizations in Colorado Springs and Pueblo and in Adams and Weld counties view rail-served industrial development as a key opportunity to attract and retain major manufacturing employers.

The concept of a freight rail “Eastern Bypass” that would relocate major freight rail lines from current tracks along the congested Front Range to the Eastern Plains was last studied in 2009. Viewing relocation as an opportunity to use current Front Range rights-of-way for passenger rail and to bring economic stimulus to eastern Colorado communities, some advocacy organizations and trade associations supported this idea. However, in 2012, CDOT’s Executive Director declared the Eastern Bypass “inactive.” This decision was based on input from



concerned eastern Colorado property owners who feared negative impacts to their property values and from the freight railroads because their investment strategies and economic conditions had changed due to commodity flows, particularly coal. There are no current plans to reassess the feasibility of freight rail relocation.

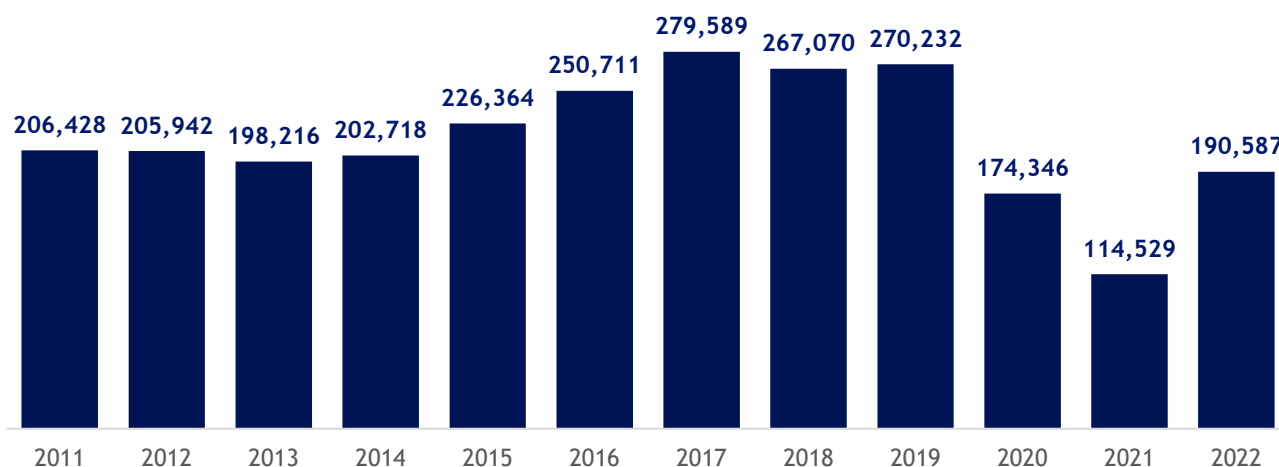
Colorado’s Passenger Rail Systems

Colorado’s passenger rail system is made up of intercity passenger rail, a commuter and light rail network in the Denver metropolitan region, and scenic and historic rail operations throughout the state.

Intercity Passenger Rail

Colorado’s intercity passenger rail system includes routes connecting communities in Colorado and providing connections to the national rail network. The National Railroad Passenger Corporation, more commonly known as Amtrak, provides intercity rail service in Colorado. Amtrak funds and operates two national routes that connect Colorado: the California Zephyr and the Southwest Chief. Amtrak also provides seasonal corridor service through the Winter Park Express. Amtrak routes served more than 114,500 rail passengers in Colorado during the 2021 Fiscal Year, as measured by boardings and alightings at stations within the state. Ridership declined significantly during the COVID pandemic in 2020 and 2021 and the Winter Park Express did not operate during that period but returned in January of 2022.

Figure 3. Amtrak Ridership in Colorado, FY2011–2022



Source: Amtrak, State Fact Sheets and Bureau of Transportation Statistics, Amtrak Ridership

The COVID-19 pandemic presented serious challenges to Amtrak service. By September of 2020, yearly ridership declined by approximately 95 percent. Amtrak received emergency funding as part of the CARES Act passed in March to preserve service but was ultimately forced to cut daily service along many routes in September of 2020 and layoff more than 2,000 employees. Daily service was not restored along many routes (including California Zephyr and Southwest Chief) until May of 2021. As of November 2022, national ridership had reached about 85 percent of pre-pandemic levels.

Amtrak’s service provides critical connections to residents and visitors. For many rural communities, national intercity passenger train service, such as the Southwest Chief, may provide the only option for long-distance travel, including critical connections to healthcare facilities in multistate regions. Amtrak stations in rural communities act as economic drivers, attracting tourists and providing value added benefit to local economies.



A 2019 study, “The Socioeconomic Impacts of Replacing Southwest Chief Service Over Raton Pass” that the rail line contributes \$49 million in direct economic activity, not including indirect jobs and local sales tax revenues. A 2016 analysis by Amtrak found that all routes within the state generated over \$52 million in economic impact, after accounting for capital investment, direct jobs, and tourism spending. Amtrak’s California Zephyr route attracts visitors from around the country and the world to Colorado and is an important link in the state’s passenger rail network. Winter Park Express service provides a direct connection in the winter season between Denver Union Station and Winter Park Resort. This service provides an alternative to congestion along I-70 and helps attract tourists and residents to Colorado by providing dedicated rail service to a resort area.

Current Amtrak Routes in Colorado

The California Zephyr provides daily service between Chicago, Illinois, and Emeryville, California, with stations in Fort Morgan, Denver, Fraser-Winter Park, Granby, Glenwood Springs, and Grand Junction. Colorado ridership (boardings and alightings) of this route included 152,527 passengers in FY2022, down from 226,390 in 2019. In Colorado, Denver is the most-used station, followed by Glenwood Springs and Grand Junction. This service operates on track owned by BNSF east of Denver and UP to the west.

The Southwest Chief operates daily between Chicago and Los Angeles, with stations in Lamar, La Junta, and Trinidad. In 2022, 10,610 passengers boarded or alighted on the route in Colorado, down from 14,694 in 2019. This service operates on track owned by BNSF and provides key rail connections to southeastern Colorado communities. Extensions of this route to Pueblo and Walsenburg, Colorado, are being considered.

The Winter Park Express, formerly known as the “Ski Train,” was initiated in 1940 but discontinued in 2009. In 2017, service was restored through an agreement with Amtrak, Winter Park Resort, UP, and state and local partners, including CDOT. The route operates from January through March, providing passengers a direct connection between Denver Union Station and Winter Park Resort. This service resumed in January of 2022 after being suspended for the 2020-2021 ski season due to the COVID-19 pandemic. Ridership of the Winter Park Express included 16,958 passengers in FY2022, down from 18,996 in 2019. Schedules and service times for Amtrak routes in Colorado are shown in the following table.

Table 6. Amtrak Passenger Service Schedules within Colorado, 2022

Amtrak Passenger Service	Station	Departure Times (all times MST)
California Zephyr	Fort Morgan	5:05 AM (Westbound) 8:25 PM (Eastbound)
	Denver Union Station	8:05 AM (Westbound) 6:38 PM (Eastbound)
	Fraser-Winter Park	10:07 AM (Westbound) 3:50 PM (Eastbound)
	Granby	10:37 AM (Westbound) 3:12 PM (Eastbound)
	Glenwood Springs	1:46 PM (Westbound) 12:10 PM (Eastbound)
	Grand Junction	3:57 PM (Westbound) 10:23 AM (Eastbound)



Amtrak Passenger Service	Station	Departure Times (all times MST)
Southwest Chief	Lamar	6:38 AM (Westbound) 8:23 PM (Eastbound)
	La Junta	7:49 AM (Westbound) 7:10 PM (Eastbound)
	Trinidad	9:24 AM (Westbound) 5:41 PM (Eastbound)
Winter Park Express	Denver (Union Station)	7:00 AM (Westbound)
	Winter Park Resort	4:30 PM (Eastbound)

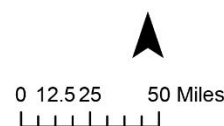
The following map overlays 2022 ridership information for each intercity and seasonal Amtrak route in Colorado.

Figure 4. Amtrak Intercity Passenger Service Ridership by Route Map, 2022



Legend

- Amtrak Southwest Chief
- Amtrak California Zephyr





Amtrak Stations

Colorado’s Amtrak stations range from historic depots constructed as early as the 1880s, to station area platforms developed between 1920 and 1950 with limited accessibility and amenities, to new and modern facilities and intermodal centers. The most substantial investment in recent years include the major renovations at the historic Denver Union Station in 2014, when it underwent a \$500 million redevelopment into a regional, intermodal transportation hub and reopened to Amtrak service. There have been more modest improvements in recent years, including ongoing work to bring all stations into compliance with the Americans with Disabilities Act (ADA). Amtrak’s ADA Stations Program (ADASP) is an ongoing, multi-year program to bring stations, or components of stations for which Amtrak has ADA responsibility, into compliance with ADA requirements. The station at Grand Junction was upgraded, as part of that program, with a new Passenger Information Display System (PIDS) in 2021. Additional improvements at Fort Morgan, Glenwood Springs, and Granby are outstanding to bring the stations into full ADA compliance.

Amtrak assesses stations according to the total number of customers served and availability of amenities. The following categories are used to describe Amtrak stations across the country:

- **Category 1** stations serve centers and edges of large urban areas, are highly integrated with supporting public transportation systems, and are staffed regularly. Category 1 stations serve 400,000 customers or more a year.
- **Category 2** stations serve a wide variety of communities. They are primarily oriented to State Corridor service or major destinations along long-distance routes. Category 2 stations are staffed with ticket offices and serve between 100,000 and 400,000 passengers annually.
- **Category 3** stations are not staffed by Amtrak agents but do include an interior waiting facility and restrooms. Category 3 stations serve between 20,000 and 100,000 passengers annually.
- **Category 4** stations are not staffed and include only a shelter and/or a platform canopy. Category 4 stations serve fewer than 20,000 passengers annually.

The following table summarizes Amtrak stations in Colorado, recent ridership, accessibility, and a summary of station amenities.

Table 7. Amtrak Stations by Type, Accessibility, and Intermodal Connections, FY2022

Station	FY2022 Colorado Ridership	Station Type and Accessibility	Americans with Disabilities Act (ADA) Accessibility	Station Amenities
Denver Union Station	104,513	Category 2 Station with waiting room	ADA Accessible	Restrooms, Ticket Sales, Baggage Service
Glenwood Springs	32,519	Category 3 Station with waiting room	ADA Accessible	Restrooms, Ticket Sales, Baggage Service, Parking
Fort Morgan	2,019	Category 4 Station with waiting room	Limited Accessibility	Parking



Station	FY2022 Colorado Ridership	Station Type and Accessibility	Americans with Disabilities Act (ADA) Accessibility	Station Amenities
Grand Junction	20,712	Category 3 Station with waiting room	ADA Accessible	Restrooms, Ticket Sales, Baggage Service, Parking
Fraser-Winter Park	6,466	Category 4 Platform with shelter	ADA Accessible	Parking
La Junta	4,799	Category 3 Station with waiting room	Limited Accessibility	Ticket Sales, Baggage Service, Parking
Trinidad	4,896	Category 4 Platform no shelter	Limited Accessibility	Parking
Granby	3,256	Category 4 Station with waiting room	Limited Accessibility	Parking
Lamar	915	Category 4 Platform no shelter	Limited Accessibility	Parking

Future Intercity Passenger Rail Service

Amtrak Connects U.S., Amtrak's Vision for Improving Transportation Across America, proposes Federal Government investments over 15 years to develop and expand intercity passenger rail corridors around the Nation. The plan does not include changes in service or operation to the California Zephyr, Winter Park Express, or Southwest Chief routes. Extended service to Pueblo has been discussed since 2013 and remains under consideration by the State of Colorado and local communities along the route. Planning for expansion of Southwest Chief service was the responsibility of the Southwest Chief & Front Range Passenger Rail Commission (SC&FRPC) until 2022 when it was dissolved. *Amtrak Connects U.S.*, developed in 2021, includes a proposal to develop a line from Pueblo to Cheyenne, with stops in Colorado Springs, Denver, and Fort Collins. The proposed route would include thrice-daily trips between Pueblo and Fort Collins and once-daily trips to Cheyenne.

Recently, Colorado has prioritized a Front Range rail line connecting Pueblo to Fort Collins. In 2021, Governor Jared Polis signed legislation creating the Front Range Passenger Rail District. The new District assumes planning responsibility for a new line along the Front Range, and would be responsible for proposing a service plan, developing financial and operational details, coordinating with Amtrak, and developing a proposal for voters living in the 13-county district. The 191-mile route for the proposed rail line would mostly follow existing freight rail tracks.

FRA Daily Long-Distance Service Study

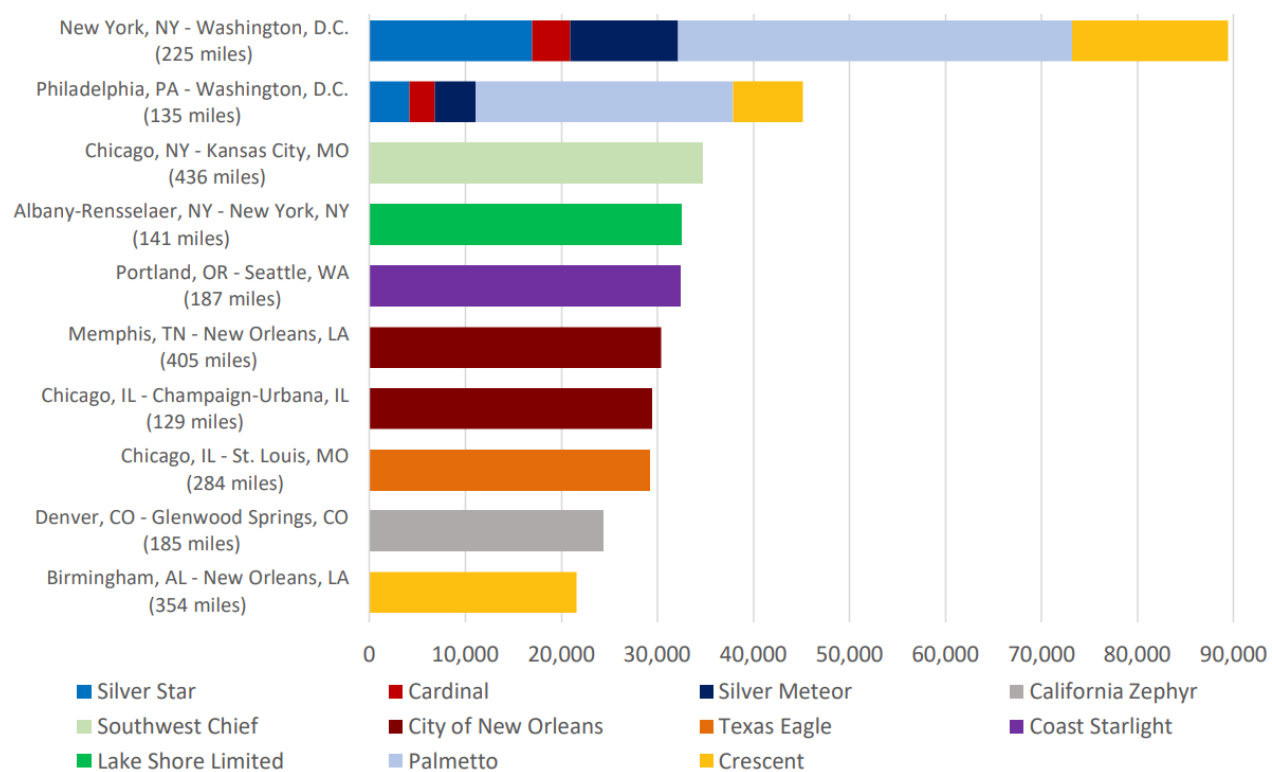
The FRA is currently conducting an Amtrak Daily Long-Distance Service Study to evaluate the restoration of daily long-distance intercity rail passenger service and the potential for new Amtrak long-distance routes. This study will ultimately create a long-term vision for long-distance passenger rail service and identify capital projects and funding needed to implement that vision. As part of this study, FRA may evaluate potential new Amtrak long-distance routes taking into consideration whether those new routes would: link and serve large and small communities as part of a regional rail network; advance the economic and social well-being of rural areas of the



United States; provide enhanced connectivity for the national long-distance passenger rail system; and reflect public engagement and local and regional support for restored passenger rail service.

Colorado is included in both the Northwest and Southwest Regions for the purposes of this FRA study. Several working group meetings have been completed to date and significant ridership data and analysis has been completed. Across the national Amtrak network, Denver to Glenwood Springs ranks nine out of ten among all long-distance station pairs. Within the Southwest Region, Denver to Glenwood Springs, Denver to Grand Junction, and Denver to Chicago are among the top station pairs based on 2019 ridership. In addition, Colorado stations serving small communities include eight of the top ten long distance station pairs across the Southwest Region. Nationally, Denver to Glenwood Springs is the top station pair including a small community. Small communities are defined as including a station outside of a metropolitan statistical area.

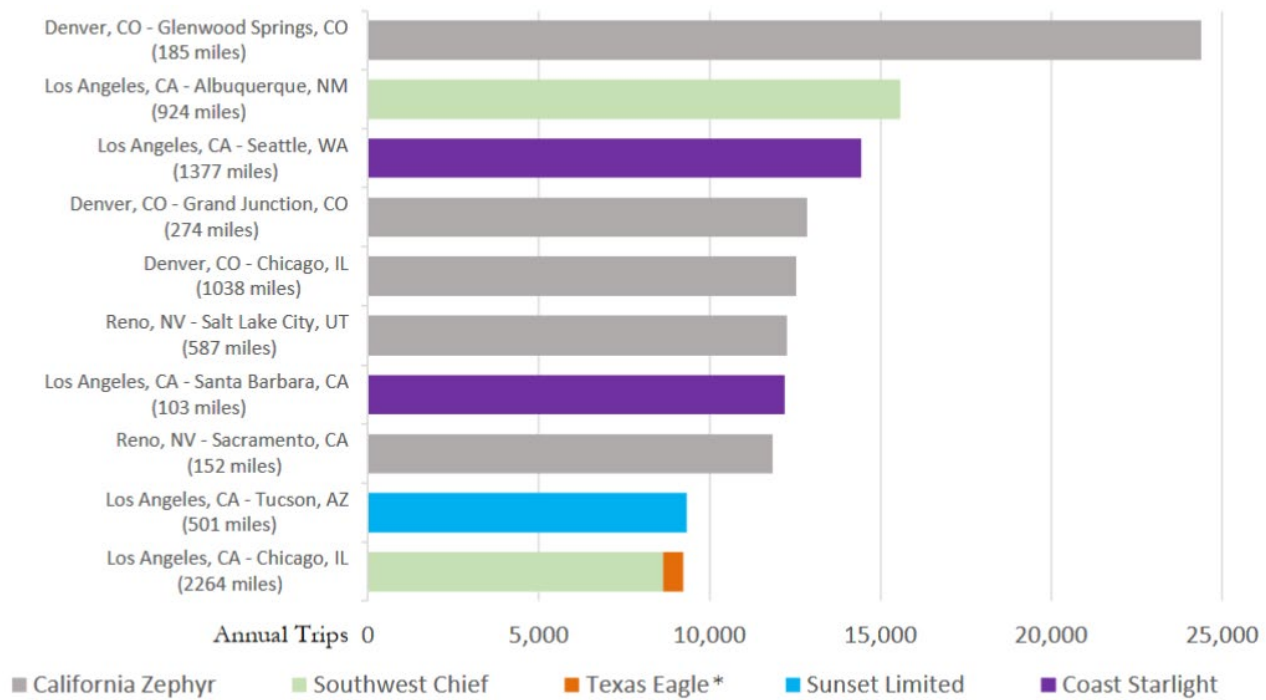
Figure 5. Amtrak Top 10 Long-Distance Station Pairs, 2019



Source: FRA Daily Long-Distance Service Study, 2022



Figure 6. Amtrak Top 10 Long-Distance Station Pairs in Southwest Region, 2019



Source: FRA Daily Long-Distance Service Study, 2022

Figure 7. Amtrak Top 10 Long-Distance Station Pairs Including a Small Community, 2019



Source: FRA Daily Long-Distance Service Study, 2022

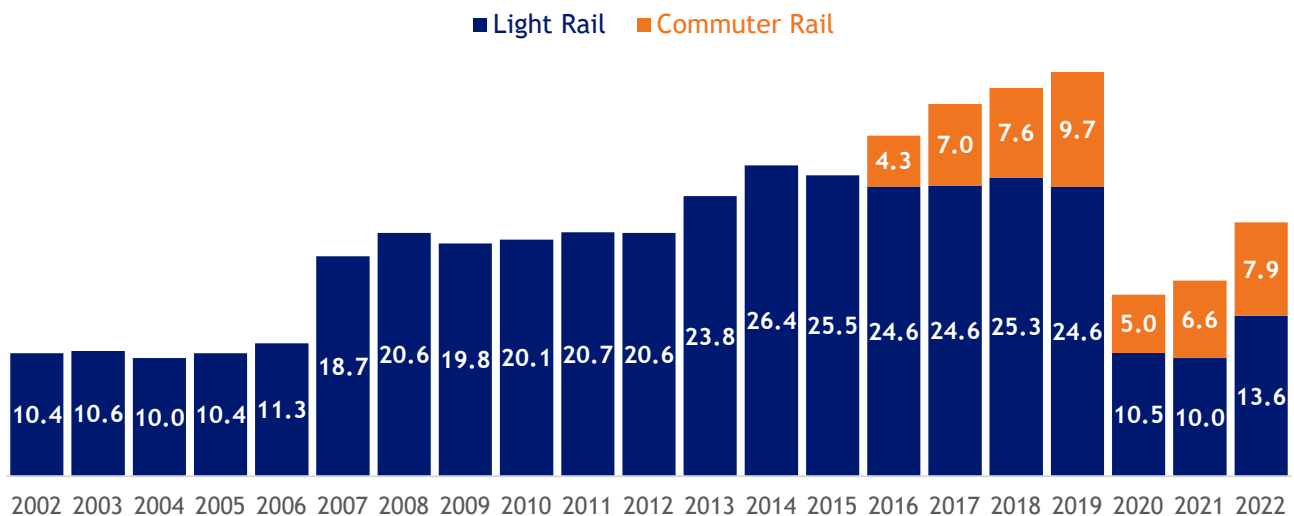


Current Amtrak ridership in Colorado indicates significant potential for expanded service or new long-distance routes. For example, the proposed Southwest Chief Thru-Car service would provide a new connection between Colorado Springs, Pueblo and the existing Amtrak Southwest Chief station stop in La Junta, Colorado. This route would provide time savings for Southwest Chief travelers connecting to communities served by the California Zephyr service and provide a more seamless rail experience. Current Denver to Glenwood Springs Amtrak ridership suggests significant demand for travel alternatives along the I-70 Mountain Corridor as well as demand for seasonal or visitor service to mountain communities such as Winter Park, Steamboat Springs, Avon, and other destinations that may be potentially rail-served.

Commuter and Light Rail Network

RTD provides passenger rail service in Colorado throughout the greater Denver metro area. RTD has operated rail service in Denver since 1994, with the opening of the D Line through downtown, and has since expanded to ten rail routes (six light rail and four commuter rail). Light rail serves travelers throughout the region, with significant service to the south, west, and east. Commuter rail service began in 2016 with two routes, connecting downtown Denver to both Denver International Airport and to Westminster and communities northwest of downtown. RTD’s service area is home to more than 3.1 million people across eight counties. On any given weekday in 2022, RTD provides transportation to more than 185,000 passengers on the regional bus and rail system. RTD currently runs 201 vehicles over approximately 120 miles of light rail track serving 57 stations. Commuter rail service includes 66 vehicles and 99 miles of track serving 27 stations. Since light rail service began in Denver in 1994, ridership continued to grow until 2019, when it reached 24.6 million light rail passenger trips and 9.7 commuter rail trips. In 2020, ridership dropped due to the global COVID-19 pandemic, with 10.5 million light rail passenger trips and 5.0 million commuter rail passengers. In 2021 and 2022, ridership began to grow again.

Figure 8. Commuter and Light Rail Ridership Trends, 2002 to 2022



Source: National Transit Database, Annual Total Unlinked Passenger Trips in Millions, 2002-2022

The renovation of the historic Denver Union Station in 2014 brought multiple transit elements under one roof in downtown Denver. Transforming Denver Union Station into a multimodal transportation hub allowed Amtrak to resume passenger train service to the new train terminal. RTD bus service and commuter rail lines serving Westminster and Denver International Airport connect into this multimodal station. Partnerships among RTD, the City and County of Denver, CDOT, Denver Regional Council of Governments (DRCOG), Union Station Neighborhood



Company, Denver Union Station Project Authority, and the Union Station Alliance made this \$500 million project possible. Today, the entire Union Station Neighborhood is an economic engine for Denver and the greater metropolitan region, generating \$3.8 billion in initial impact and an additional \$2.9 billion of impact on an ongoing basis. In 2015, RTD opened a new Commuter Rail Maintenance Facility to serve the needs of a growing commuter rail network. The Commuter Rail Maintenance Facility is in Denver’s Globeville neighborhood, just north of I-70 and west of I-25. The facility sits on 30 acres with 6 tracks that run through the building. Approximately 240 mechanics, operators, and other staff work at this facility.

Many riders depend on passenger rail service to get to and from work and for daily travel options. Denver’s commuter and light rail network is connected to regional and local bus transit services and intercity bus routes and provides significant mobility benefits and choices for residents and workers. Rail investments in the region have also spurred significant commercial and residential redevelopment around station areas. Though Denver has a long history of local transit through a network of streetcars, suburban and interurban railways, which ended in 1950, it was not until 1994 that light rail service returned to the metro area. In 2004, a voter-approved tax initiative known as FasTracks developed a plan for a multibillion-dollar expansion of commuter rail, light rail, and express bus service throughout the region. RTD continues to plan, finance, develop, and operate rail corridors with significant future plans. A brief timeline of light and commuter rail routes in the Denver metro area follows:

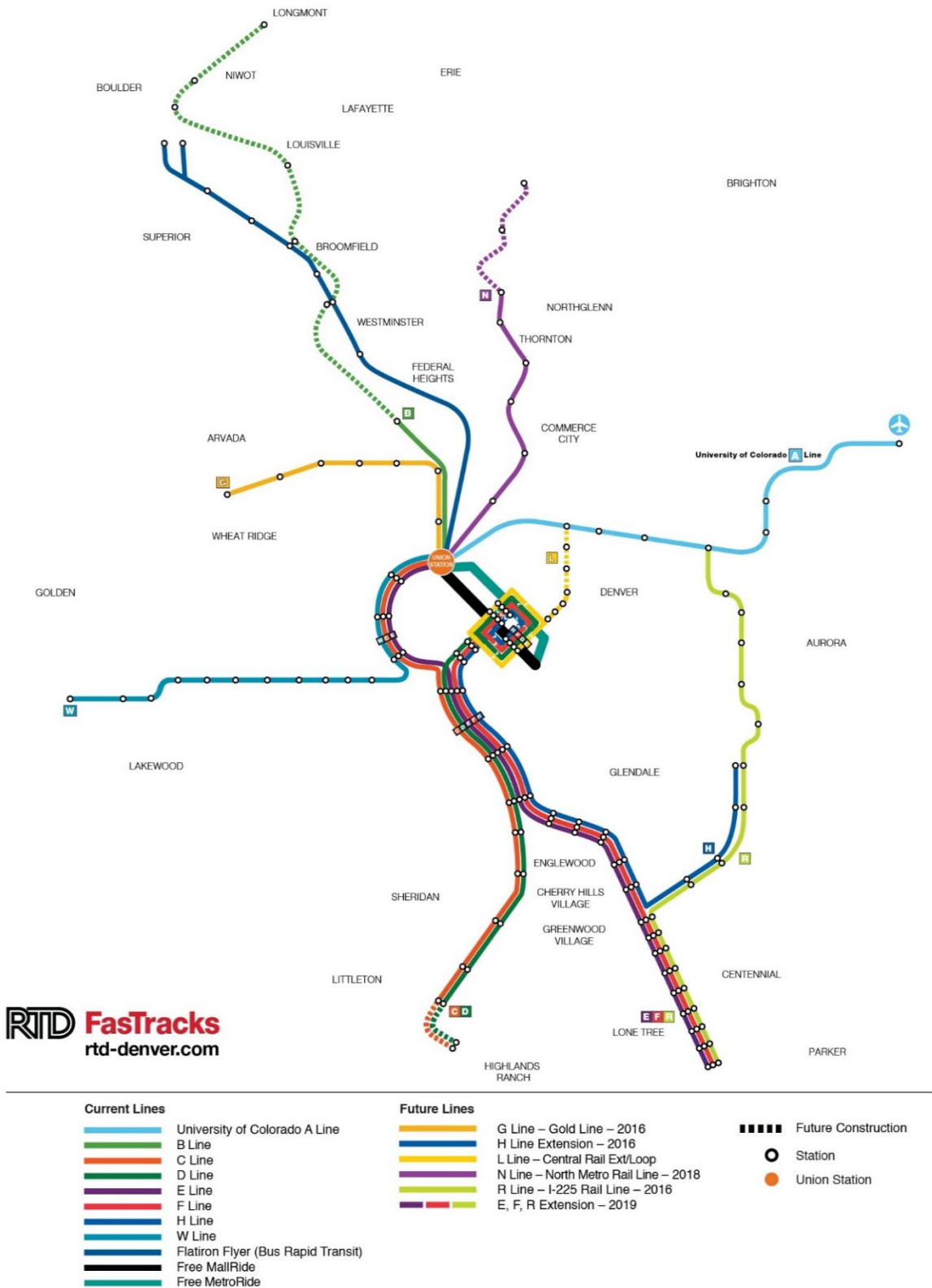
- **1994**—The D Line light rail route (5.3 miles) was the first rail corridor in Denver’s system. Extended in 2000, this corridor connects Denver and Littleton with stations serving communities southwest of downtown.
- **2002**—The C Line provides service between Denver Union Station and Littleton with 12 stations. The Central Platte Valley Extension was 2.1 miles. (C Line service was suspended during the COVID-19 pandemic in 2020 and was eliminated in 2023. Riders on this route now must transfer between the D and E lines.)
- **2006**—The E Line connects Denver Union Station to Lone Tree and communities to the southeast.
 - The F Line connects downtown Denver to Lone Tree and communities to the southeast. (F line service was suspended during the COVID-19 pandemic in 2020 and was eliminated in 2023. Riders on this route now must transfer between the D and E lines.)
 - The H Line connects downtown Denver and Aurora with communities to the southeast and east.
 - The 2006 “Southeast Corridor” extension was 19.1 miles.
- **2013**—The W Line (11 miles) connects Denver Union Station and Golden with stations serving Lakewood and communities west of downtown.
- **2016**—The University of Colorado A Line (24.5 miles) provides commuter rail service connecting Denver Union Station to Denver International Airport with stops in Aurora. This corridor was constructed and is operated under the Eagle P3. The line uses UP right-of-way along a portion of the route.
- **2016**—The B Line (6.2 miles) provides commuter rail service from Denver Union Station to Westminster and operates on BNSF right-of-way for a portion of the corridor. This line was also constructed and is operated under the Eagle P3.
- **2017**—The R Line light rail (10 miles) connects Aurora to Lone Tree with 16 stations along older portions of the light rail system and along newly constructed rail through Aurora. The line provides connections to the University of Colorado A Line and Denver International Airport and the E, F, and H Lines.
- **2018**—The L Line loop opens in January, providing service previously provided by the D line to connect the 18th & Stout station and 30th & Downing station.



- **2019**—RTD launches the first autonomous public transit vehicle in Colorado with the 61AV shuttle at the Panasonic Complex near the 61st and Peoria station.
- **2020**—The G Line opens in April, connecting Wheat Ridge and Arvada to downtown Denver.
- **2020**—Service is extended along the E, F, and R Lines into the Sky Ridge, Lone Tree City Center, and Ridge Gate areas.
- **2020**—The N Line opens in September, connecting Commerce City, Northglenn, Thornton, and North Adams County to downtown Denver.



Figure 9. RTD Light and Commuter Rail Network, FasTracks Vision Map





Future Commuter and Light Rail Corridors

RTD is planning new lines and extensions to existing commuter and light rail routes. These completions of the network are primarily toward the north and south of Denver reaching communities not yet served by passenger rail.

- **N Line to Thornton**—A planned future extension to North Thornton and Highway 7 will add another 5 miles.
- **Central Rail Extension**—A planned future extension of the L Line from the 30th and Downing station to 38th and Blake station will provide a connection between downtown Denver and the University of Colorado A Line.
- **Southwest Rail Extension**—This extension of the existing Southwest Corridor, Line D, is a 2.5-mile extension bringing rail to Highlands Ranch.
- **B Line to Longmont**—The newly built B Line to Westminster is anticipated to continue further along the northwest corridor, connecting Boulder, Longmont, and other cities to Denver. The full corridor would add 34.8 miles to reach Longmont from the existing Westminster station.

CDOT, RTD, and regional and local planning partners continue to assess the feasibility of intercity rail passenger rail along the Front Range. Prior studies have evaluated alternatives and developed estimated costs and needs for various levels of service for passenger rail, including “starter” commuter rail service that could be upgraded in the future. Chapter 4 of this Rail Plan discusses future plans for passenger rail within the Denver metro area and along the Front Range.

Scenic and Historic Rail Operations

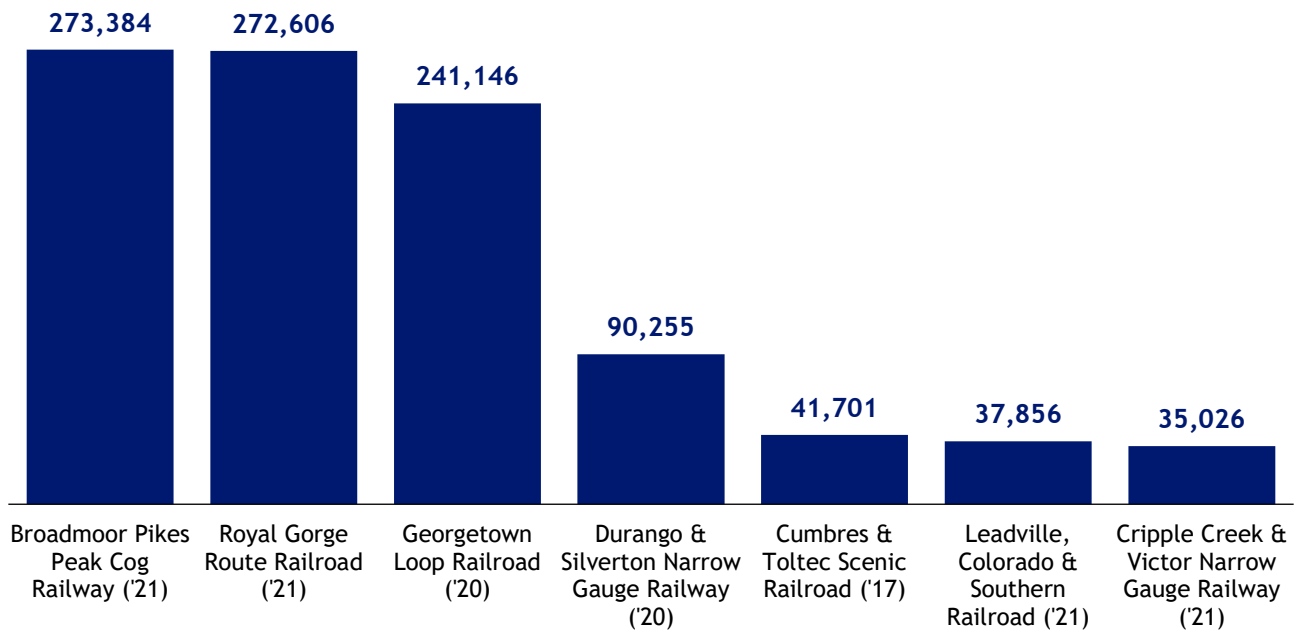
Colorado’s scenic and historic railroads provide visitors with experiences of steam locomotives, cog railways, and narrow-gauge track through remote mountainous areas, through deep canyons, and over scenic bridges. Many of these railroads have roots in Colorado’s mining past and run on routes constructed in the late 1800s.

Ridership of individual scenic rail operators ranges from less than 10,000 to more than 250,000 annually. On average, tourism to these railroads amounts to about 1 million combined rail passengers each year. These visitors generate significant local economic impact in sales and lodging tax revenues and boost indirect spending in the towns and counties surrounding these historic assets. According to a recent study of the C&TSRR, rail operations support 147 direct jobs and result in a total annual economic impact of \$14.8 million in the surrounding five-county region of Colorado and New Mexico.

Rail ridership decreased significantly in 2020 with the onset of the COVID-19 pandemic. Many scenic railroads closed in 2020 and re-opened in 2021 and 2022. The Rio Grande Scenic Railroad operated in Alamosa, CO, but closed in 2019 due to a fire that damaged their facilities and remains closed. For this reason, recent ridership counts are variable and will return to normal levels in the coming years. The most recent year of data available for each of the scenic railroads was compiled in the chart below. All data drawn from Colorado PUC annual reports of the railroads.



Figure 10. Scenic and Historic Railroad Reported Annual Ridership



Source: Colorado Public Utilities Commission. Note various years reported based on data availability. Years shown in parentheses.

Colorado’s scenic and historic railroads offer visitors unique experiences, preserve railroading history, and contribute significantly to tourism-based economies in rural regions. Each railroad offers different excursions and amenities and ranks among the state’s most popular tourism destinations. The following table shows available operating characteristics.

Table 8. Scenic and Historic Railroad Operating Characteristics

Scenic Railroad	Route Miles	Gauge	Trips per Day	Operating Season
Broadmoor Pikes Peak Cog Railway	9	Standard (with rack rail)	6-8	Year Round
Durango & Silverton Narrow Gauge Railroad	47	Narrow	4	Year Round
Georgetown Loop Railroad	5	Narrow	6	Late April to December
Royal Gorge Route Railroad	12	Standard	4	Year Round
Cripple Creek & Victor Narrow Gauge Railway	2	Narrow	10	Mid-May to Mid-October
Cumbres & Toltec Scenic Railroad	64	Narrow	2	Late May to Mid-October
Leadville, Colorado & Southern Railroad	13	Standard	2	Late May to Early October



Narrow gauge routes in Colorado use a 3 ft gauge, as they leverage historic equipment and alignments and are consistent across the state. The Pikes Peak Cog Railway uses standard gauge for the outer guide rails and a single “Strub”-type rack rail located on the centerline of the alignment.

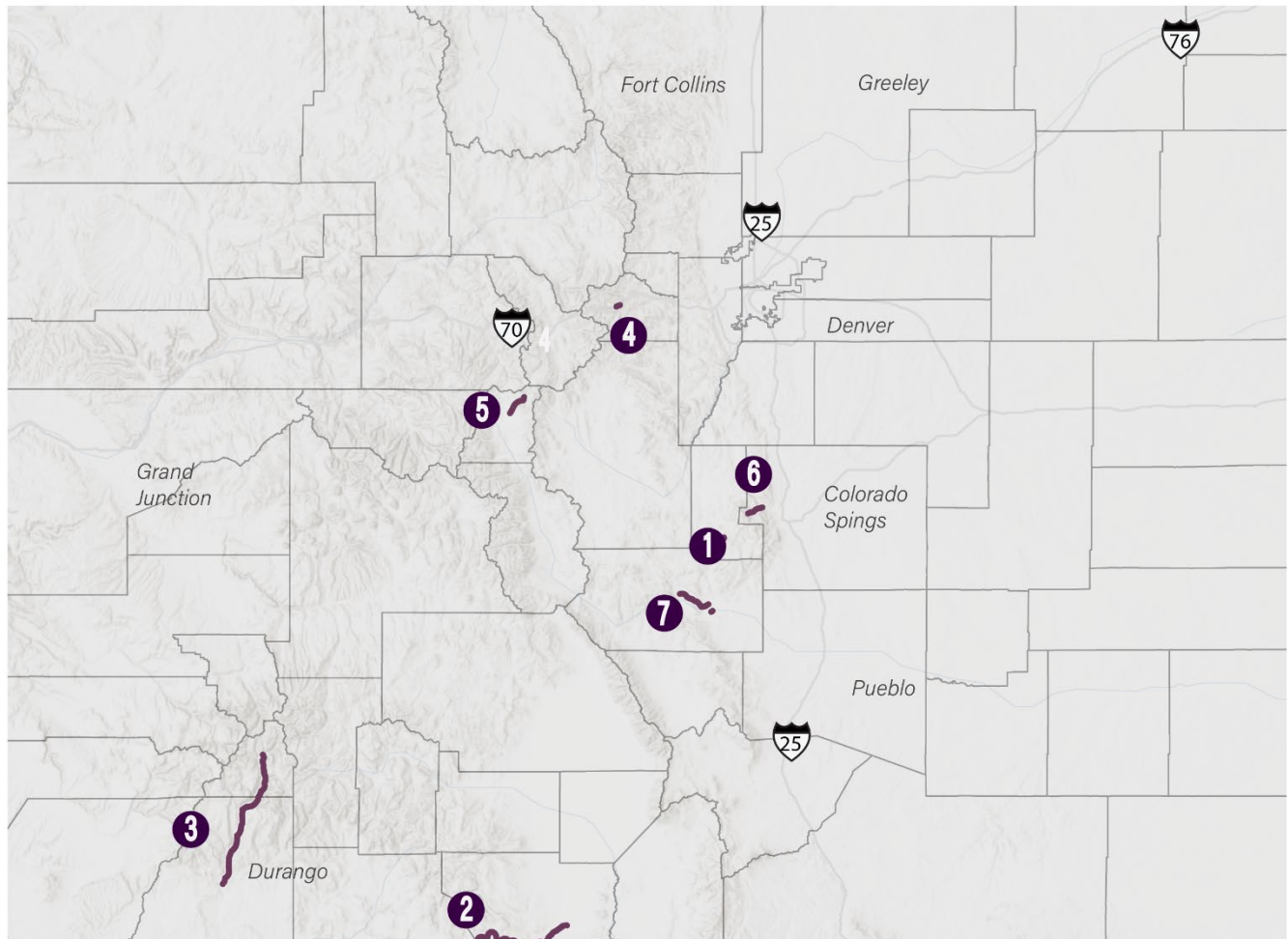
Typically, either individuals or national holding companies privately own scenic rail operations. History Colorado, a Division of the Colorado Department of Higher Education, owns the Georgetown Loop, which is operated by a private vendor. The states of New Mexico and Colorado jointly own and manage the C&TSRR with oversight by the governing C&TS Commission. The Royal Gorge Route Railroad shares lines with freight rail operators.

Rocky Mountaineer is a Canadian rail-tour company that operates luxury scenic trains on four rail routes in British Columbia, Alberta, Colorado, and Utah. Beginning in 2021, Rocky Mountaineer operates the Rockies to the Red Rocks route offering tourist travel between Denver and Moab, Utah with an overnight stop in Glenwood Springs. Service operates on Union Pacific Railroad trackage. Ridership is not reported by the private company.

Scenic rail operators rely on private funding, volunteer time and materials, and public grants for historic preservation from the State of Colorado to maintain and refurbish equipment, rolling stock, and facilities. Maintaining track and equipment in working order and meeting modern safety standards are critical to reducing safety risks and to improving operational speeds and reliability. FRA regulates scenic rail operators to meet those standards.

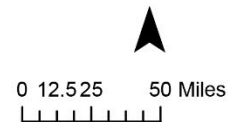


Figure 11. Colorado Scenic and Historic Railroad Map, 2023



Legend

- ① Cripple Creek and Victor Narrow Gauge
- ② Cumbres & Toltec Railroad
- ③ Durango & Silverton Narrow Gauge
- ④ Georgetown Loop Railroad
- ⑤ Leadville Scenic Railroad
- ⑥ Manitou & Pikes Peak Cog Railway
- ⑦ Royal George Route Railroad



Rail Corridor Preservation

CDOT recognizes that significant rail corridors represent an irreplaceable state transportation asset and preservation of future use is critical. In 1997, the General Assembly enacted Senate Bill (SB) 37, concerning the disposition of abandoned freight and passenger railroad rights-of-way in Colorado. The ability to respond quickly to a potential abandonment can be an important factor in ensuring corridor preservation. CDOT monitors short line railroads in the state to ascertain their current financial status and to examine the prospects for their continued survival because they continue to be an important part of Colorado’s future. CDOT prepares an annual report, known as the SB 37 report, to the Colorado Transportation Legislation Review Committee (TLRC) detailing priority potential rail abandonments and rail acquisition opportunities. These acquisitions could also lead to opportunities to consider multimodal travel options within rail corridors.



In 2000, the Colorado Transportation Commission approved a Rail Corridor Preservation Policy, also known as Policy Directive 1607. Policy Directive 1607, last updated in 2023, enumerates rationale and support for rail corridor preservation and establishes criteria to identify state significant rail corridors. CDOT maintains the list of State Significant Rail Corridors, tracks corridors and rights-of-way at risk of potential abandonment, and provides updates to the Colorado Transportation Commission as well as the preparation of the annual SB 37 report to the TLRC. The risk of abandonment and opportunities for acquisition of the following railroad rights-of-way are detailed in the September 2022 SB 37 report:

- In November 2015, UP made the decision to close and sell the **Burnham Yard** in central Denver due to a decline in coal shipments and a desire to consolidate maintenance activities. The Burnham Yard site provides an opportunity to realign the Consolidated Main Line (CML) away from I-25 and into the former yard site, freeing up right-of-way and providing opportunity to secure additional right-of-way for future rail projects of both RTD and potential Front Range Passenger Rail. CDOT Region 1 and the Colorado Transportation Investment Office (CTIO) successfully negotiated the purchase with UP to acquire the Burnham Yard in 2021. Since the purchase, CDOT has assumed responsibility for the property and completed an effort of cleanup and preservation of historic structures.
- Owned by UP, the **Tennessee Pass Line** runs 178 miles from near Gypsum, through Eagle, Edwards, Avon, and Minturn, under Tennessee Pass and along the Arkansas River via Leadville, Buena Vista, Salida, and Cañon City to Pueblo. The Tennessee Pass Line is identified as a State Significant Rail Corridor because of its potential to carry both passengers and freight and because it is the only existing trans-mountain alternative in Colorado to the Moffat Tunnel Line. The Royal Gorge Route Railroad currently offers scenic tourist rail trips on 12 miles of the Tennessee Pass Line west of Cañon City. The Tennessee Pass Line may be used as an alternate route as trans-mountain rail demand grows due to increased development on the Western Slope or if the Moffat Tunnel were damaged or closed for any reason. The line could provide critical network redundancy and opportunities for alternative uses. No freight has been shipped across the full Tennessee Pass Line since 1996. UP has not indicated plans to abandon this line in the near future. In December 2020, Colorado Midland & Pacific Railway Company (CMP), a subsidiary of Rio Grande Pacific Corporation, entered into a commercial agreement with UP for the potential use of the corridor for commuter passenger services over the pass. However, CMP's filing for common carrier authority was rejected by the STB in 2021 over environmental and safety concerns. More public process will be necessary before further steps by the State or other public entities to reactivate the line for any use.
- Owned and operated by UP, the **Fort Collins Branch Line** runs southeast from Fort Collins to Milliken and Dent, then east to La Salle. This line is identified as a State Significant Rail Corridor because it connects Greeley and Fort Collins to the North I-25 corridor. The line was identified as part of the preferred alternative in the North Front Range Transportation Alternatives Feasibility Study in 2000 but was not included in the 2011 Preferred Alternative of the North I-25 EIS. The North I-25 EIS recommends a new commuter rail line connecting the future extension of the commuter rail B Line in Longmont and the north end of RTD's N Line in Thornton. CDOT will continue to monitor activities on this rail line, but it will not be considered a potential line for acquisition until conditions may warrant action.
- Amtrak Southwest Chief service over the **Raton Pass Line** was previously considered at risk, and passenger rail service to southeastern Colorado communities was in jeopardy. Cooperative efforts by the states of Colorado, Kansas, and New Mexico, Amtrak, BNSF, local communities, and civic organizations secured U.S. DOT grant funding. With recent track improvements, this line is not considered at-risk in the immediate future.



- The **Towner Line**, purchased by the State of Colorado in 1998, was later sold to Victoria & Southern Railway (V&S) in 2011. In 2012, 80 miles of the Towner Line were abandoned. In 2014, KCVN, and its wholly owned subsidiary Colorado Pacific Railroad, notified the STB of an offer to purchase the Towner Line from V&S. In 2016, KCVN brought a case before the STB to complete the purchase of the line. At that time, CDOT submitted a letter to the STB in support of KCVN's acquisition to maintain the line for transportation use and future options. In July 2017, the STB ruled that KCVN was eligible to purchase the line. In December 2017, following the STB ruling and arbitration, V&S agreed to sell the line to KCVN and Colorado Pacific Railroad for \$10 million. The Colorado Pacific Railroad initially contracted with the Kansas & Oklahoma Railroad (a subsidiary of Watco) to operate the Towner Line, an extension of K&O operations ending in Towner. Colorado Pacific chose not to renew this operating contract in December of 2021 and is beginning operations on the line themselves. In 2022, K&O filed a petition with the STB for exemption from the prior approval requirements to discontinue service over the Towner Line. This petition to the STB would end the common carrier obligation of K&O, with the Colorado Pacific beginning operations independently. No customers would be without service, and the line would not be abandoned.
- The **Craig Branch Line** splits from the Moffat Tunnel Subdivision Mainline at Bond, heading north to Steamboat Springs and then west to Craig, with a spur line to Pinnacle Peak approximately 9.5 miles west of Steamboat Springs. In 2020, the Tri-State Generation and Transmission Association announced that they would be retiring the Colowyo Mine and Craig Station by 2030. In 2021, Xcel Energy announced plans to close both units of the coal-fired Hayden Generating Station by the end of 2028. As coal is the primary customer along this branch, the closure of the mine and power stations in Craig and Hayden could lead to the abandonment of the Craig Branch Line. Additionally, communities along this line have indicated an interest in reintroducing passenger rail service along the line. Funding for the completion of a Service Development Plan for a Mountain Rail System was approved in 2023 and will include studying service from Craig to Denver through Steamboat Springs.

2.1.2 Freight and Passenger Rail Intermodal Connections

Intermodal Freight Rail Traffic and Transload Facilities

Most rail traffic in Colorado is categorized as carload. This generally includes unit trains made up of 110 cars carrying the same products: for example, coal or wheat. Carload also includes single cars or a small number of cars serving specific customers or industries: lumber, concrete, scrap, or metal ores, for example. Intermodal freight is the largest source of revenue for Class I railroads nationally, but intermodal rail traffic represents only 10 percent of total rail tonnage in Colorado.

Intermodal service focuses on containers and highway trailers transferred between ship and rail at international seaports or between trucks and rail at domestic intermodal terminals. Colorado's rail carriers do not handle significant amounts of intermodal traffic because it remains more cost-effective for containerized goods to be transported from international seaports by truck to Colorado markets. According to an analysis by the Association of American Railroads (AAR) of 2019 Waybill data, Denver does not rank among the top 15 intermodal container rail markets in the country. The top intermodal rail markets are all located near major international trade gateways or seaports. AAR provides data and rankings for only the top 15 U.S. intermodal rail markets and comparable data for Colorado is not available.

Colorado's intermodal rail-served facilities include major intermodal, transload, and automobile terminal facilities operated by UP and BNSF in the greater Denver region. In 2014, BNSF opened an expanded auto transfer terminal in Littleton, Colorado, with three times the acreage, twice the trackage, and significantly more parking



spaces than the previous Irondale, Colorado, facility it replaced. The BNSF “Big Lift” facility includes 2,200 parking spaces and 12,000 feet of track and can handle unloading up to 65 rail cars from an automotive unit train each day. UP also operates an auto transfer terminal, located in Henderson (Rolla), Colorado.

BNSF and UP also operate intermodal terminals (transfer facilities) that handle intermodal containers and transload operations. Transload operations focus on transferring freight between railcars and trucks to access rail shippers and receivers that do not have direct rail access. Key transload commodities in Colorado include agricultural goods like grain; bulk material like coal, gravel, plastics, soda ash and sand; project cargo like lumber or wind turbine blades; and an assortment of goods shipped by boxcar. Because these transfers require some degree of handling, these facilities typically provide direct truck access to railcars, crossdock warehouses, or other storage facilities.

Many short line railroads also have facilities and property that can be developed for transloading. Denver, Brighton, Henderson, Commerce City, Hudson, Johnstown, Loveland, and Windsor contain more than a dozen privately operated transload facilities. These facilities provide key links to automotive, construction, retail, manufacturing, and other industries and are served by Class I and short line railroads. The following table shows transload facilities, with rail connections, as identified by FHWA as key intermodal rail connectors on the National Highway Freight Network in Colorado. There are additional private intermodal terminals and yards provide transload and transfer services between rail and truck.

Table 9. FHWA Key Intermodal Rail Connectors and Facilities, 2021

Facility	City
BNSF Railroad Transfer Facility—Denver Intermodal Facility	Denver
BNSF Railroad Auto Transfer—Big Lift Automotive Facility	Littleton
UP Railroad Transfer Facility—North Yard	Denver
UP Railroad Auto Transfer—Rolla	Henderson
UP Railroad Transfer Facility—36 th Street Yard	Denver

Source: FHWA, *National Highway Freight Network Map and Tables for Colorado*

Grain elevators also facilitate the transfer of agricultural products between rail and truck. Grains, including wheat, corn, sorghum, millet, feeds, and sunflowers, are among the key commodities transferred at these facilities. Other agricultural-related goods may also be processed at these hubs, including seeds and fertilizers. Colorado’s rail network includes 89 grain elevators with rail access located throughout the state. Elevators range considerably in terms of active operations, age and maintenance needs, commodities handled, and rail shipper service capacity. Not all elevator facilities can accommodate high-volume 110-car “shuttle” unit trains, and most are designed for either single carloads or small “blocks” of railcars.

Colorado has relatively few shuttle loading facilities; UP, BNSF, the Nebraska, Kansas & Colorado Railway, and the Great Western Railway of Colorado (GWR) serve sites located in Johnstown, Byers, Windsor, Holyoke, and Cheyenne Wells. These sites are designed to load a 110-car unit train in 15 hours or less. Grain elevators lacking shuttle capabilities can limit the transportation options of producers and feed grain users and increase transport costs. Types of crops grown, global commodity prices, and widely varying crop yields between years due to climatic conditions also affect shuttle locations. High-volume elevator facilities in Kansas and Nebraska near



Colorado production areas may attract truck hauls from Colorado to these out-of-state elevators for transfer to rail.

With record grain harvests in recent years, higher agricultural commodity prices, and lower freight rail rates, some shippers have expressed growing concerns over the capacity of Colorado’s rail network to handle agricultural exports. Capacity constraints posed challenges for growers in 2014 and 2015. Although rail coal traffic as measured by tonnage has declined in Colorado in recent years, intermodal shipments and agricultural products shipped by rail have grown. As a result, no significant net new capacity has been created on existing rail lines. As intermodal traffic increases in the future to serve Colorado’s growing population and markets additional rail capacity may be required.

Figure 12. Map of Colorado Rail Intermodal and Transload Facilities, 2022

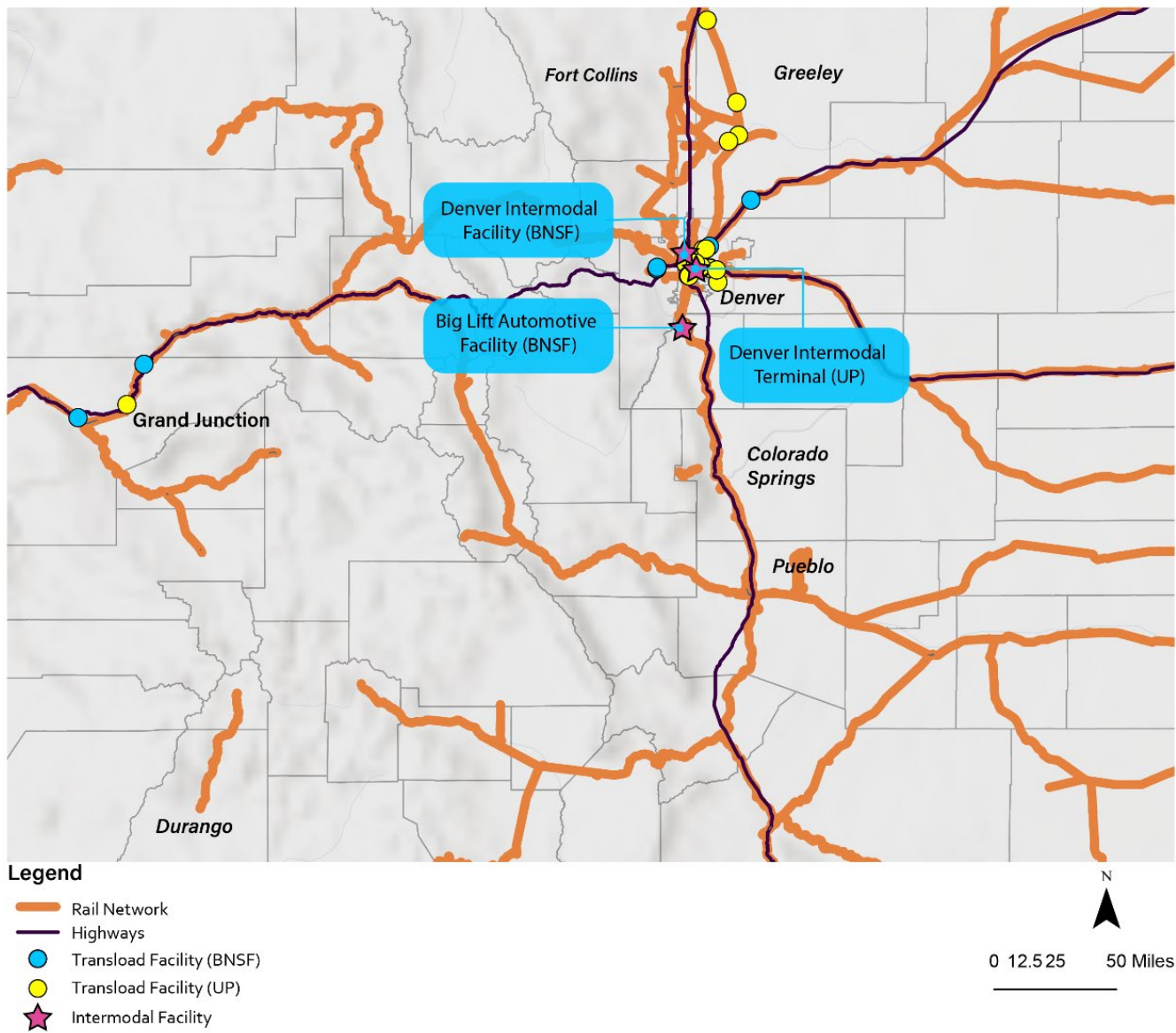
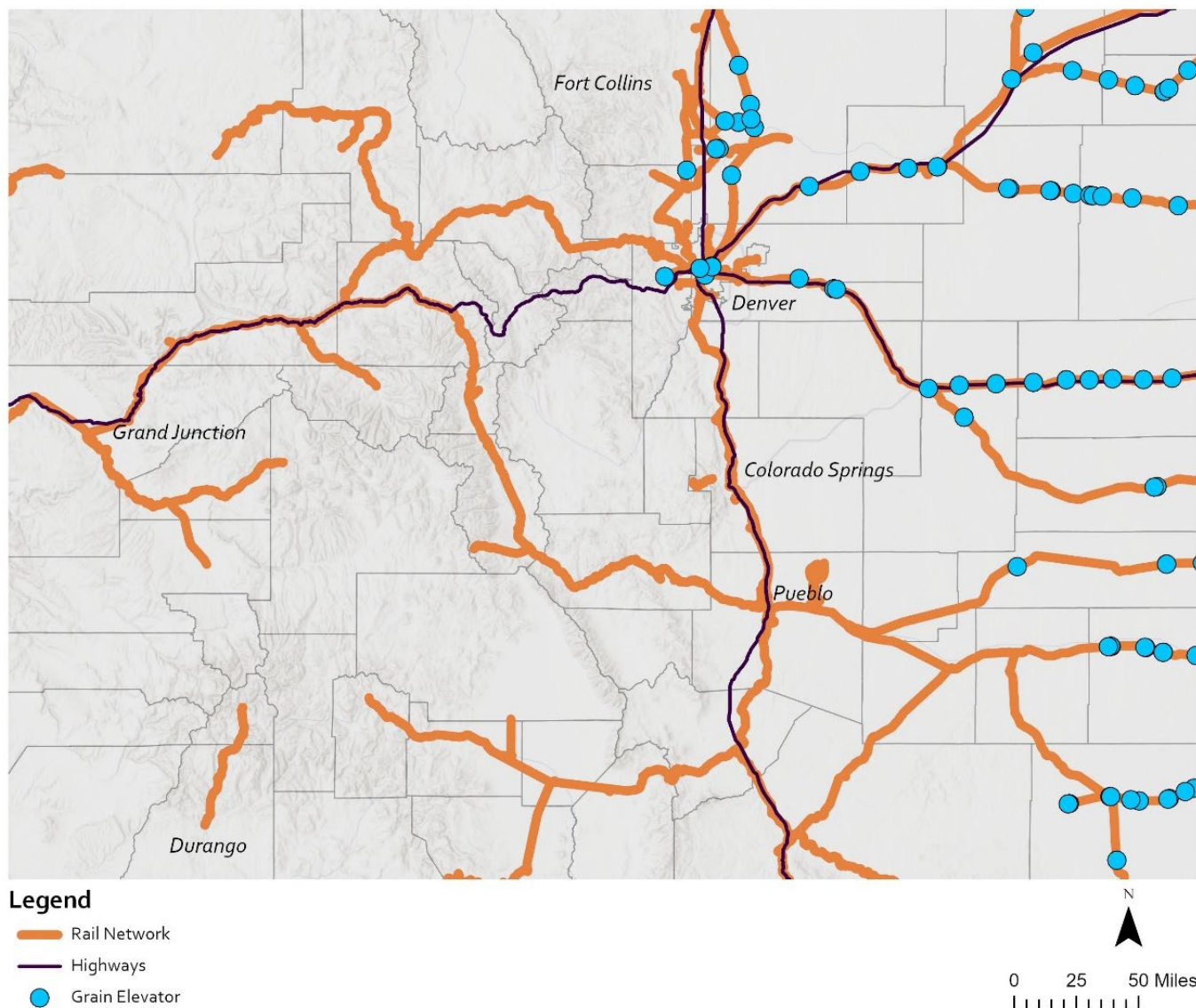




Figure 13. Map of Colorado Rail Grain Elevators, 2022



Passenger Rail Intermodal Connections

Passenger Travel Intermodal Hubs

With RTD’s University of Colorado A line, Denver is one of 20 cities in the U.S. with a direct rail connection between downtown and the state’s primary passenger airport. This commuter rail line serves an estimated 20,600 boardings per average weekday. The Denver International Airport (DEN) long-term vision includes significant development on airport property and surrounding lands to develop into a hub of commercial, business travel, and light industrial activity. Long-range master plans for DEN have considered potential connecting spurs or rail lines for short line and Class I rail service within the airport property to serve industrial and warehousing and distribution customers and provide air to rail freight connections.



Amtrak Intermodal Connections

Many Amtrak stations in Colorado offer transfers to nearby intercity bus stations, such as Amtrak Thruway, Greyhound, or Bustang, as well as connecting local transit service. Local transit providers serve Amtrak stations through either fixed route scheduled service or by demand responsive transit options.

Providing seamless connections among trains, buses, and transit services is critical to expanding intercity rail service as a viable and convenient option for residents and visitors.

Table 10. Amtrak Station Intermodal Transit Connections, 2022

Station	Intercity Bus Service (e.g., Greyhound or Bustang), Distance to Nearest Bus Station	Amtrak Thruway Service Connection	Local Transit Service Type	Local Transit Direct Connection to Amtrak	Local Transit Connections by Mode
Denver (Union Station)	0.0 miles	Yes	Fixed Route	Yes	Light Rail, Commuter Rail, Bus
Glenwood Springs	2.8 miles	No	Fixed Route	No	Bus
Fort Morgan	1.2 miles	No	Demand Responsive	By Request	Shuttle
Grand Junction	0.5 mile	No	Fixed Route	No	Bus
Fraser-Winter Park	2.8 miles	No	Fixed Route	Yes	Bus
La Junta	0.01 mile	No	Fixed Route	No	Bus
Trinidad	2.9 miles	No	Demand Responsive	By Request	Shuttle
Granby	0.1 mile	No	Fixed Route—Commuter Bus	No	Bus
Lamar	2.6 miles	No	Demand Responsive	By Request	Shuttle

Source: Amtrak, Colorado State Transit Plan, Google Maps, and online route information from local providers

Amtrak Thruway Bus Service

To extend the reach of Amtrak service to communities without rail service and offer a wider selection of destinations, Amtrak established Thruway intercity bus service. Bus services provide connections to Amtrak trains, serving additional cities in Colorado. Amtrak Thruway service connects with the California Zephyr at Denver Union Station and the Southwest Chief in Raton, New Mexico. In Colorado, these services are operated by Greyhound and Express Arrow and provide direct connections to the intercity bus and light and commuter rail network at Denver Union Station. In other locations across the state, passengers must transfer from Amtrak



stations to the local connecting intercity bus stations, which are generally not co-located. The following table shows Amtrak Thruway bus service routes serving Colorado.

Table 11. Amtrak Thruway Services and Routes, 2022

Bus Route	Connecting Amtrak Route	Amtrak Station Stop	Service Daily Frequency	Local Thruway Service Stops	Thruway Service Operator
Denver to Pueblo	California Zephyr	Denver Union Station	Southbound: 1 bus Northbound: 1 bus	Colorado Springs	Greyhound Lines
Denver to Buffalo, WY	California Zephyr	Denver Union Station	Northbound: 1 bus Southbound: 1 bus	Greeley–Cheyenne, WY– Wheatland, WY–Douglas, WY–Casper, WY	Express Arrow
Denver to Raton, NM	California Zephyr	Denver Union Station	Northbound: 1 bus Southbound: 1 bus	Denver–Colorado Springs– Raton, NM	Greyhound Lines

Source: Amtrak Timetables, 2022 Note: Connections may be necessary.

Bustang Bus Service

CDOT-operated Bustang bus services also offer intercity connections from Denver Union Station to communities across the state. Bustang West, with five eastbound and westbound trips per day, travels between Denver Union Station and Grand Junction along I-70, with stops in Parachute, Rifle, Glenwood Springs, Eagle, Avon, Vail, Frisco, and Idaho Springs. Bustang North links Denver Union Station with Fort Collins, while Bustang South connects to Colorado Springs; each of these lines has eight round-trips per day.

Additionally, the Bustang family of service includes the Pegasus Bustang, Snowstang, Outrider, and Bustang Seasonal Services. The Pegasus Bus is operated with passenger vans and provides service between Denver Union Station and Idaho Springs, Frisco, Vail, and Avon. It allows passengers to carry skis or snowboards and offers ten round-trips on Friday-Sunday, with six round-trips on other weekdays. Snowstang offers weekend service during the winter ski season between Denver and five ski areas. The Outrider Bus makes daily connections to rural communities, with nine different routes across the state.

2.1.3 Passenger Rail Service Objectives

The following table presents summary statistics for passenger service objective measures by corridor, including load factor measures that assess overall capacity and use of Amtrak routes. The average load factor is calculated by dividing passenger miles (the aggregation of trip lengths for individual passengers) by seat miles (the sum of the product of total seats available and total miles traveled for individual trains).



Table 12. Amtrak Passenger Service Objective Measures, Fiscal Year 2022

Amtrak Passenger Service	Termini	Service Frequency	National Ridership	Train Miles (Millions)	Passenger Miles (Millions)	Seat Miles (Millions)	Average Load Factor
California Zephyr	Chicago, IL / Emeryville, CA	1 train daily (both directions)	290,400	1.6	213.6	356.8	60%
Southwest Chief	Chicago, IL / Los Angeles, CA	1 train daily (both directions)	223,700	1.5	199.5	336.5	59%
Winter Park Express	Denver, CO / Fraser-Winter Park, CO	1 train daily (both directions)	n/a	n/a	n/a	n/a	n/a

Source: Amtrak, Monthly Performance Reports. FY2022 Data

2.1.4 Performance Evaluation of Intercity Passenger Services

The following section presents statistics on intercity passenger rail performance, including ridership and use, financial performance, on-time performance (OTP), and customer satisfaction. These metrics routinely tracked by Amtrak are required for inclusion within state rail plans as established by the FRA under PRIAA. The State of Colorado and CDOT have limited roles in influencing the performance and use of Amtrak long-distance intercity passenger rail. Through partnerships with Amtrak and private railroads, CDOT continues to support actions and improvements to enhance and expand intercity rail service.

Ridership and Use

Amtrak use in Colorado has been dramatically impacted by COVID-19. Boardings and alightings decreased by about 58 percent across all stations from 2019 to 2021, then rebounded in 2022 to 73 percent of 2019 ridership. The largest percentage decrease was seen at the Winter Park/Fraser station, while the largest in terms of number of passengers was seen at the Denver station. Since 2019, Ridership at the Trinidad station has recovered the most, increasing in 2022 to approximately 81 percent of 2019 levels, followed by Glenwood Springs, which has reached approximately 77 percent of 2019 levels. Consistent with pre-pandemic levels, more than half of all boardings and alightings occur at the Denver station. Denver, Glenwood Springs, and Grand Junction together account for approximately 80 percent of all boardings and alightings in 2022. The Winter Park Express resumed normal operation in January of 2022.

Table 13. Annual Boardings and Alightings at Amtrak Stations in Colorado, FY2017 to FY2022

City	2017	2018	2019	2020	2021	2022
Denver (DEN)	154,706	143,986	142,974	89,764	61,216	104,513
Fort Morgan (FMG)	3,448	3,445	3,473	2,153	1,614	2,019
Glenwood Springs (GSC)	46,079	44,430	42,418	25,828	22,968	32,519
Granby (GRA)	4,950	5,034	4,863	2,904	2,305	3,256
Grand Junction (GJT)	30,896	32,540	32,662	19,071	14,995	20,712



City	2017	2018	2019	2020	2021	2022
La Junta (LAJ)	7,009	7,373	7,061	4,583	3,525	4,799
Lamar (LMR)	1,673	1,588	1,573	1,028	673	915
Trinidad (TRI)	5,415	5,635	6,060	3,859	3,733	4,896
Winter Park/Fraser (WIP)	25,413	23,039	29,148	25,156	3,500	6,466
Winter Park Resort (WPR)	-	-	-	-	-	16,958
Total	279,589	267,070	270,232	174,346	114,529	197,053
Annual change	n/a	-4.5%	1.2%	-35.5%	-34.3%	72.1%

Source: Amtrak Fiscal Year State Fact Sheets, Colorado. 2017-2022.

The strategies and recommendations included within this Rail Plan are intended to continue support for Amtrak service in Colorado. CDOT, the State of Colorado, and private partners have provided financial support for station improvements, matching funds for Federal grant opportunities, and private sponsorship contributions to ensure the continued use of routes in Colorado.

Financial Performance

After the COVID-19 pandemic, the financial performance of Colorado’s routes is beginning to recover. The financial performance of the California Zephyr route has nearly recovered to 2019 levels, while the Southwest Chief continues to improve from a low in 2020. Revenue for the California Zephyr totaled \$55.1 million in 2022, an increase of more than 55 percent from FY2021. The cost recovery ratio has also nearly recovered, equal to approximately 46 percent in 2022 compared to 50 percent in 2019. Revenue for the Southwest Chief increased by approximately 35 percent from 2021 to 2022. The line achieved a cost recovery ratio of approximately 38 percent in 2022, compared to 46 percent in 2019. As of 2022, the national average cost recovery ratio for all long-distance routes reached 49 percent, compared to 53 percent in 2019. Ensuring continued Federal financial support for Amtrak routes in Colorado is critical. Investments in rail service return direct economic benefits to communities with stations, including economically distressed communities along both routes.

Table 14. Financial Performance of Amtrak Trains Serving Colorado, 2018 to 2022

Service	Operating performance measure	2018	2019	2020	2021	2022
California Zephyr	Revenue (Millions)	\$59.2	\$55.5	\$32.8	\$35.5	\$55.1
	Expense (Millions)	\$116.4	\$112.1	\$108.0	\$85.4	\$120.8
Southwest Chief	Revenue (Millions)	\$45.6	\$47.0	\$27.3	\$29.5	\$39.8
	Expense (Millions)	\$102.7	\$103.1	\$99.3	\$77.0	\$104.2
National Long Distance Network	Revenue (Millions)	\$525.4	\$537.6	\$336.7	\$358.1	\$534.6
	Expense (Millions)	\$1,065.8	\$1,012.3	\$986.0	\$827.8	\$1,097.5

Source: Amtrak Monthly Performance Report for September, 2012-2017



On-Time Performance

A train is considered on-time if it arrives within an allowed number of minutes of its scheduled arrival time at the final destination. Allowed minutes depend on the length of the trip. For long-distance routes over 550 miles, 30 minutes or less is considered within the on-time window. The lines traveled by the California Zephyr in Colorado include mountain passes, tunnels, and urban areas, which can lead to delays and lower OTP. Delays may result from Amtrak operations, delays due to the host railroad, or other sources such as weather or incidents. The most common type of delay on both Colorado Amtrak routes was slow order delays, which are caused when there is a local speed restriction on a rail line. The second-most common type of delay was due to freight train interference. Other delay causes include commuter train interference, locomotive failure, signal delays, servicing delays, passenger delays, and crew/system delays. Amtrak addresses performance and on-time reliability through coordination with private host railroads and operating procedures.

Table 15. On-Time Performance of Amtrak Trains Serving Colorado, 2017 to 2022

Route	2017	2018	2019	2020	2021	2022
California Zephyr	35.5%	37.8%	25.5%	49.6%	53.4%	15.6%
Southwest Chief	36.7%	27.9%	30.2%	52.4%	42.9%	15.3%

Source: Federal Railroad Administration Intercity Passenger Rail Service Quality and Performance Reports, 2017-2022

Customer Satisfaction

Amtrak’s Customer Satisfaction Index is a measure based on survey responses asking about all aspects of passengers’ travel experience on Amtrak. Scores indicate the percentage of respondents satisfied with various aspects of service. Customer satisfaction is a measure of the percent of respondents who provided a score of 70 percent or greater for their ‘overall satisfaction’ on a 100-point scale for their most recent trip. Amtrak reports this metric both adjusted for performance and unadjusted. The adjusted score removes customers who arrive at their destinations on State-supported and long-distance routes excessively late (30 minutes for State-supported routes and 120 minutes for long-distance routes) from the calculation. Both lines show relatively high levels of satisfaction for Amtrak personnel, considering both adjusted and unadjusted values. Overall, both lines’ overall service satisfaction is 66 percent unadjusted, and nine to 12 percent higher after adjusting the sample to remove excessively late passengers.

Table 16. Customer Satisfaction on Amtrak Trains Serving Colorado, 2022

Performance	California Zephyr Unadjusted	California Zephyr Adjusted	Southwest Chief Unadjusted	Southwest Chief Adjusted
Overall Service	66%	75%	66%	78%
Amtrak Personnel	85%	88%	84%	86%
Information Given	61%	70%	62%	73%
Onboard Comfort	62%	67%	65%	72%
Onboard Cleanliness	76%	82%	72%	79%
Onboard Food Service	58%	62%	56%	62%

Source: Federal Railroad Administration, Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, Q3 FY2022



2.1.5 Public Financing for Rail Projects

Over the next 20 years, Colorado’s rail investment needs could run into the tens of billions of dollars. Needs include continued private investment in infrastructure and safety technology by private freight railroads, private and potential public financing for short line rail maintenance and upgrade needs, historic rehabilitation and safety needs for scenic and historic railroads, as well as significant capital investments in future Front Range passenger rail service and corridor development.

Colorado’s freight railroad network is privately owned, maintained, and operated. Freight railroads pay for investments and improvements in these lines to maintain the current network’s safe operation and to expand the network’s capacity as justified for traffic growth. However, public agencies and CDOT have a role in assisting and supporting improvements that benefit the freight rail network, including improving highway connectivity to intermodal facilities, major freight rail customers, and economic development areas.

Public agencies own and operate Colorado’s commuter rail network. Most capital and operating expenses are paid with local funding sources, with additional support from Federal agencies and the State of Colorado. With limited Federal funding, constrained state funding, stretched regional and local financial abilities, and no publicly supported rail assistance program, new partnerships, revenue mechanisms, and alternative funding sources will need to be explored and instituted.

Funding Opportunities

Identifying and securing funding to cover needed rail improvements is a long-term goal of this Rail Plan and rail partners across the state. To finance freight and passenger rail improvements requires coordination among partners, new alternative funding sources, or additional funding from existing programs. A range of funding mechanisms, competitive grants, commitments from the state, and contributions from public and private partners will be needed to fully achieve Colorado’s rail vision.

State funding for rail improvements has been demonstrated through the limited use of FASTER and SB-228 funding to support key infrastructure or operational investments in commuter rail and Amtrak service. CDOT has also funded past studies and plans that have further developed rail concepts and alignments. Regional funds through RTD are generated from regional sales taxes. While the FasTracks system improvements are nearing completion, regional funding to date has not been sufficient to build out the entire commuter rail system on the originally envisioned schedule. Communities have committed local funds to support grant initiatives to restore Southwest Chief service and to make critical station improvements in Pueblo, Trinidad, and Winter Park. The multi-state and public-private coalitions that have supported TIGER (now RAISE) grant requests demonstrate the combined commitment and funding ability of local governments and civic and private sector partners.

Private railroads are critical partners in making key investments in freight rail infrastructure to maintain and improve the efficiency, safety, and reliability of the freight network. Railroads are also key partners in passenger initiatives, including providing matching funds for grant awards and contributing funds toward station and line improvements. Amtrak Winter Park Express service uses innovative approaches to leveraging private funds, including identifying presenting sponsors and seeking private funding to cover additional rider services. P3 and innovative financing mechanisms have been used to fund commuter rail investments, including RTD’s Eagle P3 project.



Exploration of new funding opportunities are necessary to advance rail in Colorado. Options for the State of Colorado, CDOT, and regional and local partners may include:

- **Authorizing and empowering state authorities**—The FRPR District is authorized to receive and expend monies to advance rail development. Subject to approval of the voters of the District and other state statute limitations, the District is empowered to levy a sales and use tax, to exercise specified taxing authority common to special districts within the district, and to issue bonds. Previous state authorities have been formed to investigate or develop travel options along the I-70 Mountain Corridor.
- **Developing public rail assistance programs**—Colorado is one of the few states with significant short line rail activity but without a publicly supported rail assistance program of some kind. Instituting a new assistance program to provide grants and/or loans to private and public partners or providing tax incentives through the state tax code, such as investment tax credits, could address future needs. Changes to the governing rules of the COSIB could enable public or private rail projects to be more readily eligible for publicly backed loans and could also enable future flexibility to support needed private investments. Currently, transportation projects restricted to private use (e.g., freight rail siding or track) are not eligible under the COSIB.
- **Pursuing Federal grant programs**—The U.S. DOT’s suite of discretionary grant programs have provided funding for recent freight and passenger rail projects in Colorado. However, these programs are highly competitive and requires significant matching funds. Other recent grant opportunities include Federal competitive grant programs including CRISI and INFRA, as well as grants for completion of Positive Train Control systems.
- **Partnering with Amtrak**—Amtrak’s Section 209 program for State Supported Rail Corridors enables the State of Colorado to enter an operating partnership with Amtrak. State funds are required for corridor development and for capital, equipment, and operating expenses. Amtrak acts as a service provider and service operator, and Colorado benefits from leveraging Amtrak’s national customer systems, freight railroad agreements, and maintenance and improvement funding.
- **Encouraging public-private partnerships**—CDOT has limited power to enter P3 agreements. Current programs are directed toward roadway and bridge improvements. Alternative financing authority and mechanisms could be expanded to encompass passenger and/or freight rail financing arrangements.
- **Expanding regional and local transportation authorities**—Transit services are supported in several counties and regions across the state through transportation authorities. These organizations may impose fees or taxes that directly fund transit and transportation improvements. The FRPR District is the newest regional transportation authority in the state. The taxing authority and revenue generating ability of districts, whether independent or in a regionwide effort, are limited and may not be effective in funding the scale of improvements needed. As a variation of this strategy, rather than legislatively amending the authorities themselves, authorities could enter into intergovernmental agreements.
- **Integrating rail improvement projects into current programs**—CDOT could continue to integrate freight and passenger rail improvement projects into current state project development and funding programs, including the SWP, Statewide Transit Plan, 10-Year Development Program, and regional Transportation Improvement Programs. Funding directed by the DTR, including FASTER funds, could be expanded to support smaller rail improvement projects that would advance broader service development in the future. State funds are limited, highly competitive, and generally directed toward maintenance and state of good repair needs for roads.



- **Exploring alternative state funding arrangements**—Oregon, Kansas, Minnesota, Iowa, Pennsylvania, and other states provide dedicated state funding for multimodal transportation investments, including rail. These funds are derived from general funds, lottery funds, or transportation-related fees and charges, and, in limited circumstances, by Class I railroads. They are in addition to any Federal surface transportation allocations. Colorado could explore the creation of new programs or the dedication of state funds to provide needed investment in rail opportunities. Short line railroads have had success in improving infrastructure at the Federal level using the Section 45G investment tax credit program adopted by the U.S. Congress. This program allows short lines to use tax credits to undertake projects they otherwise could not fund.

Future funding strategies will require new partnerships, renewed state and public commitments, continued engagement with freight railroads and existing passenger rail operators, and entirely new funding mechanisms and models.

2.1.6 Safety and Security of Rail Transportation

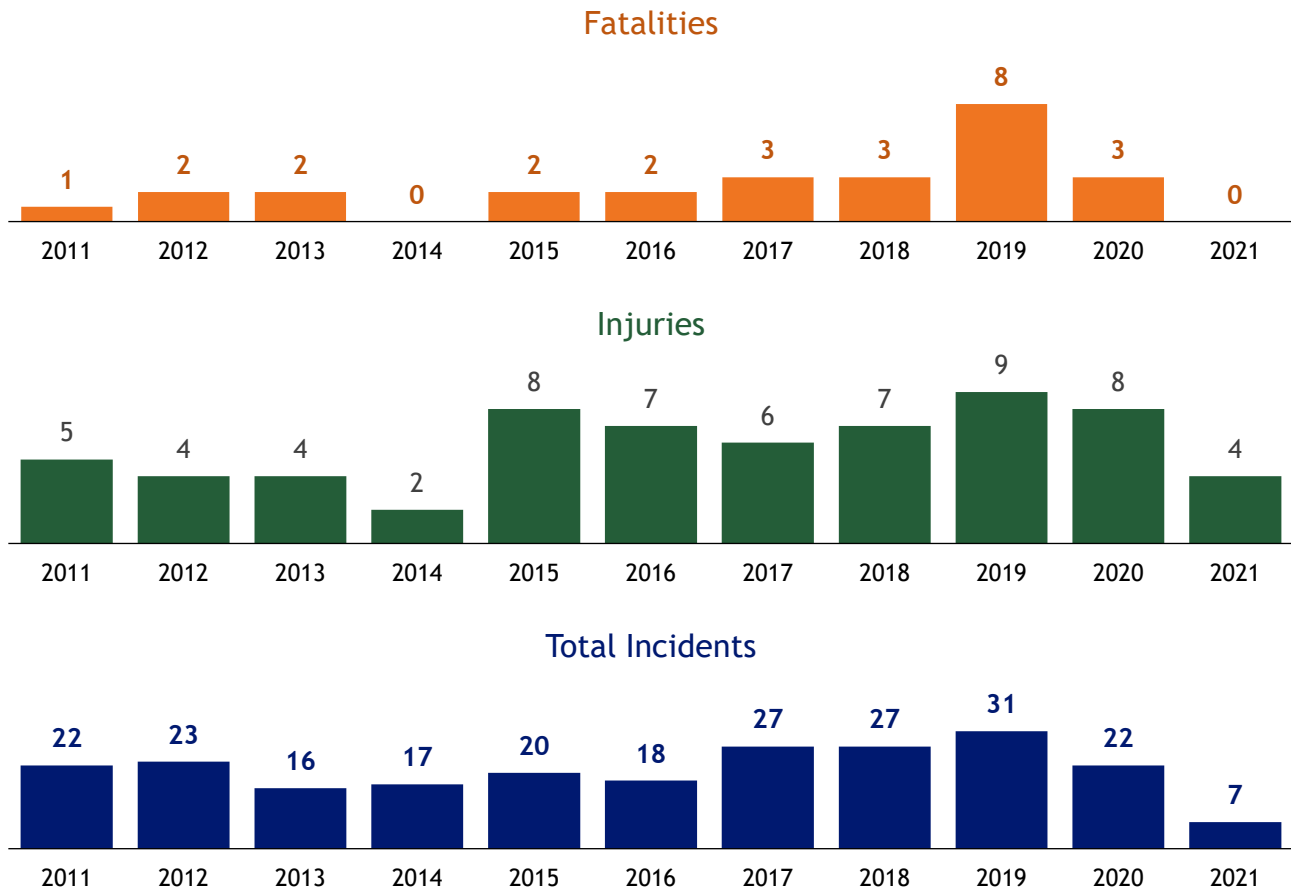
CDOT's primary goal is to improve safety for all multimodal transportation system users. Ensuring the safety and security of Colorado's rail systems is critical to passengers, the traveling public, and rail workers. It is important to maintaining efficient and reliable rail service for businesses. Rail policies help ensure that railroad operations and property remain secure, highway-rail crossings are safe, and hazardous materials movements protect life and property. This subsection describes current programs and initiatives to improve rail safety and reports trends in rail-related incidents.

Railway-Highway Safety

Railway-highway crossing safety incidents in Colorado declined from 27 in 2017 to seven in 2021. These incidents generally occur at public at-grade rail crossings and involve accidental crashes when vehicles attempt to circumvent safety devices, when vehicles stall on tracks, or when pedestrians or vehicle drivers do not respond to warning signals. Other incidents may occur because of intentional behavior by a driver. Fatalities and injuries resulting from railroad-highway incidents have remained relatively stable from 2017 to 2021, with an average of four fatalities and seven serious injuries per year. A single incident can result in multiple fatalities. The following figure reports total railway-highway related incidents in Colorado.



Figure 14. Railway-Highway Total Incidents, Serious Injuries, and Fatalities in Colorado, 2011 to 2021



Source: Federal Railroad Administration Office of Safety Analysis, Ten Year Accident / Incident Overview

Commercial trucks may stall on railway-highway crossings or fail to completely clear a crossing on a congested roadway. Northeast Colorado has both a high number of public and private at-grade rail crossings and significant truck travel on rural roads due to oil and gas development. Many at-grade crossings in rural areas have only passive warning signs. With a growing population and increased residential development along major travel corridors, the number of at-grade crossings and the risk of incidents at all crossings may increase. CDOT, through the FHWA Section 130 Program, seeks to improve crossing safety at high-hazard locations. Local governments and private railroads also improve crossings and maintain warning devices to improve roadway safety.

FHWA Railway-Highway Crossings (Section 130) Program

Freight railroads in Colorado are private organizations, responsible for their own maintenance and improvement projects, while state and local agencies are responsible for evaluating railway-highway grade crossing risks and prioritizing grade crossings for improvement. The PUC has primary jurisdiction over all public railway-highway crossings in Colorado, including opening, closing, or upgrading rail crossings and approval of final decisions on crossing improvements. CDOT distributes Federal funding for improvements to railway-highway crossings and coordinates with local agencies to identify and prioritize those investments. In Colorado, 2,703 of 3,281 public railway-highway grade crossings are at-grade.



The Railway-Highway Crossings (Section 130) Program is one of several Federal programs intended to mitigate the frequency and the severity of crashes to vehicles and pedestrians at railroad crossings. The program, funded by FHWA, is administered by CDOT's Division of Project Support. Under the Bipartisan Infrastructure Law, Colorado will be eligible to compete for \$5.5 billion for new grade crossing safety improvements. Colorado receives approximately \$3.7 million annually in Federal funding under Section 130 that is directed to projects that improve railway-highway at-grade crossings. Improvements include train-activated warning bells, flashing lights, overhead gates, or constant warning systems, as well as upgrades to signal equipment and modernization of adjacent highway infrastructure. Section 130 improvements have been attributed to significant decreases nationally in fatalities at railway-highway grade crossings.

Fifty percent of Colorado's apportioned funds are dedicated to the installation of protective devices at crossings, while the remaining funds can be used for any hazard elimination project, including protective devices. Funds may also be used as incentive payments for local governments to close public at-grade crossings, if funds are matched by private railroad operators. The 2015 FAST Act extended eligibility to include at-grade crossings to eliminate hazards posed by blocked crossings due to idling trains. Unlike most other Federal highway funds, local agencies cannot request Section 130 funds. Section 130 funding is limited to safety improvements only and cannot be used to fund improvements on behalf of counties or municipalities seeking to establish a quiet zone through the FRA.

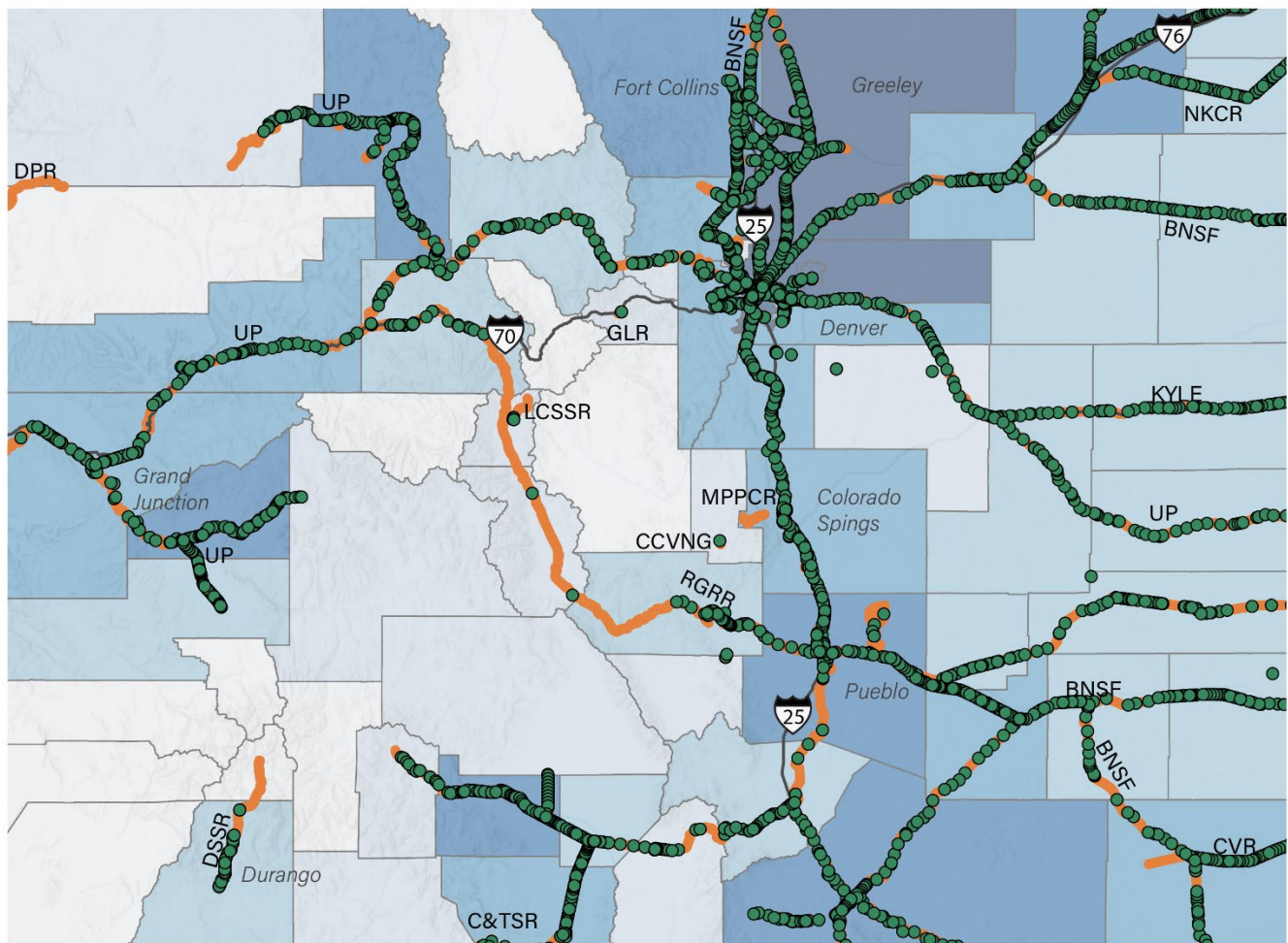
Section 130 funds are programmed based on a "hazard index," which identifies the most critical railway-highway crossings statewide. This hazard index is used to consistently compare the crash potential of one crossing to another. CDOT's Division of Project Support develops the state rail crossing inventory and manages the hazard index process. The hazard index considers the following factors when prioritizing safety needs: Vehicle stopping sight distance; existing traffic protection devices at crossing; highway annual average daily traffic; rail line train volume; and number and type of railroad tracks at crossing.

To develop and implement safety improvement projects that will reduce the number and severity of train collisions with motor vehicles, bicycles, and pedestrians, staff from CDOT Division of Project Support visits crossings that exhibit features or characteristics suggesting a possible tendency for accidents. Crossings with the highest hazard index values are studied in detail by performing crossing safety diagnostics. These crossing safety diagnostics include safety and traffic professionals on-site to evaluate an existing or a proposed railway-highway or railway-pathway crossing. Transportation professionals often include PUC staff, CDOT staff, local jurisdiction, and representatives from the railroad, transit agency, or owner of the track. The purpose of these diagnostics is to evaluate the existing or proposed conditions to determine the appropriate safety mitigation measures for a given location.

If there is a reason the locomotive engineer needs to sound the horn at a crossing (e.g., obstruction or vehicle in the crossing), FRA rules require the engineer to sound the horns. CDOT is currently completing a statewide inventory of all public crossings and implementing changes to the administration of Colorado's Section 130 program. The following map highlights the location of public and private railway-highway at-grade crossings in Colorado and those counties with the greatest density of rail crossings.

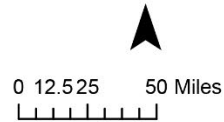


Figure 15. Public and Private At-Grade Railway-Highway Crossings Map, 2021



Legend

- Public and Private At-Grade Railroad Crossings
- Railroads
- Interstate Highways
- No Grade Crossings
- Fewer than 25 Crossings
- 25 - 50 Crossings
- 50 - 100 Crossings
- 100 - 150 Crossings
- Greater than 150 Crossings



Colorado’s rail network has 2,703 public at-grade crossings that employ a variety of warning devices ranging from active warning gates and lights to passive warnings systems, such as signs or fixed gates. Approximately 38 percent of at-grade crossings use active warning devices, such as flashing lights and gates. All other at-grade crossings, particularly those in rural areas with relatively low train and vehicle volumes, rely on passive warning devices, such as signs. Many of the state’s at-grade crossings are located along the Front Range and Eastern Plains region. More than 2,064 private at-grade railway-highway crossings in Colorado do not fall under the jurisdiction of CDOT or the PUC. These private crossings are sometimes unmarked without safety devices or signage. Private railroads install and maintain their own signage and warnings at these private crossings. The following table identifies types of current warning devices and the proportion devices at all public at-grade crossings.



Table 17. Warning Devices at Colorado Public At-Grade Crossings, 2022

Warning Device	Four Quad Gates	Gates	Flashing Lights	Highway Traffic Signals/Bells	Special Warning	Stop Signs	Cross Bucks	Other	None
Crossings	51	626	236	53	63	218	1314	7	135
Percentage	2%	23%	9%	2%	2%	8%	49%	<1%	5%

Source: Federal Railroad Administration Office of Safety Analysis, Public Grade Crossing Inventory

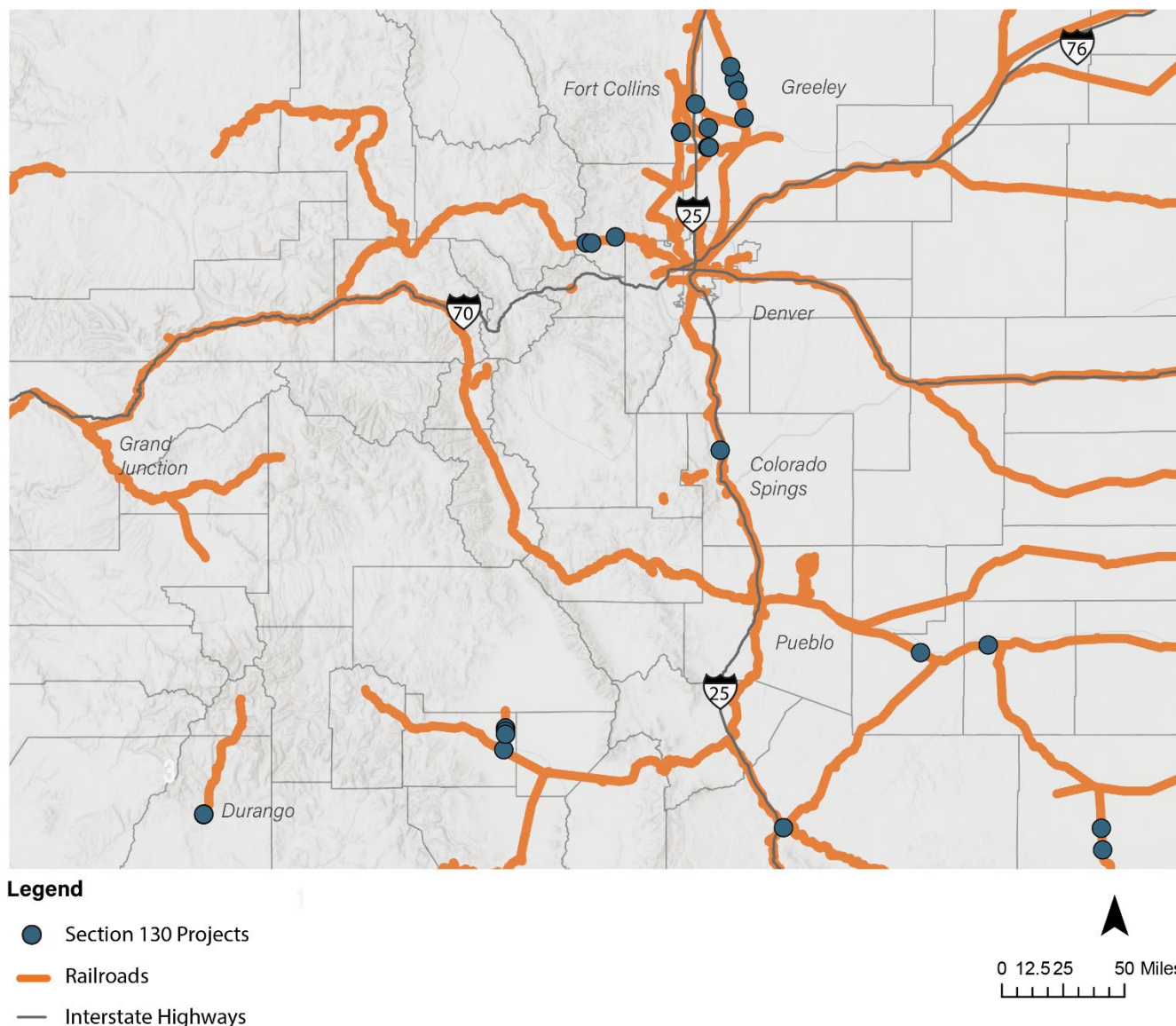
Because funds are allocated based on a data-driven risk assessment, local governments may not apply for funding for specific projects. However, local governments may work directly with private railroad operators to jointly assess and fund crossing, signal, or related safety projects. Private rail operators maintain crossing equipment, including signals, lights, gates, and bells on an ongoing basis. In addition to Section 130 funding, the PUC administers the Colorado Highway-Rail Crossing Signalization Fund (HRCSF), which provides additional funding for crossing improvements not otherwise funded through Section 130. Local governments may request funding to offset the cost of crossing signals. Railroad operators are required to provide at least 20 percent matching funds, with the remaining costs split between the HRCSF and the local Government.

Planned Future Section 130 Railway-Highway Public-Safety Projects

CDOT’s Division of Project Support has programmed Section 130 railway-highway at-grade crossing improvements through 2022. These improvements are identified based on the statewide rail crossing inventory, hazard index assessments, and input from local governments, railroad operators, CDOT, and the PUC. The following map displays Section 130 projects planned between 2021 and 2022. Section 130 projects are tentatively programmed, and project status may change depending on project status, funding, and coordination with local governments, the PUC, and railroads. The projects presented in this chapter should not be considered final.



Figure 16. Planned Section 130 Projects Map, Fiscal Year 2021 and 2022



Many of Colorado’s near-term future rail crossing safety projects are associated with the U.S. 85, I-25, GWR and UP rail lines in Weld and Larimer counties. Northern Colorado has experienced high rates of population and economic growth over the last several decades. Overall highway corridor usage is projected to increase by 2045 resulting in operational and safety issues that interfere with the movement of goods and people. These increases will continue to exacerbate the challenging issues faced today. For example, proximity of rail lines and highways can negatively affect both highway and rail operations. Passing or standing trains restrict travel to and from the east of U.S. 85 and can cause substantial queuing at some cross streets, sometimes extending into through lanes of U.S. 85. The facilities are so close at some cross streets that a single large truck cannot queue between U.S. 85 and rail lines without either overhanging the tracks or encroaching on U.S. 85, resulting in safety concerns.

The following tables provide available information for planned Section 130 investments from fiscal year 2021 through fiscal year 2022. These improvements are subject to change and should not be cited as the final Section 130 work program. CDOT typically receives approximately \$3.7 million per year in Section 130 funding.



Table 18. Fiscal Year 2021 Section 130 Projects

Location	City, County	U.S. DOT Number	Railroad	Accident Info	Improvements
6 th WO Narrow Gauge	Durango, La Plata	253699N	DSNG	N/A	Railroad Approach with flashers, bells; Overhead cantilever flashers on each approach Equipment will be manually activated; circuit activation not possible due to close proximity to yard
7 th WO Narrow Gauge	Durango, La Plata	253700F	DSNG	N/A	Railroad Approach with flashers, bells; CWT circuitry with railroad signal bungalow (placement TBD by DSNG) Upgrade crossing surface to composite panels
Washington SO 11 th	Loveland, Larimer	872131K	GWR	N/A	Railroad Approach Gates with flashers, bells CWT circuitry and railroad signal bungalow Approx. 1000 LF track subgrade restoration (500 feet each side of roadway for track circuit install)
Monroe SO 11 th	Loveland, Larimer	872130D	GWR	N/A	Railroad Approach Gates with flashers, bells CWT circuitry and railroad signal bungalow Approx. 1000 LF track subgrade restoration (500 feet each side of roadway for track circuit install)
8 th Wo Narrow Gauge	Durango, La Plata	253701M	DSNG	N/A	Railroad Approach with flashers, bells; CWT circuitry with railroad signal bungalow (placement TBD by DSNG)
9 th Wo Narrow Gauge	Durango, La Plata	253702U	DSNG	N/A	Railroad Approach with flashers, bells; CWT circuitry with railroad signal bungalow (placement TBD by DSNG)



Location	City, County	U.S. DOT Number	Railroad	Accident Info	Improvements
Ice Lake Road	Air Force Academy, El Paso	253082H	UPRR	N/A	Railroad Approach Gates with flashers, bells CWT circuitry and railroad signal bungalow AFA staff requested bells be designed to shut off after gates drop to horizontal because trains stop and block crossing for 3+ hours
Beaver Creek Road	Pinecliffe, Gilpin	253303H	UPRR	N/A	Railroad Approach Gates with flashers, bells CWT circuitry and railroad signal bungalow
S 1 st EO Kuner	Johnstown, Weld	849354T	GWR	N/A	Railroad Approach Gates with flashers, bells CWT circuitry and railroad signal bungalow Approx. 56 LF new concrete crossing material Approx. 1000 LF track subgrade restoration (500 feet each side of roadway for track circuit install)
S 1 st EO Denver	Johnstown, Weld	872107J	GWR	N/A	Railroad Approach Gates with flashers, bells CWT circuitry and railroad signal bungalow Approx. 80 LF new concrete crossing material Approx. 1000 LF track subgrade restoration (500 feet each side of roadway for track circuit install)
CR 17 at CR 60	Windsor, Weld	849379N	GWR	N/A	Railroad Approach Gates with flashers, bells, side lights facing CR 60 Railroad cantilever flashers on each approach CWT circuitry and railroad signal bungalow Approx. 40 LF new concrete crossing material Approx. 2000 LF track subgrade restoration (1000 feet each side of roadway for track circuit install) Track raise 4"-6"



Location	City, County	U.S. DOT Number	Railroad	Accident Info	Improvements
Main St./CR 5	Timnath, Larimer	244878F	GWR	N/A	Railroad Approach Gates with flashers, bells (installed parallel to track) CWT circuitry and railroad signal bungalow
CO Rd 23	Swink, Otero	003370N	BNSF	1 accident: 2015; truck struck by train; 1 fatality	Railroad Approach Gates with flashers, bells; Side light flashers facing west along U.S. 50 CWT circuitry and railroad signal bungalow
CO Rd 8.75	Las Animas, Bent	003265M	BNSF	1 accident: 2019; motor vehicle struck by train; 2 fatalities	Railroad Approach Gates with flashers, bells; CWT circuitry and railroad signal bungalow
4 th St-W of Elm S	Campo, Baca	003732X	BNSF	1 accident: 2019; truck-trailer hit train; no injuries; no fatalities	Railroad Approach mast-mounted flashers, bells CWT circuitry and railroad signal bungalow (local power nearby)
SH 112	Monte Vista, Rio Grande	062080A	SLC	No FRA accident reports	Upgrade of incandescent lights to LED
Sherman Ave	Monte Vista, Rio Grande	253875J	SLC	No FRA accident reports in last 5 years	Upgrade of incandescent lights to LED; this crossing under authority of SLRG (separate from SLC)
CR R	Campo, Baca	003737G	BNSF	No FRA accident reports in last 5 years	Railroad Approach mast-mounted with flashers, bells; CWT circuitry and railroad signal bungalow Concrete panels in good shape, but subgrade/ties failing; need to restabilize
Hwy 7N	Monte Vista, Rio Grande	862071B	SLC	One accident on file with FRA 2017; no injuries or fatalities	Upgrade of 8" incandescent lights to 12 LED
Hwy 5N	Monte Vista, Rio Grande	862067L	SLC	One accident on file with FRA 2017; 1 person injured	Upgrade of incandescent lights to LED
Hwy 6N	Monte Vista, Rio Grande	862069A	SLC	Tractor trailer continued into crossing 2017; sight lines may be obstructed	Upgrade of incandescent lights to LED



Table 19. Fiscal Year 2022 Section 130 Projects

City/ County	U.S. DOT Number	Railroad	Diagnostic (Date)	Improvements
Rollinsville, Gilpin	253309Y	UPRR	16-Jun-21	Mast Mounted approach flashers with back flashers and bells. County is okay without gates; high winds will likely break gates regularly. County would like HMA-paved approaches for 50'-100'; county will do grading themselves.
Lucerne, Weld	804846X	UPRR	14-Jun-21	Intersection traffic signal at U.S. 85/CR 66 Upgrade existing railroad active warning only if needed for interconnect with new traffic signal
Rollinsville, Gilpin	253311A	UPRR	16-Jun-21	Mast Mounted approach flashers with back flashers and bells. County is okay without gates; high winds will likely break gates regularly. County would like HMA-paved approaches for 50'-100'; county will do grading themselves
Nunn, Weld	804870Y	UPRR	14-Jun-21	Railroad Approach Gates with flashers, bells Additional gates for NB to EB turn lane because single gate will not cover roadway width Install 6" raised curb porkchop island with median cover material (currently painted), to define lane for gate length CWT circuitry and railroad signal bungalow
Pierce, Weld	804874B	UPRR	14-Jun-21	Railroad Approach Gates with flashers, bells; sight light flasher on west side facing SB CWT circuitry and railroad signal bungalow Additional pavement on NB U.S. 85 turn to EB CR 90 for Truck movements to help avoid hitting gate
Ault, Weld	804877W	UPRR	14-Jun-21	Railroad Approach Gates with flashers, bells; Side light flashers on each approach in each direction (total of 4) CWT circuitry and railroad signal bungalow
Windsor/ Timnath, Weld/ Larimer	244866X	GWR	8-Jul-21	Railroad Approach Gates with flashers, bells CWT circuitry and railroad signal bungalow Approx. 48 LF new concrete crossing material
Trinidad, Las Animas	245153G	BNSF	29-Jul-21	Railroad Approach Gates with flashers, bells; CWT circuitry and railroad signal bungalow Rubber joint filler between crossing panels has settled and needs repair



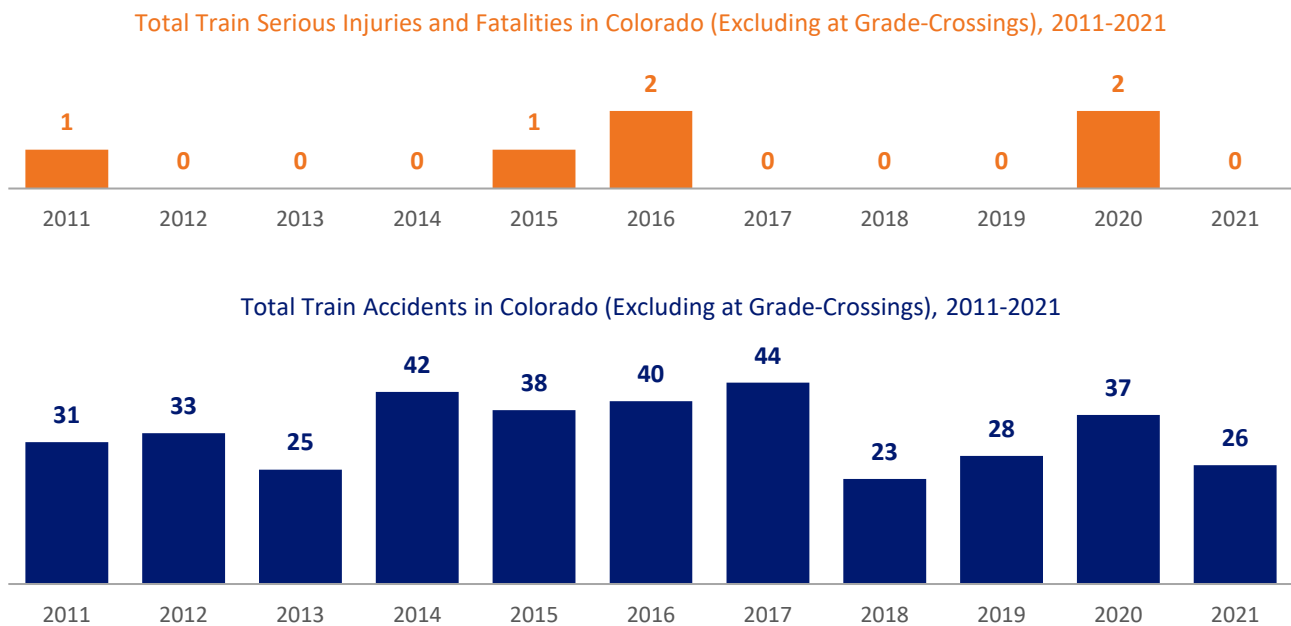
Railroad Safety and Security

Railroads can pose risks to the traveling public, railroad workers, communities, and environment. Train accidents, including derailments, can be potentially serious. Safety accidents involving trains and in rail yards can cause serious injuries or fatalities to workers. Inattentive drivers and trespassers also create risks for railroad operators and can cause serious incidents to occur. Technologies to improve safety, including Positive Train Control (PTC), are increasingly being implemented. Federal, state, local, and private programs and initiatives bring partners and resources together to improve safety and security on Colorado’s rail systems. Colorado will work with freight rail, passenger rail and other stakeholders to evaluate and ensure the adequacy of investments in safety technology such as PTC, wayside detectors, remote sensors and similar measures.

Freight and Passenger Railroad Incidents and Accidents

Train incidents reported to the FRA include collisions, derailments, or other accidents. Between 2017 and 2021, approximately 43 percent of train incidents were due to human factors, while 32 percent were due to track issues. The following graphs and table list total train incidents reported in Colorado. These incidents are primarily located within train yards (64 percent). The majority of train accidents involved a derailment (75 percent).

Figure 17. Total Train Accidents, Serious Injuries, and Fatalities in Colorado (excluding at-grade crossings), 2011 to 2021



Source: Federal Railroad Administration Office of Safety Analysis, Ten Year Accident / Incident Overview Report



Table 20. Cause, Location, and Type of Train Accidents Not at Grade Crossings in Colorado, 2011 to 2021

Accident Cause, Type, or Location	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Cause—Track	13	10	13	16	10	11	11	8	10	13	8	123
Cause—Equipment	1	8	1	7	10	0	5	4	2	3	3	44
Cause—Miscellaneous	1	5	3	4	4	5	8	2	4	6	3	45
Cause—Human Factor	16	10	8	15	14	23	20	9	12	15	12	154
Cause—Signals/Comm	0	0	0	0	0	1	0	0	0	0	0	1
Type—Collision	3	2	1	0	2	2	2	0	1	4	1	18
Type—Derailment	25	27	20	37	32	32	33	18	20	29	18	291
Type—Other	3	4	4	5	4	6	9	5	7	4	7	58
Location—Main Line	8	14	10	16	10	6	14	7	8	12	8	113
Location—Yard Track	16	14	12	22	24	29	24	13	17	22	14	207
Location—Industry Track	4	3	3	3	3	5	3	2	3	2	4	35
Location—Siding	3	2	0	1	1	0	3	1	0	1	0	12
Total Accidents Not at Grade Crossings	31	33	25	42	38	40	44	23	28	37	26	367

Source: Federal Railroad Administration Office of Safety Analysis, Ten Year Accident / Incident Overview Report

Freight Rail Transportation of Hazardous Materials

Rail transport of products such as crude oil, chemicals, waste, and other goods is generally safer than moving these hazardous materials by truck. Hazardous materials are transported in specifically designed and regulated tanker cars. Colorado freight rail operators must comply with Federal regulations within the FAST Act and rules developed by PHMSA.

Federal legislation requires that older and less safe tank cars be phased out and replaced. These deadlines to remove older tank cars from service came after several derailments involving Bakken crude, including derailments in Quebec and North Dakota in 2013. Specifically, the FAST Act mandates a revised phase-out schedule for all DOT-111 tank cars used to transport unrefined petroleum products (e.g., petroleum crude oil), ethanol, and other flammable liquids. As of 2018, DOT-111 cars without a protective steel layer known as a jacket can no longer carry crude oil. By 2029, flammable liquids can be carried in only DOT-117 railcars, which have thicker shells and insulating material.

FRA also developed safety emergency orders in 2014 related to Bakken crude, a subset of all crude by rail. The rule requires each railroad operating more than 1 million gallons, or 35 tank cars, in a state to provide notification regarding the expected movement of such trains. In Colorado, a joint agency authority is responsible for receiving and tracking information about crude shipments. These joint agencies are the Colorado Department of Public Safety and the Colorado Department of Public Health and Environment. These agencies have developed



procedures for emergency preparedness for various types of explosives or volatile liquids, such as chlorine, which have also been the subject of similar rail safety concerns in the past.

Rail shipments of hazardous materials, including petroleum products such as natural gas, are among the top commodities moved into and out of Colorado. With increased development in formerly industrial areas, some Denver neighborhoods have rail lines, residential development, and commercial properties all located in close proximity. Most hazmat loads are flammable liquids, including crude oil, ethanol, and oil- and gas-related liquids, that present risk when traveling on rail lines in densely populated areas. The City and County of Denver monitors movements of flammable liquids, crude oil, and related liquids and ethanol. In 2021, just four percent of all rail cars moved hazardous materials through the city.

The following table reports FRA data on hazardous material incidents in Colorado over the past decade. Colorado has not experienced serious derailments or accidents involving the release of hazardous materials. When accidents do occur, they can pose significant threats to communities and environmentally sensitive areas. Most incidents involving damaged or derailed cars have occurred in rail yards and terminals. Private railroads are investing to upgrade equipment to meet modern safety standards and implement safety protocols.

Table 21. Incidents Involving Hazardous Materials in Colorado, 2011 to 2021

Incident	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Hazmat Cars Damaged or Derailed	11	4	4	10	5	4	17	6	1	9	0	71
Cars Releasing Hazmat	0	0	0	1	0	0	0	0	0	1	0	2

Source: Federal Railroad Administration Office of Safety Analysis, Ten Year Accident / Incident Overview

Rail Transportation Security

The scale and location of Colorado’s rail network presents security challenges. Rail lines pass through dense urban areas with high-risk population centers, environmentally sensitive areas, recreational lands and trails, and open rural areas. The U.S. Department of Homeland Security is the primary Federal agency responsible for security of national transportation systems. The Colorado Department of Public Safety and the Division of Emergency Management also play critical roles within the state. Private railroads also invest in public safety and security measures, including identifying critical infrastructure assets and developing protection strategies.

Security concerns include direct threats to infrastructure and assets from natural disasters or harmful acts. Rail tunnels and bridges and key interchanges and/or intermodal terminals and rail yards are vulnerable. Examining the resiliency and redundancy of the rail network is important to ensure that connections to national transportation networks remain open. Network redundancy and protection is particularly important to providing rail access to Colorado’s secure military installations through the Department of Defense Strategic Rail Corridor Network (STRACNET).

Trespassers on rail property also present security concerns for railroad operators and present danger of injury or death to trespassers. Trespassing incidents range from intentional theft or destruction of railroad property or equipment to unintentional trespass into railroad right-of-way from recreational users, including people hunting, fishing, cycling, or hiking on public lands adjacent to rail lines.

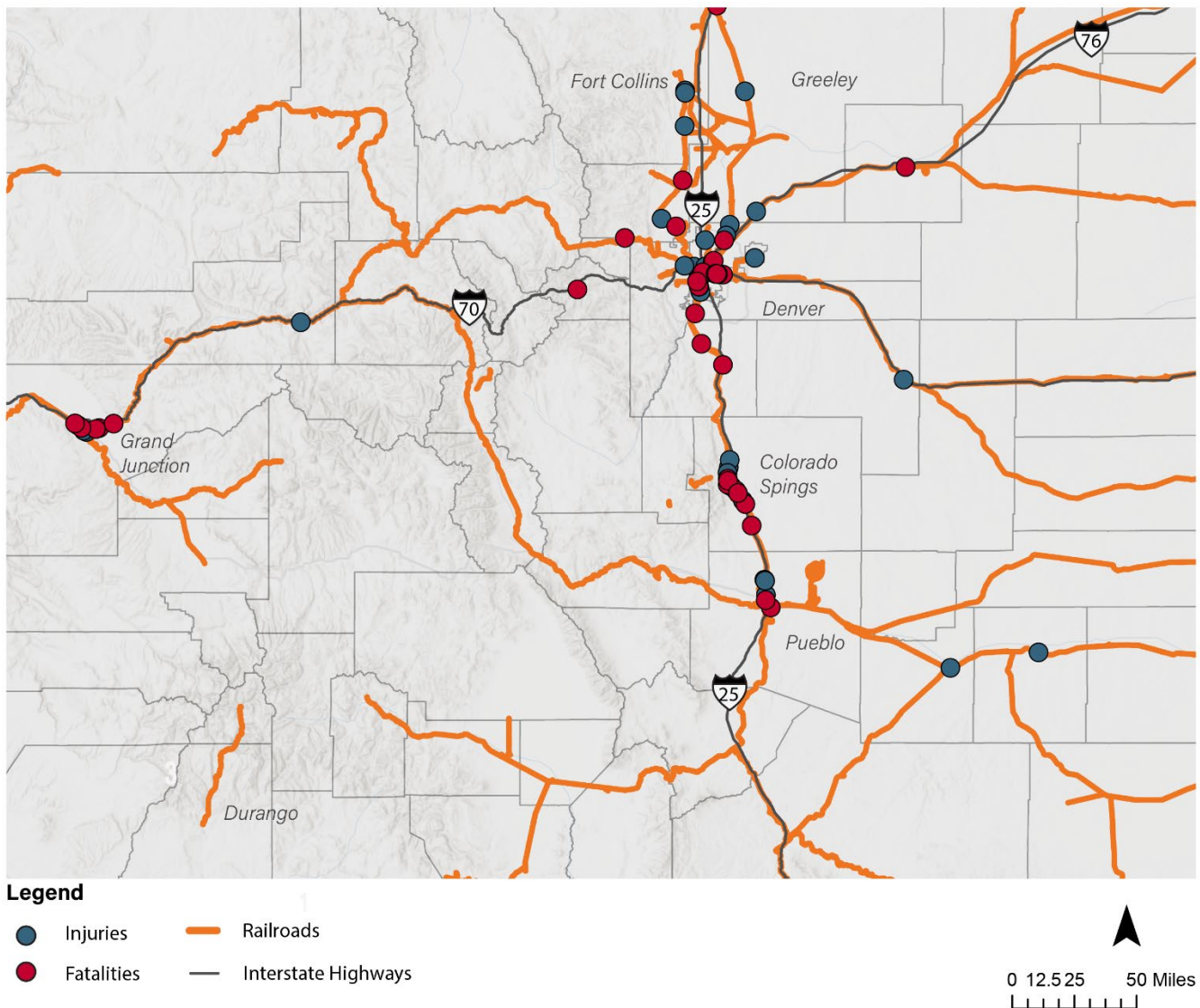


Trespass Incidents in Colorado

According to the FRA, trespassing along railroad right-of-way is the leading cause of rail-related deaths in the United States. Nationally, more than 500 trespass fatalities and about as many injuries occur each year. In Colorado between 2017 and 2021, there were 86 fatalities or injuries due to trespass incidents, excluding incidents that occurred at railway-highway crossings. This is an average of 17 each year. Most injuries or fatalities occur in Denver and El Paso Counties, followed by Adams and Mesa Counties.

Freight and passenger rail lines most frequently associated with trespass incidents are those running through populated and developed urban areas. Trespass incidents also occur in rural areas include locations where rail lines cross popular state or Federal public lands and are used to access fishing, hunting, or recreational areas. The following map identifies the location of trespass incidents and incidents resulting in fatalities across the state between 2017 and 2021.

Figure 18. Map of Railroad Trespass Incidents and Fatalities in Colorado, 2017 to 2021





FRA and railroads provide information, media, public information campaign materials, and support national and state programs to prevent trespass incidents. Operation Lifesaver, Inc. (OLI), a non-profit organization, provides public education programs in all 50 states to prevent collisions, injuries, and fatalities on and around railroad tracks and at railroad-highway grade crossings. Colorado's OLI program offers free safety presentations to any group or organization, maintains partnerships with state and local officials and railroads, and coordinates with the media on strategic outreach efforts.

The cities of Fort Collins and Longmont, as well as other local governments, have passed, or are considering, local ordinances that would allow local law enforcement officers to ticket trespassers for crossing railroad tracks outside marked crossings or entering railroad property without permission. Private railroads also conduct active enforcement and issue citations in areas where trespassing is common. For example, BNSF estimates that 100 people per day walk along a section of track and railroad tunnel under Foothills Parkway at 47th Street in Boulder to access multiuse trails. Under Colorado statute, railroads are responsible for constructing and maintaining fencing along rights-of-ways, including fencing to restrict the movement of livestock across tracks.

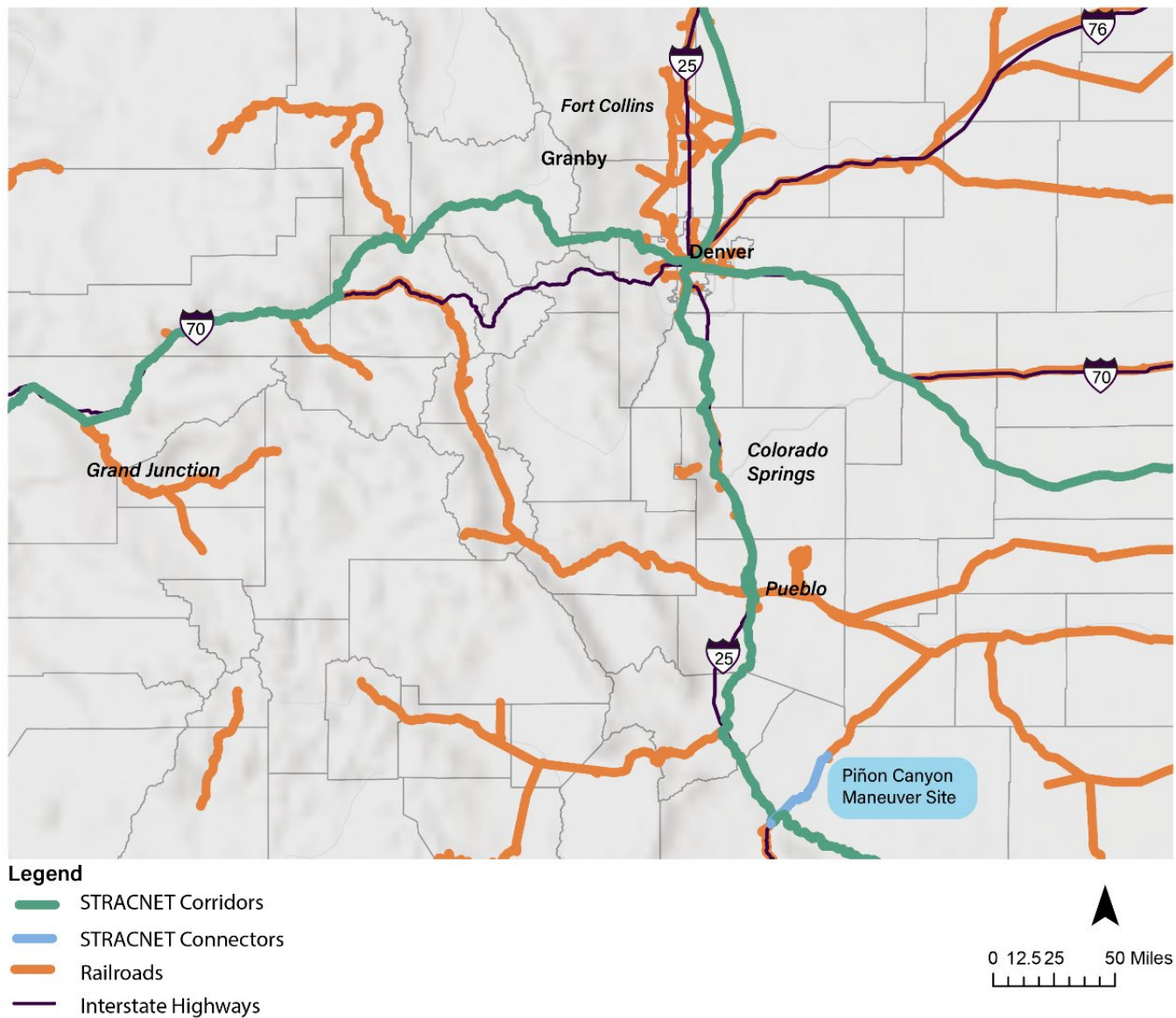
Strategic Rail Corridor Network

The U.S. Department of Defense Railroads for National Defense Program oversees the Nation's STRACNET. This program ensures that national rail and highway infrastructure can support national public emergencies. Across the United States, STRACNET consists of 38,800 miles of rail lines critical to national defense that service over 193 military installations.

The Railroads for National Defense Program ensures the readiness capability of the national railroad network to support defense deployment and peacetime needs. The program works to integrate defense rail needs into public and private sector rail system planning. In Colorado, STRACNET includes 1,080 miles of track, focused on BNSF's and UP's primary north-south and east-west rail routes. Network connector lines provide service to Department of Defense facilities, including the Piñon Canyon Maneuver Site. The following map shows Colorado's STRACNET network.



Figure 19. Map of Colorado Department of Defense STRACNET Rail Network, 2022



Passenger Rail Safety

Ensuring the safety and security of rail passengers is the responsibility of rail providers and is a priority for Amtrak, RTD, scenic and historical rail operators, and private freight railroads. RTD monitors each incident and has taken steps to increase safety at crossings and in areas with significant pedestrian street traffic. RTD also secures the light and commuter rail network by using full-time transit police officers, safety technicians, and safety technologies. Amtrak implements a range of security measures to improve passenger rail safety and security including uniformed security teams, checked baggage screening, and identification checks.

The FTA’s State Safety Oversight (SSO) Program oversees passenger and worker safety for rail transit systems not regulated by the FRA. In the Moving Ahead for Progress in the 21st Century Act (MAP-21), Congress directed FTA to establish a comprehensive public transportation safety program, one element of which is the SSO Program.



The FTA published a final rule, effective April 15, 2016, that significantly strengthened the States' oversight of the safety of their Rail Transit Agencies (RTAs).

In Colorado, the PUC is the designated SSO Agency and the RTD is the state's only RTA. RTD works with the PUC to develop and implement the SSO Program in Colorado. In its Annual Submittal to the FTA in March 2022, the PUC found that RTD was substantially in compliance with the policies and procedures required under its Public Transportation Agency Safety Plan.

Technology innovations show significant promise for improving the safety of rail transportation. The most immediate safety innovation opportunity is a set of technologies collectively known as Positive Train Control (PTC). In 2008, the U.S. Congress passed the Rail Safety Improvement Act mandating all Class I and passenger railroads, as well as some short line railroads, develop and implement PTC systems. PTC involves specific software to link specially equipped locomotives, wayside signals, and base station communication devices. Together, these technologies have the potential to prevent collisions between trains, mitigate excessive speeds, prevent movements of trains onto restricted sections of track, and control passage of trains through improperly configured switches. PTC is designed to be "interoperable" across passenger, commuter, and freight trains to facilitate communication and operate across all railroad systems. In October 2015, Congress moved the implementation deadline to the end of 2018 with extensions available until December 31, 2020, on a case by-case basis.

The Transportation Technology Center (TTC), located northeast of Pueblo, Colorado, provides a key function related to rail security. TTC is a 52-square-mile facility owned by FRA, with land leased from the State of Colorado. On October 25, 2022, the management of research, testing, and training at TTC was transitioned from the former contractor, Transportation Technology Center, Inc. (TTCI) to ENSCO, Inc. The new contract expanded research, testing, and training at the facility to include all modes of surface transportation such as pipelines, trucking and heavy vehicles, bus and transit vehicles, and non-traditional and emerging transportation technologies (NETT) as well as HazMat, emergency response, and cyber security training. TTC is home to the Security and Emergency Response Training Center, Colorado's state training center for domestic preparedness and emergency response training. The Department of Homeland Security and other Federal, state, and local agencies use this training facility. There are 48 miles of railroad track available for testing locomotives, rail cars, and track and bridge components. A PTC test bed is currently in operation at TTC to support the industry in developing, implementing, and maintaining safety technologies. The PTC test site provides a controlled environment for functional, safety, and interoperability testing, as well as performance evaluation and development for current and future PTC systems.

Not all of Colorado's Class I and short line railroads and passenger rail providers were required to implement PTC on all lines. RTD operates PTC on the University of Colorado A Line and on the B Line under a waiver from the FRA. RTD was first in the Nation to integrate the technology in the actual construction of a rail system. PTC is standard on new FasTracks commuter rail systems. PTC installation was required on portions of both BNSF's and UP's main lines through Colorado. UP estimates they invested about \$2.9 billion to complete deployment of PTC across its national network; BNSF estimated they invested about \$2.0 billion for its network. U.S. DOT provided grants and loans totaling about \$3.4 billion for PTC system implementation. Railroads made quarterly and annual PTC progress reports to the FRA. UP, BNSF, Amtrak, and RTD each requested extensions to their implementation deadlines, and full implementation of PTC was completed by the end of 2020.

The following table reports PTC implementation progress as of 2020 for railroads operating in Colorado. Except for RTD, which operates only in Colorado, status reports for BNSF, UP, and Amtrak reflect national implementation efforts as compared to the Federal Railroad Administration required goal for each railroad. Not



all rail lines in Colorado are fully equipped with PTC. This Rail Plan identifies additional corridors for implementation.

Table 22. Progress on Positive Train Control Implementation Plans by Colorado Railroad Operators, 2020

Positive Train Control (PTC) Components	BNSF Railway	Union Pacific Railroad	Amtrak	Regional Transportation District
PTC Equipped Locomotives	FRA goal: 5,000 Completed: 5,000	FRA goal: 5,115 Completed: 5,115	FRA goal: 469 Completed: 542	FRA goal: 66 Completed: 66
Track Segments Completed	FRA goal: 89 Completed: 89	FRA goal: 186 Completed: 186	FRA goal: 11 Completed: 11	FRA goal: 4 Completed: 4
Personnel Trained	FRA goal: 21,877 Completed: 21,877	FRA goal: 26,610 Completed: 26,610	FRA goal: 2,050 Completed: 9,593	FRA goal: 250 Completed: 250
PTC System Certification (PTC Safety Plan Status)	Approved	Conditionally Approved	Approved	Conditionally Approved
Route Miles in PTC Operation	FRA Goal: 11,590.0 Completed: 11,590.0	FRA Goal: 17,067.3 Completed: 17,067.3	FRA Goal: 898.2 Completed: 898.2	FRA Goal: 50 Completed: 50
Relationships that have Achieved Interoperability	FRA Goal: 22 Completed: 22	FRA Goal: 25 Completed: 25	FRA Goal: 15 Completed: 15	N/A (0 of 0)
Radio Towers Installed	FRA Goal: 6,392 Completed: 6,392	FRA Goal: 9,326 Completed: 9,326	FRA Goal: 143 Completed: 143	FRA Goal: 71 Completed: 71
Radio Spectrum Available	Acquired and Available for Use	Acquired and Available for Use	Acquired and Available for Use	Acquired and Authorized for Use
Date of Full Implementation	12/1/2020	6/30/2020	12/29/2020	12/29/2020

Source: Federal Railroad Administration, PTC Implementation Status by Railroad. Federal Railroad Administration, PTC Annual and Quarterly Reports and Railroads’ PTC Dockets.

Note: Amtrak has exceeded required benchmarks. Not all rail lines in Colorado are fully equipped with PTC.

2.1.7 Economic and Environmental Benefits of Rail Transportation

Colorado’s economy moves by rail. Critical regional industries such as agriculture, energy, mining, and manufacturing depend on rail to ship products and receive goods. Passenger rail service, including Amtrak, RTD, and Colorado’s scenic and historic railroads, provides significant direct economic benefits in communities with stations. Rail also provides significant environmental benefits compared to moving people by automobiles and products by truck. Improving and expanding rail in Colorado can offset investment and maintenance needs of the



highway system, reduce congestion, improve safety, and benefit local economies. This section highlights key aspects of the economic and environmental benefits of freight and passenger rail service.

Rail and the Economy

Railroads are economic drivers in rural communities and major metro areas and attract visitors and businesses from around the country. Freight and passenger rail provide significant direct economic benefits to Colorado. In 2019, freight rail in Colorado moved more than 143 million tons with a revenue value of more than \$10.4 billion.

Railroads directly employ thousands of Coloradans, invest hundreds of millions of dollars in state projects, and contribute wage earnings, state and local taxes, and visitor spending to communities. These direct impacts add up and are multiplied through indirect spending and investment. For example, the AAR estimates that for each worker employed by freight railroads, nine other jobs are supported in the economy.

Freight Rail Economic Benefits

Private railroads make significant investments in Colorado, including direct jobs, benefits, in-state spending, and capital investments. This includes direct in-state spending and capital investments that benefit Colorado workers and companies.

According to data from the American Association of Railroads, freight railroads directly employ more than 2,259 Coloradans in various occupations. Combined payroll for UP and BNSF totaled \$278 million in 2019. These earnings support Colorado workers and families and have induced spending impacts throughout the economy. In 2021, UP invested \$54.7 million in Colorado. Employment at freight railroads has remained relatively steady over the past decade, despite recent reductions in the Colorado workforce by Class I railroads and Amtrak. In 2019, there were also more than 8,400 retired railroad workers in Colorado drawing more than \$223 million in benefits into the state.

Intercity and Commuter Rail Economic Benefits

Amtrak service links Colorado communities within the state and throughout the country and provides travel options for visitors from around the world. In 2021, Amtrak directly employed 5,861 Coloradans. Total wages earned by Amtrak employees living in Colorado was more than \$5.74 million. Tourism is a critical driver for many smaller communities with train stations. Amtrak's Southwest Chief service is particularly important to the economies of Lamar, La Junta, and Trinidad. In 2019 (pre-pandemic), almost 15,000 passengers boarded or alighted at these three stations. A 2014 study by Colorado State University-Pueblo, *The Economic Impact of Amtrak's Southwest Chief Rail Service on the Colorado Economy*, found that visitors generated an additional \$2.9 million in economic activity, supported 30 indirect jobs, and contributed an additional \$175,000 in state and local tax revenue to the region surrounding existing rail stations in southeast Colorado. Amtrak Southwest Chief service benefits southeastern Colorado communities and presents opportunities to diversify the regional economy through tourism. Estimates of the benefits of expanded Southwest Chief service and a new station in Pueblo suggest that these improvements could generate \$3.4 million annually in economic impact to the Pueblo area.

Construction of Colorado's commuter and light rail systems has provided direct infusions of investment and wages into the Colorado economy. The operator of RTD's commuter rail lines anticipates an average workforce of 230 over the next 20 years. The ongoing economic benefits of RTD's FasTracks initiative are significant and include direct spending on short-term construction activity and longer-term private capital investment in transit-oriented development (TOD) and economic development opportunities. RTD estimates that the combined economic



impact of the redevelopment of Denver Union Station is \$2.3 billion, including private investment in the surrounding 20 acres of downtown Denver. Across RTD's entire system, every \$1 invested in transit infrastructure provides a \$4 return over 20 years.

Scenic and Historic Railroad Economic Benefits

Colorado's seven scenic and historic railroads provide critical links to Colorado's railroading past and attract hundreds of thousands of visitors a year to surrounding communities. About 1 million passengers a year ride one of Colorado's seven scenic railroads. Spending from out-of-state tourists and in-state visitors can generate significant economic impact in local sales and lodging tax revenues and boost induced visitor spending and indirect employment in the towns and counties surrounding these historic assets.

According to a study of the C&TSRR, rail operations support 147 direct jobs and result in a total annual economic impact of \$14.8 million in the surrounding five-county region of Colorado and New Mexico. If the per passenger economic impact of the C&TSRR is expanded to all scenic railroad operations in Colorado, the combined economic impact could be as much as 4,000 indirect jobs and over \$421.5 million. This high-level estimate likely understates the economic impact of scenic operations with significant ridership in tourist destinations such as the Broadmoor Pikes Peak Cog Railway, Durango & Silverton Narrow Gauge Railroad, and Georgetown Loop Railroad.

Rail and the Environment

In Colorado, rail carries 8 percent of all freight tonnage moved by air, truck, or train, according to data from FHWA Freight Analysis Framework (FAF). Commuter and light rail carry less than 1 percent of commuters in the Denver metro area, according to data from the 2022 American Community Survey. That statistic is for all commuters on all streets and highways over 24 hours. In the most congested corridors and job centers, the story is different. The Downtown Denver Partnership survey of commuters estimates that 43.3 percent of commuters travel to downtown by transit. The percentage of commuters using rail is likely higher in urban areas within the greater Denver region that are either congested or that provide live-work options with ready access to transit hubs. While the proportion of total products, as measured by tonnage, and total passengers carried by rail is less than highway or private vehicles, rail carries a significant volume and plays a critical role in Colorado's multimodal transportation system.

In 2020, commuter rail ridership totaled 5 million passengers and in 2019, freight rail moved 143.28 million tons of goods in the state. Without rail, these millions of passengers and products would likely travel on Colorado's already congested roadways instead. Users of Colorado's highway and roadway network benefit whenever freight or passengers are transported over the state's rail network.

Rail transportation takes pressure and traffic off Colorado's constrained highway network and provides environmental benefits through increased fuel efficiency, lower air pollutants and emissions, and more sustainable land use and development patterns. Freight and passenger rail are energy efficient modes of transport and travel that provide environmental benefits compared to passenger vehicles, commercial trucks, or air travel. On average, a BNSF or a UP train can carry the load of 280 or more trucks and move a ton of freight nearly 500 miles on a gallon of fuel, helping to reduce highway congestion and to ease vehicle emissions. A fully loaded 4-car light rail train carries the equivalent number of commuters as 360 vehicles.



Freight Rail Efficiency

The FRA estimates that freight trains are four times more fuel efficient than trucks. Freight rail locomotives are more fuel-efficient and produce lower emissions than in the past. Rail provides consistent, reliable, and sustainable goods movement across the United States and throughout Colorado.

Freight rail improves fuel efficiency and provides greater fuel efficiency compared to trucks. Freight railroads continue to develop new technologies, moving more freight with significantly less fuel. In 2019, fuel consumption was 656 million gallons lower and CO2 emissions were 7.3 million tons less than in 2000. The AAR estimates that freight railroads on average move a ton of freight 476 miles on one gallon of fuel. In Colorado, average freight rail efficiency may be less than the national average of 476 miles due to the energy required in mountainous terrain and the slower speeds of main line track in some areas of the state. When compared to moving goods by truck, even with a lower average fuel efficiency, rail is more efficient. Nationally, an average high-capacity diesel truck and tractor-trailer can move a ton of freight 134 miles on one gallon of fuel under ideal traffic conditions. Truck fuel efficiency in Colorado may also be lower than national averages due to terrain and congestion.

Freight rail produces lower emissions. Air pollutants and greenhouse gas emissions are directly related to fuel consumption. Due to average fuel efficiency, moving freight by rail can lower greenhouse gas emissions by 75 percent compared to trucking. Railroads account for around 40 percent of freight volume but 2.1 percent of transportation emissions.

Freight rail is safer transport mode relative to commercial vehicles. FRA data show that nationally the past decades have been the safest on record for freight railroads with a 28 percent decline in train accident rates since 2000. However, when train derailments, hazardous materials incidents, or highway-railroad crossing crashes occur they do tend to be more significant and at a larger scale when compared to more frequent but smaller scale commercial motor vehicle incidents. In a 2007 study the Texas Transportation Institute analyzed relative safety impacts across modes and produced estimates of crash and incidents rates per ton mile carried by different freight modes. Highway trucking fatality rates were estimated to be 4.3 per billion ton miles carried compared to rail freight rates of 0.6 per billion ton miles. For large hazardous material spills, the number of incidents per ton mile for railroads is estimated to be 386 per billion ton miles compared to 1,442,942 per billion ton miles for highway freight. The total gallons, or scale of impact for hazardous materials, for highway freight is more than twice that of railroads. In 2023, the Government Accountability Office (GAO) began assessing the impacts of an increase in the length of trains and a decrease in railroad employees over the past decade. The GAO notes that FRA and freight railroads share responsibility for ensuring rail safety. FRA issues and enforces regulations and conducts inspections; while freight railroads are responsible for complying with federal rail safety statutes and regulations. FRA recently completed system-wide safety audits of several of the largest freight railroads and plans to complete audits of the rest moving forward. FRA is also taking other actions. These include auditing engineer and conductor training programs, conducting a study of longer trains and their operating characteristics, and issuing safety advisories about longer trains.

Passenger Rail Efficiency

Passenger rail in Colorado, including Amtrak and RTD's light and commuter rail services, provides a direct alternative to travel by passenger vehicle. According to the U.S. Department of Energy, intercity passenger trains move 55 passenger miles per the equivalent of a gallon of gas, compared to 38 passenger miles for personal vehicles. Passenger rail provides safe, reliable, efficient, and sustainable travel options for workers, visitors, and business travelers in Colorado.



Passenger rail provides sustainable alternative travel options. With a growing population and economy, congestion across Colorado, particularly in the Front Range region, is expected to worsen. According to DRCOG reports, the percentage of travel time spent in congestion (delayed conditions) for Denver area travelers is estimated to grow to 23 percent by 2050. Over that time, rail boardings are also expected to more than triple from current levels as more commuters and travelers use rail to get around. A 2015 study from the University of California Berkeley found Caltrain (a commuter rail service in the Bay Area of California, averaging 155 passengers per train) produces less than half as many greenhouse gas emissions and particulate matter pollutants per passenger mile compared with driving a passenger vehicle. Increasing passenger rail options and ridership can help reduce greenhouse gas emissions and reduce ozone precursor emissions from passenger vehicles particularly in the Denver metro/north Front Range region.

Passenger rail offsets highway needs. Moving people by rail is less land intensive than our road system. Each new line of rail track provides more passenger capacity and uses less land area, now and in the future, than the addition of a highway lane. As with connected and autonomous vehicles, new technology and train control systems enable passenger rail service to be more frequent, faster, and fuel-efficient. Passenger rail that requires extensive new construction in greenfield or previously undeveloped areas, including some alignments considered for Front Range passenger rail service, is associated with negative environmental impacts. The net environmental and societal impacts are considered positive because rail service reduces the impacts of travel by single occupant vehicles, including delay, emissions, safety, and maintenance impacts.

Passenger rail benefits communities and local economies. Rail offers workers an alternative to driving and can reduce the costs of commuting. The Texas A&M Transportation Institute produces estimates of the cost of congestion around the country. Denver area drivers spend 49 hours a year stopped in traffic during peak travel times with an annual combined cost of over \$2 billion. For daily rail commuters and business travelers, those lost hours and direct costs can be transformed into productive time. Transit oriented development around station areas facilitates dense mixed-use, pedestrian-oriented, and more sustainable land use patterns than development served solely by roads. Commercial development and property values increase significantly surrounding new rail stations. The revitalization and expansion of Denver's Union Station is estimated to have supported more than \$3.2 billion in combined economic impact, including private real estate investment.

Passenger rail travel is safe and secure. Travelling by passenger train, including intercity and light rail services, is significantly more safe when compared to traveling by personal motor vehicle. The National Safety Council estimates that passenger vehicle death rates per 100 million passengers are over 20 times higher than for buses, 17 times higher than for passenger trains, and 595 times higher than for scheduled airlines. Of all fatalities and serious injuries involving freight and passenger railroads, over 90 percent involve occupants of a motor vehicle at a railroad-highway crossing. Accidents and incidents involving rail passengers are relatively rare.

2.2 Future Trends and Conditions

Colorado's population is growing, resident demographics are shifting, and the state's economy is diversifying. The rate of population growth is expected to slow in the future, but Colorado is still predicted to significantly increase in population over the coming decades. Population and economic growth will drive demand for new housing, employment opportunities, and consumer goods. This growth will also add to traffic on already congested roadways and increase demand for alternative goods movement, travel, and commute options. With renewed investment and commitment to expansion, Colorado's freight and passenger rail systems play a critical role in meeting future travel demand.



2.2.1 Demographic and Economic Trends

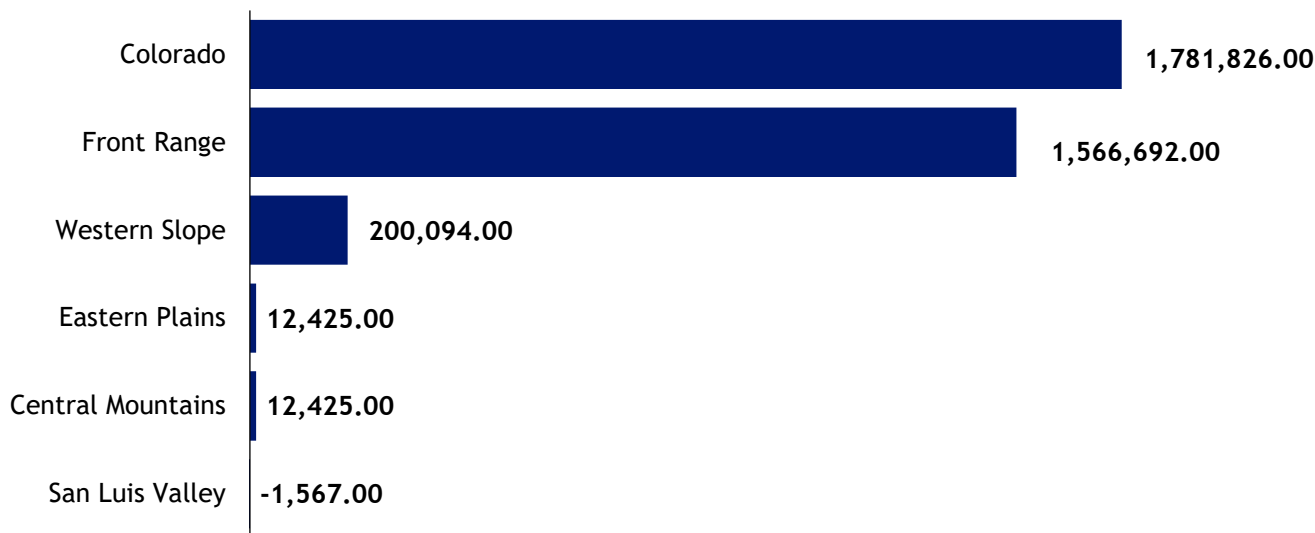
Colorado’s population is projected to grow faster than the national average over the coming decades. With this growth, the number of commuters, travelers, and visitors, as well as the volume of goods transported along the state’s roadways and rail lines, is also anticipated to increase. More people and products moving throughout the state will place new demands on Colorado’s entire transportation system and create opportunities to expand freight and passenger rail as a critical component of the state’s transportation network.

Population Growth

Colorado currently ranks 21st among all states in terms of total population and 6th in terms of population change since 2010. The State Demography Office of the Colorado Department of Local Affairs projects that Colorado will add 717,000 new residents through 2030 and reach a total population of 6.5 million, and 7.56 million by 2045.

Most future population growth is expected to occur in metro areas along the Front Range. Stretching from Pueblo to Fort Collins, over 85 percent of new residents by 2050 will reside in this region. These additional residents will place immense demands on existing road and transit systems and spur development in new areas. Current plans for new master planned residential communities in areas such as Adams, Arapahoe, and Douglas counties include tens of thousands of new homes. Some of these developments are located along freight railroad main lines and will require careful planning to address safety and noise concerns at new railroad-highway crossings. Other areas of the state, particularly economically distressed communities in the San Luis Valley, are expected to experience a decline in population. Expansion of Amtrak’s Southwest Chief service and preservation of existing Class I and short line rail service in this region present economic opportunities for traditional industries like agriculture and continued economic diversification into growth industries like tourism and manufacturing.

Figure 20. Population Change by Region, 2020 to 2050



Source: Colorado State Demography Office, 2022

Colorado’s demographics are shifting as the resident population ages and diversifies. Before 2000, most of Colorado’s population growth was due to natural change in the current resident population. Through 2030, most of the population growth will be fueled from net in-migration from other states and countries. In 2022, most new



Colorado residents came from California, Texas, Florida, Illinois, and New York. After 2030, Colorado’s population growth is expected to slow significantly, but still at a faster pace than the national rate, due to slowing job, birth, labor force, and international immigration rates, in addition to an aging population.

Colorado is consistently among the top states for attracting younger residents. Net migration, particularly among younger generations, is key to the state’s long-term economic competitiveness. The millennial generation is now the largest in the country and is driving growth in jobs, consumer spending, and housing. Many new residents migrating to Colorado come from areas with robust transit systems, intercity commuter rail, and dense urban areas with diverse travel options. To remain competitive, Colorado must also continue to expand travel and transit options, particularly along the Front Range.

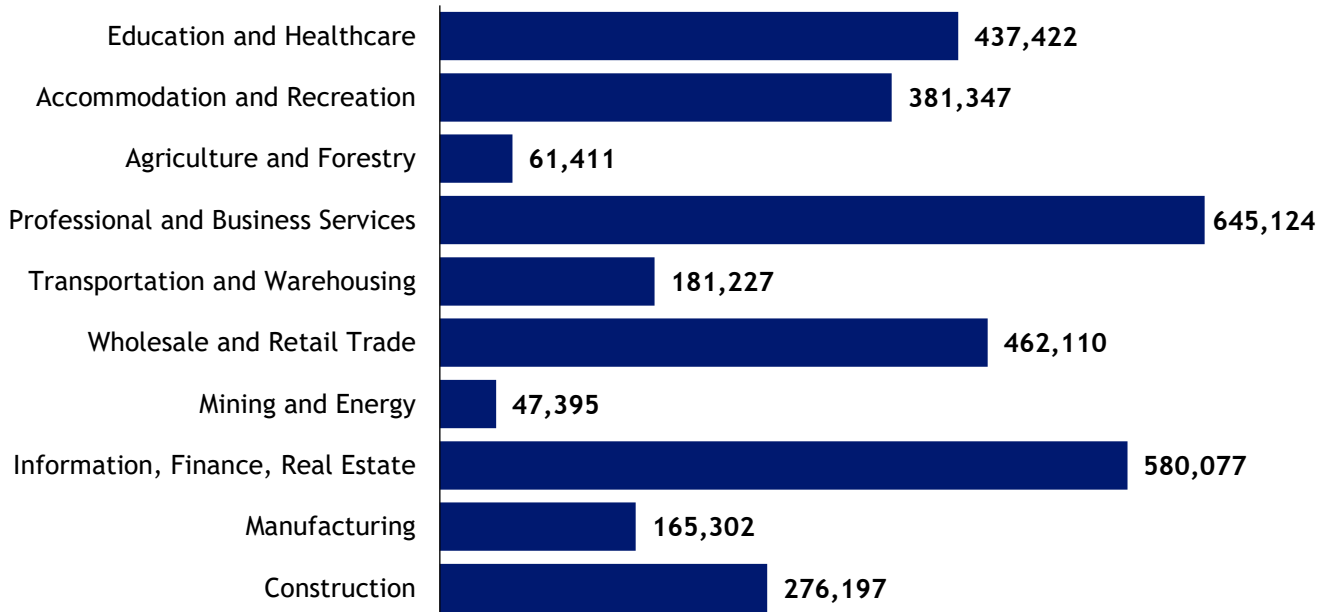
By 2050, nearly one in five Colorado residents will be over the age of 65, a share nearly three times greater than today. The population over age 65 is expected to be the fastest growing age group. These shifts are due to the rapid retirement and aging of the baby boomer generation and the greater size of the millennial generation. These residents will place entirely new demands on Colorado’s industries and transportation system. In the meantime, Baby boomers are anticipated to drive substantial growth in consumer spending on health care and professional services, and transportation needs will include travel options other than personal vehicles. Transit and intercity passenger rail options will be important to meet the future mobility needs of this and future aging generations.

Economic and Industry Growth

Colorado is the economic center and leading state economy in the Mountain West region, with total state gross domestic product (GDP) more than twice as large as Utah, the second most economically productive state in the region. Colorado’s GDP, or total economic activity, reached \$436.4 billion and ranked 16th in the U.S. in 2021. Between 2011 and 2021, the state’s GDP grew by over \$168.8 billion. Economic growth is fueled by Colorado’s traditional industries like agriculture, energy and mining, natural resources, and tourism, as well as emerging industry clusters in advanced manufacturing, clean energy, aerospace, defense, and outdoor recreation. Consumer spending has also driven substantial employment growth in education, health care, finance, real estate, and a range of professional services. The chart below highlights the total employment in key industries in 2021.



Figure 21. Colorado Key Industries, Employment, 2021

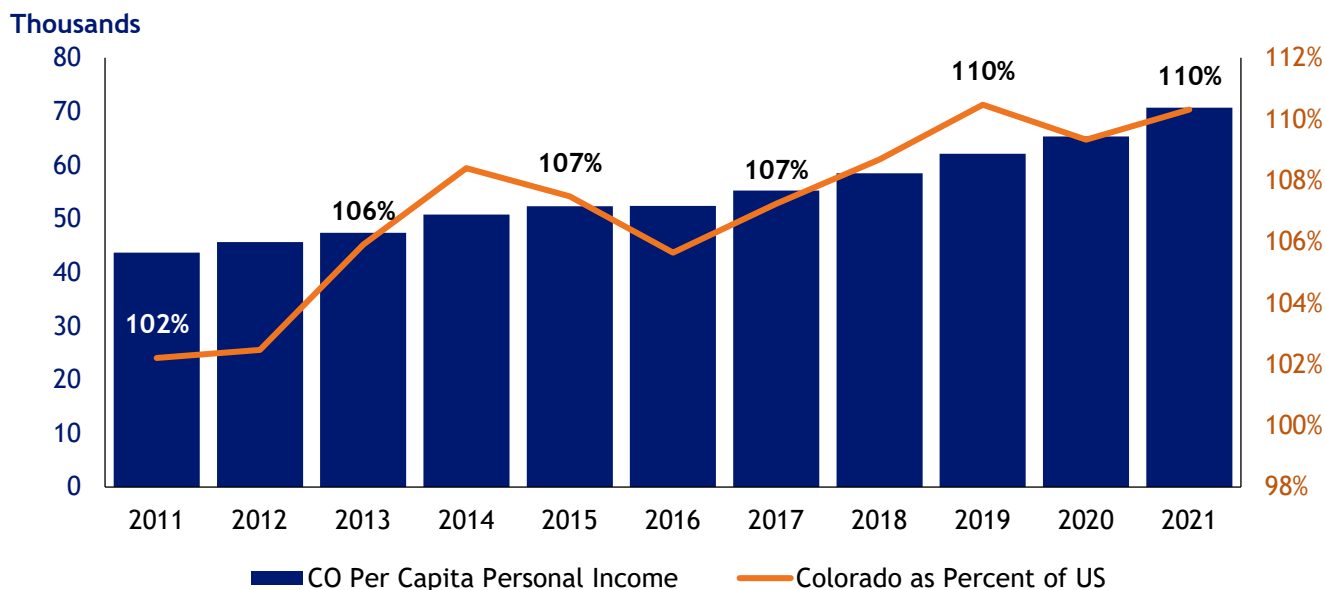


Source: U.S. Bureau of Labor Statistics

Every industry in Colorado relies on freight and passenger rail to an extent. Freight rail moves a large portion of consumer goods like automobiles and manufactured products, as well as the inputs and outputs of agriculture, mining and energy, construction, and trade industries. Rail also provides an important method of transporting equipment for wind energy generation. Rail moves construction equipment, lumber, stone, coal, wheat, corn, potatoes, and hundreds of other products. Workers in service-related industries, including education, health, and professional services, rely on commuter and light rail service in the Denver metro area to get to and from work. As Colorado’s economy continues to expand and as consumer spending power increases, demand for freight and passenger rail will also grow. The following chart shows growth in Colorado’s personal income per capita levels from 2011 to 2021 and relatively high income levels compared to the U.S.



Figure 22. Colorado Personal Income per Capita, 2011-2021



Source: U.S. Bureau of Economic Analysis

2.2.2 Freight Rail Demand

The production and consumption of commodities shipped by rail in Colorado depend on broad macroeconomic conditions. Changes in energy prices can result in significant shifts in demand for crude petroleum, natural gas, and coal. Weather and global food prices can result in large year-to-year changes in Colorado’s agricultural crop and livestock production. National and state economic conditions can directly affect the quantities of consumer goods such as automobiles and household products, as well as construction materials and equipment shipped by rail. Long-term forecasts of freight movements are highly uncertain and available data is based largely on historic trends, rather than on forecasted changes in Colorado’s industry composition or global and state economic conditions.

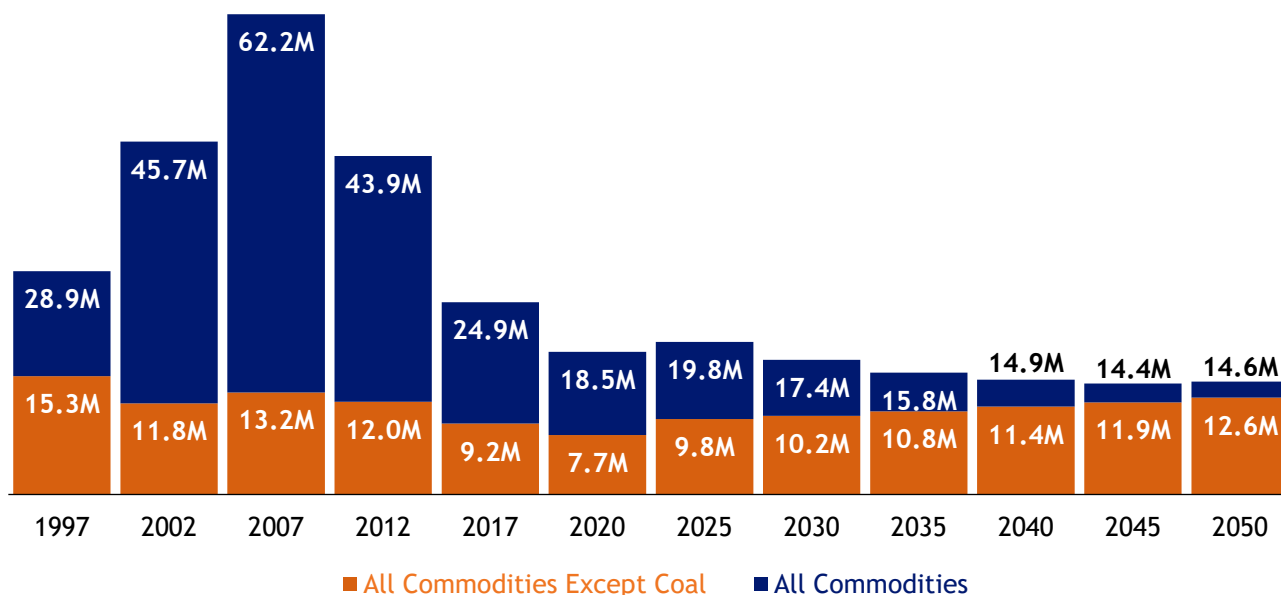
This section summarizes available data on freight forecasts from FHWA’s FAF. Private railroads produce independent estimates of future freight rail demand, which are used when making capital investments and strategic business decisions. Between 2020 and 2050, the percentage of goods carried solely by rail to, from, and within Colorado is expected to decrease from a 7.4 percent share to a 3.1 percent share by tonnage, even as overall freight volumes are expected to increase 66 percent during this period. Much of the decline in freight rail tonnage is attributable to continued declines in coal production from Colorado and the long-term decrease in coal as a fuel for electricity generation.

FAF projects total rail tonnage into and out of Colorado to decline from 18.5 million tons in 2020 to 14.6 million tons in 2050 (-21 percent overall). This reflects the significance of coal traffic in total tonnage carried by freight rail. Excluding coal, however, rail tonnage into and out of Colorado is expected to increase from a baseline of 7.7 million tons in 2020 to 12.6 million tons in 2050 (64 percent overall). Additional growth in non-coal traffic could come from increased use of short line railroads to move key agricultural and natural resource commodities and to facilitate movements to and from new industrial customers to Class I railroads. Intermodal rail traffic, including shipping containers from international ports, accounts for a relatively small proportion of Colorado rail



traffic. With a growing consumer market and millions of new residents by 2050, Class I intermodal service to and from Denver may expand, resulting in additional rail movements not accounted for in current projections. The following chart shows historic freight rail tonnage as estimated by FAF for available years and forecasted flows in future years, with and without coal movements. FAF forecasts do not necessarily account for current regulatory and market trends that are likely to result in further decrease in coal rail shipments in the future.

Figure 23. Trends in Freight Rail Tonnage to and from Colorado, 1997 to 2050

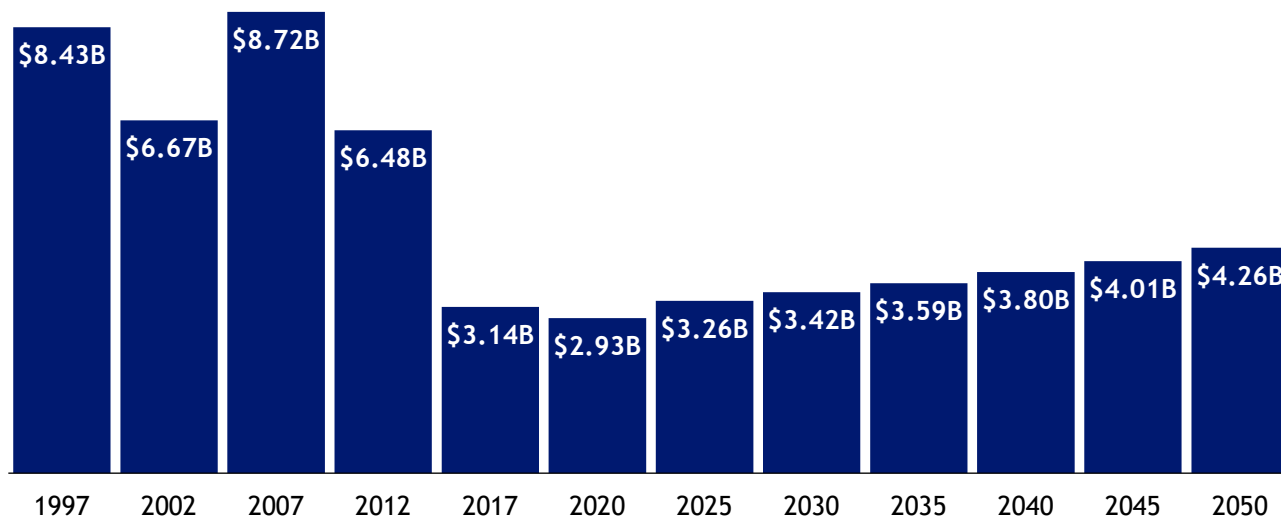


Source: Federal Highway Administration, Freight Analysis Framework, 2022

On a value basis, rail shipments are expected to increase by more than \$1.3 billion between 2020 and 2050, an increase of 45 percent. The rising value of rail shipped goods reflects changes in commodity mixes and higher value consumer goods to meet the demand from Colorado’s growing population. With declines in coal traffic, Colorado’s railroads have the capacity to meet future demand. However, preservation of rail corridors, including lines in northwest Colorado that largely depend on coal and mining customers, will be critical to maintaining freight rail capacity in all regions of the state in the future. The following chart shows historic freight rail value as estimated by FAF for available years and forecasted flow years.



Figure 24. Value of Freight Rail Shipments to and from Colorado, 1997 to 2050



Source: Federal Highway Administration, Freight Analysis Framework, 2022

2.2.3 Passenger Rail Demand

Future demand for passenger rail transportation will be driven by Colorado’s growing population, expanding economy, increasing tourist and business travel, and worsening highway congestion. Current projections indicate that Colorado will experience growth rates above the national average in population, employment, and visitors. Without significant changes from future technology or capacity improvements, the existing highway system cannot accommodate future travel growth. Passenger rail, including intercity and commuter rail service, will enable Colorado to provide travel options to meet future demand.

Before the COVID-19 pandemic, existing Amtrak intercity rail experienced a growth in ridership over the previous decade. Between 2011 and 2019, Amtrak ridership in Colorado grew 31 percent to reach over 270,000 riders across the state’s routes. In 2018, Amtrak boardings and alightings reached their decade-long peak of 279,589 across all stations and long-distance routes (not including seasonal Winter Park Express riders). These trends are expected to continue as demand on Amtrak routes is projected to increase. In 2027, Amtrak is projecting ridership of 426,700 passengers along the entire national California Zephyr route and 348,500 passengers along the national Southwest Chief route, increases of about 33 percent from current ridership. If national growth rates are applied to pre-pandemic Colorado ridership levels, Amtrak ridership in the state could reach roughly 360,000 boardings and alightings by 2027. With the continuation of Amtrak’s Winter Park Express and potential extension of Southwest Chief service to Pueblo, ridership could grow at even greater rates. This assumes that current service levels continue.

In 2020, the Southwest Chief and Front Range Passenger Rail Commission (predecessor to the Front Range Passenger Rail District) and CDOT completed an Alternatives Analysis exploring operating options for a future Front Range Passenger Rail Service, including future service that could go as far north as Cheyenne and south into New Mexico. From that, CDOT and the FRPR District are now completing a Service Development Plan for the same service from Fort Collins to Pueblo. This SDP is targeted for completion by the end of 2024 and will present ridership expectations for a favored alignment for a FRPR service. Concurrently, CDOT is embarking on a separate SDP for a Mountain Rail Service, with a particular focus on a line that goes from Denver, through Winter Park, to



Steamboat Springs, and terminates in Craig. Service last ran along this corridor in 1968. Thus, additional mountain service may be feasible, given such examples as the success of the Winter Park Express and the fact that travel between Denver and Glenwood Springs is the highest performing station pair in the entire Amtrak Long Distance network for pairs that include a small community.

2.2.4 Fuel Cost Trends

Changes in fuel prices often result in changes in driver behavior and the cost competitiveness of shipping products by truck, air, or rail. Fuel prices fluctuate with shifts in the global economy and changes in supply and demand in Colorado. Historically, gasoline prices, on average, are lower in Colorado than the rest of the United States. Should gasoline prices increase dramatically in the near future, commuters and travelers may shift some trips from personal vehicle to transit options, including commuter and light rail. Similarly, increases in diesel prices used by commercial motor vehicles may make it more economical to ship goods to and from Colorado by rail, rather than by truck. The price of diesel used by railroad locomotives has fluctuated over the past five years which impacts the final cost of shipping and receiving goods and products by rail. Colorado is also an energy producing state, ranking seventh in total energy production, and rising prices for crude oil, coal, natural gas as well as wind and solar energy products can be expected to increase production within the state and increase demand for rail service to transport energy products. The following table displays trends in key energy commodities, other than coal, used as inputs into rail and highway transportation by travelers, businesses, and transportation providers.

Table 23. Average Fuel and Energy Prices in Colorado, 2016 to 2021

Primary Fuel	2016	2017	2018	2019	2020	2021
Automotive Gasoline—Regular Grade (dollars per gallon)	\$2.04	\$2.32	\$2.64	\$2.55	\$2.21	\$3.10
Electricity for Transportation Use (cents per kilowatt hour)	\$9.80	\$9.77	\$9.00	\$8.70	\$8.64	\$9.44
Electricity for Industrial Use (cents per kilowatt hour)	\$7.35	\$7.50	\$7.47	\$7.40	\$7.48	\$8.01
No 2 Distillate/Diesel Fuel (dollars per gallon)	\$3.06	\$3.09	\$3.02	\$1.78	\$1.10	\$1.68

Source: U.S. Energy Information Administration, *State Energy Profiles*

2.2.5 Rail Congestion Trends

Colorado’s two Class I railroads move the majority of goods in, out, through, and within the state along primary freight rail routes. Freight rail traffic terminating in the state has generally remained stable in recent years while traffic moving from and through Colorado to other destinations has declined. Declining traffic volumes are primarily related to structural changes in the coal industry and a significant decline in coal rail traffic originating in Wyoming. As a result, freight rail operators in Colorado are not experiencing the levels of rail traffic congestion reported in other major rail hubs around the country. Rail lines and facilities generally have sufficient capacity to handle anticipated rail traffic. BNSF and UP have made recent major investments in auto handling intermodal yards in Colorado in recent years, but no other major rail capacity investments have occurred or are planned.



2.2.6 Highway and Airport Congestion Trends

Highway Congestion

Population forecasts suggest that travel demand on Colorado’s highways will continue to rise. Vehicle miles traveled (VMT) are an indicator of the total number of vehicles traveling Colorado’s public roads and highways. Between 2019 and 2050, Denver VMT on a weekday is estimated to increase by 41 percent, from 66.2 billion to 93 billion. Colorado has limited dollars to invest in new highway capacity and the benefits of new technology such as connected and autonomous vehicles remain uncertain. As a result, VMT increases are likely to result in worsening congestion around the state and particularly along the Front Range.

With most of Colorado’s growing population projected to reside along the Front Range, congestion in metropolitan areas will worsen significantly. Estimates from DRCOG’s Annual Congestion Report illustrate these impacts. The following chart highlights changes in key travel indicators between 2019 and 2050 for highways and arterials within the Denver metro area. Travel speeds and reliability are expected to decline, while travel time and time spent in delayed conditions are anticipated to increase. By 2050, 37 percent of regional freeways and arterials (total lane-miles) in the Denver metro area could be considered congested for three or more hours. Growing congestion and declines in the reliability of highway commutes could increase the demand for transit options, including passenger rail along the entire Front Range region.

The Colorado Transportation Commission has approved a new standard to reduce greenhouse gas emissions from the transportation sector, improve air quality, reduce smog and provide more travel options. The standard is one of several transportation strategies identified in the state’s Greenhouse Gas Pollution Reduction Roadmap and is a key requirement established in the 2021 state transportation funding bill (SB21-260). The standard requires CDOT and the state’s five metropolitan planning organizations to determine the total greenhouse emissions expected from future transportation projects and reduce emissions by set amounts. This standard recognizes that the projects we build have an impact on how Coloradans travel and will help bring about a transportation system that provides more choices for travelers across the state.



Figure 25. Current and Future Congestion Travel Indicators for Denver Area Regional Freeways and Arterials

Note: These measures are only for the designated Regional Roadway System.	2019 weekday	2020 weekday	2050 weekday	Change between 2019 and 2050
Vehicle measures				
Vehicle miles traveled	66,191,000	56,355,000	93,045,000	41%
Vehicle hours traveled	1,425,000	1,177,000	2,250,000	58%
Vehicle hours of delay	183,500	119,900	523,000	185%
Travel delay per driven registered vehicle ¹ (minutes)	4.1	3.9	12.9	117%
Person measures				
Person miles traveled	90,848,000	77,404,000	128,825,000	42%
Person hours traveled	1,963,000	1,621,000	3,111,000	58%
Person hours of delay	254,300	166,000	720,700	183%
Travel delay per household (minutes/day)	11.4	7.5	23.4	105%
Travel delay per resident (minutes/day)	4.6	3.0	9.9	116%
Other congestion measures				
Percent of travel time in delayed conditions	13%	10%	23%	79%
Extra travel time (5 p.m. peak vs. free-flow)*	19%	13%	31%	69%
Extra travel time (2 p.m. peak vs. free-flow)	14%	10%	23%	66%
Lane-miles of roads congested for three or more hours	1,306	859	3,026	132%
(Percent of total lane-miles)	18%	12%	37%	106%
Economic travel delay costs				
Commercial vehicles ²	\$1,221,000	\$807,000	\$2,978,000	144%
Passenger vehicle individuals ²	\$3,641,000	\$2,321,000	\$5,679,000	56%
Total cost of delay	\$4,862,000	\$3,128,000	\$8,657,000	78%

Technical notes:

¹ Assumption of 1,850,267 driven registered vehicles in 2020 and 2,429,296 in 2050.

² Cost calculations incorporate \$12 per hour per adult in car, \$48.30 per hour per light commercial vehicle operator and \$71 per hour for heavy commercial.

Source: Denver Regional Council of Governments, 2020 Annual Congestion Report

Air Travel Congestion

CDOT’s 2020 Aviation System Plan anticipates growth in total enplanements to 60.2 million by 2038. Nearly 95 percent of air travel in Colorado is in and out of Denver International Airport (DEN). DEN is the sixth busiest airport in the United States, serving more than 69.3 million passengers in 2022. More than 90 percent of all passengers now and in the future are or will be domestic travelers. Unlike many airports around the country, DEN has land available and capacity to add gates, expand terminals, and improve air cargo service.

RTD’s A Line commuter rail provides service to DEN with 15-minute frequencies. Ridership between 2017 and 2019 averaged nearly 7 million annual boardings while ridership post-2020 has averaged 3 million annual



boardings. Class 1 railroad lines run adjacent to DEN airport property and significant residential and commercial development is occurring and expected in the future.

Visitor Travel Trends

Since 2020, tourism in Colorado has grown 13.6 percent. In 2021, over 84.2 million people visited Colorado. More than 34.5 million of those visitors were overnight leisure visitors, and 1.8 million business travelers spent at least one night in Colorado, which is a significant drop from 2016. Day travel to and within Colorado has continued to grow and reached 47.9 million trips in 2021. According to research by the Colorado Tourism Office, 30 percent of all visitor spending in 2021 occurred in the Denver metro area.

Total direct travel spending in Colorado during 2021 was over \$21.1 billion. Transportation represents the second largest expenditure by visitors after accommodations and totaled more than \$4.1 billion. Not all transportation spending is related to vehicles. Among overnight visitors, just three in 10 non-Colorado residents rented a vehicle while visiting. This suggests that visitors are using alternative transportation options such as taxis, ride-hailing services and shuttles, and local transit and rail options to reach destinations and travel within the state. The State of Colorado does not prepare long-term forecasts of visitors, but if historic growth rates continue, more visitors will travel to Colorado in the future.

2.2.7 Land Use Trends

Land use and development trends follow population growth trends. Increasing population is driving increasingly dense and broad development patterns, particularly within communities along the Front Range. These communities are pursuing different growth strategies.

In areas where rail lines or rail facilities and yards are in close proximity to growing population centers, several trends and potential conflicts are emerging. For example, rail yards in metropolitan Denver are now flanked by new residential development, resulting in some land use conflicts. Plans for major new housing developments along Class I rail lines to the east of Denver and within Weld, Arapahoe, and Larimer counties could also create conflicts and require additional main line rail crossings with associated safety risks. However, integrating freight and passenger rail considerations into local comprehensive plans and adopting statewide priorities or corridors into these plans will ensure that future rail opportunities remain available and safety risks are minimized.

2.3 Rail Service Needs and Opportunities

This Rail Plan is a high-level policy document intended to guide collaboration and coordination among decision-makers, planning partners, and industry partners, including Colorado's rail operators. This section summarizes key needs and issues. The priority recommendations detailed in Chapter 5 of this Rail Plan further expand on opportunities and provide implementation actions for CDOT and partners to capitalize on opportunities.

Cross-cutting issues affect each of the five goal areas identified in this Rail Plan and reflect where recommendations and actions are most needed. The Rail Plan identified the following cross-cutting issues:

- **Funding**—The lack of current dedicated state funding sources, the limited Federal funding for rail improvements beyond 2026, and the scale of funding needed to expand rail of any kind present major barriers to implementation of the goals of this Rail Plan. Colorado's most critical needs include funding for future Front Range passenger rail, future Mountain Rail, railroad-highway crossing improvements, short line maintenance, and capacity upgrades.



- **Coordination and joint planning**—Many public and private partners are involved in rail planning efforts for both freight and passenger service expansion, improvement, maintenance, and preservation. Private railroads work directly with local governments, transportation agencies, economic development organizations, and private businesses to coordinate improvements and identify investments. Through statewide, regional, and corridor planning processes, CDOT engages local governments, transit agencies, regional planning organizations, and stakeholders to identify future service needs and improvements.

Communication and coordination among railroads and planning partners could be improved to preserve future rail opportunities, maintain current infrastructure, and identify state and local opportunities to expand rail access and connectivity. For example, coordination among regional economic development organizations, railroads, and CDOT could enable joint funding of industrial access and connectivity improvements. Regular and recurring consultation between CDOT and freight, passenger, and scenic railroads can help establish relationships and better integrate planning efforts. Coordination and information sharing between statewide strategic plans and local Government and planning partners can support advance planning and corridor preservation for future passenger rail.

- **Public education and communications**—Economic development organizations, local governments, agricultural and natural resource industries, and rural businesses view freight and passenger rail service as critical to economic competitiveness. However, there is a perception that the general public is largely unaware of the importance of rail to the state and regional economies. Education and communication efforts that raise the profile of freight movements and illustrate the benefit of freight rail and passenger services to economic vitality are needed to build support for future action and investments. Without such efforts, the general public is more likely to say, “Get that truck or train out of my way,” without realizing that cost would be added to every consumer product in Colorado if trucks or trains are limited in their movements.

Providing information, data, media, and materials to planning, agency, and industry partners for use in advocacy and outreach efforts is needed to support public education. These efforts are most powerful when public and private partners speak from one voice, have a unified message, and provide consistent information. Experiences in other states with active partnerships, strong freight advisory committees, and joint advocacy efforts have led to increased state funding for freight and rail investments and have developed champions among elected officials and decision-makers. In turn, truck and rail deliveries are more efficient, and the savings in delivery cost can be passed on to consumers.

- **Land use and development patterns**—Colorado’s Front Range is experiencing rapid population growth and increasingly dense land use and development, which is having an impact on facilities and rail movements in urban and suburban areas. Rail yards in Denver are now flanked by residential development, resulting in some land use conflicts. Plans for major housing development along Class I rail lines could also create conflicts and require additional main line rail crossings with associated safety risks. Existing rail corridors and assets in other regions of the state may be at risk of abandonment or disuse and could be preserved for future use.

However, integrating freight and passenger rail considerations into local comprehensive plans and adopting statewide priorities or corridors into these plans will ensure that future rail opportunities remain available. Regional joint planning efforts in other states have led to the identification of freight-oriented land uses and appropriate planning and zoning overlays. Passenger rail visioning efforts in other states have built broad local support and coordinated advance planning for state-supported intercity rail or new commuter rail corridors.



2.3.1 Freight Rail Priority Issues and Opportunities

The following section summarizes key issues and related opportunities for freight rail in Colorado. These issues will be monitored by CDOT staff, addressed through coordination with rail partners, acted on in implementation efforts, and integrated into future state and regional planning efforts.

Improvements and Planning for Rail-Served Industrial Developments—Rail-served industrial sites and future rail-related development zones present significant opportunities for economic development in Colorado. Regional economic development organizations in some parts of the state report challenges attracting and retaining industrial businesses in need of rail access. Agricultural producers rely on rail access at grain elevators and intermodal facilities. Many former or current grain elevators are underused and could be redeveloped to improve access for existing rail customers and to expand facilities and infrastructure to attract new businesses.

Redeveloping these sites, while preserving rail access, presents a significant opportunity for communities on the Eastern Plains and San Luis Valley. Pueblo and Colorado Springs are home to current and former military installations, defense contractors, and rail infrastructure that could be expanded to serve defense and homeland security industries and entirely new businesses. In particular, the former Pueblo Chemical Depot, or PuebloPlex, offers tremendous opportunity for industrial development with improved rail access. In northern Colorado, rail-served industrial sites have recently been developed, such as the Great Western Industrial Park, and other new sites are being planned such as a BNSF joint development opportunity in Hudson. Many Western Slope communities are along the UP main line, or have access to BNSF lines, and have significant railroad infrastructure and assets.

As traditional coal, natural gas, or mineral extraction activities decline, some communities in Colorado are diversifying economic base. Manufacturing activity is growing in Grand Junction, and potential industrial development sites could be planned and developed to facilitate future growth. With significant growth expected in the Front Range economy and continued growth in consumer spending, there will be a need for new intermodal facilities, distribution and logistics centers, and transload facilities in areas near population centers. Federal and state programs are also available to help facilitate economic diversification. The *Colorado Office of Just Transition* assists communities and workers transitioning away from coal mining and energy extraction. For communities in Northwest Colorado, where coal extraction and rail movements have declined significantly, rail infrastructure offers opportunities for new economic activity.

Private railroads offer economic development and real estate services and actively coordinate with local governments and businesses to identify, develop, and promote industrial properties. UP, BNSF, and short line railroads provide site selection information and resources that are available for Colorado businesses and economic development organizations. To support these efforts, economic development opportunities can be better integrated into transportation planning so that rail-related projects and sites are identified early in the planning and project development processes.

Additionally, providing public assistance or funding support, through a grant or a loan program, would enable local governments to capitalize on redevelopment opportunities and jointly fund needed improvements in partnership with railroads and businesses. Chapter 3 of this Rail Plan discusses freight rail assistance programs. States with active freight rail assistance programs offer subsidized loans or cost-sharing between state and local governments and private railroads to fund economic development related infrastructure or to track improvements. These programs are typically funded with state general fund revenues and, in some cases, through Federal funding, including the National Highway Freight Program.



Targeted Freight Intermodal Connectivity Improvements—The National Highway Freight Program allows Federal funding for improvements within private intermodal facilities and rail yards, as well as highway access improvements to rail-served intermodal facilities. Intermodal facilities play a critical role in Colorado’s transportation system, link modes to enable efficient freight handling, and generate value-added economic activity. Currently, CDOT’s statewide and regional planning processes have not identified significant needs for access, connectivity, or improvements to intermodal facilities. By strengthening planning processes to engage economic development organizations and private industry, improvements may be identified in the near future and more readily considered for public funding. The Colorado Freight Plan identifies future project areas, including rail-served intermodal facilities eligible for funding under dedicated Federal freight funds.

Addressing Rail Service Constraints—Private railroad operators own, operate, and maintain Colorado’s freight rail system. Railroads invest significant resources into maintaining and improving the state’s rail network without public funding support. To remain competitive with trucking and to meet modern track standards, short line railroads need public funding and assistance to upgrade track and infrastructure. The State of Colorado has a clear interest in supporting the continued operation of short lines because they are critical to regional industries and provide economic development opportunities and direct economic benefit to regional economies.

Capacity constraints on Colorado’s freight rail system include:

- **Vertical clearance** is the distance between the rail bed and the bottom of overhead structures. To allow unrestricted access for all standard rail car configurations, including double-stacked intermodal cars and tri-level auto carriers, 23 feet 6 inches is needed between the rail bed and the underside of any overhead structure. For lines handling intermodal traffic, AAR recommends vertical clearances of 22 feet 6 inches to accommodate double-stacked domestic containers. For intermodal shipments, double-stack clearance is rapidly becoming the national standard because it greatly improves capacity and thereby reduces the cost to ship goods by rail, making double-stack rail services more competitive with trucks for customers’ shipments while taking long haul movements off highways. Most of Colorado’s Class I network allows double-stack container configurations. However, the only continuous east-west rail corridor in the state is UP’s Moffat Corridor between Denver and Salt Lake City, Utah. Several vertical clearance restrictions on this line prevent the movement of double-stacked cars.
- **Weight limit** is the gross weight of a rail car plus any cargo carried. The current standard is 286,000 pounds, with some portions of track on heavily used corridors now allowing 315,000 pounds. Most of Colorado’s Class I rail network can carry 286,000-pound cars, with some sections of UP’s network able to handle 315,000 pound-cars. Some sidings and branch lines on both BNSF and UP rail networks are not currently 286,000-pound capable. Short line railroads operate on track that is often older and not updated to modern weight capacity standards. A significant portion of Colorado’s short line network cannot carry 286,000-pound cars. This limits the ability of short lines to interface directly with Class I rail networks for many carload shipments and to serve customers safely, efficiently, and rapidly.
- **Track capacity** provides railroads with operating flexibility and allows a limited number of trains to be handled on a given line. Sidings or passing tracks that allow trains to either overtake or pass one another in an area with only a single main line typically can improve flexibility and capacity. In industrial areas alongside busy main lines, this category includes tracks that are needed to efficiently serve customers without delaying through traffic. Additional tracks or sidings on freight rail corridors may be needed to accommodate interoperability of future passenger rail service with existing freight service. Extended sidings may also be required to accommodate longer freight trains. Because sidings are nearly 2 miles long, these must be carefully located and designed so that a rail enhancement does not create a problem for cars and trucks.



- **Terminal and yard capacity** addresses the number of cars that can be processed or stored at a facility. Operational strategies and efficiency at the terminal or yard facilities can have significant impacts on overall line capacity. Some short line railroads in Colorado provide car storage to act as relievers for Class I railroads or rail customers owning or leasing their own rail cars. Should rail traffic increase across lines, this storage strategy may not be feasible in the future as the track capacity now used for car storage will be needed for additional train movements.
- **Rail line operating speed** dictates the average speed that trains move on a corridor with potential impacts on capacity and the ability to move higher-value, time-sensitive goods. Several factors influence operating speed, including train makeup, speed limits, track conditions, topography, and signaling. Due to curves, grades, and operations through metro areas, Colorado’s major main line and some short line railroads are subject to safe operating speed limitations in some areas. Average operating speeds are a key metric for railroads in the quest to deliver goods on-time to customers.
- **Traffic control and signaling systems** help ensure safe operations and interoperability of passenger and freight train speeds. Traffic control systems efficiently improve capacity use. Federal law requires PTC and other emerging technologies on some, but not all, subdivisions and lines of Colorado’s Class I rail lines. Colorado and rail partners are committed to implementing and testing innovative safety technologies on other rail lines across the state. Colorado will explore adding PTC on lines where it is not currently mandated, but where it would nonetheless provide safety benefits and enable addition of passenger trains.
- **Land use and development** surrounding current and future freight and passenger rail infrastructure must be carefully coordinated between state, regional, and local agencies. As communities across the state grow, former industrial areas are being redeveloped into mixed-use areas with residential, commercial, and industrial land uses in close proximity. Collaboration on zoning and development policies in these growing areas can mitigate community impacts from railroad operations, including noise, crossing safety, and air pollution. Coordination is also needed between state and local agencies to preserve right-of-way and align development patterns along proposed future passenger rail corridors.

Preservation of Freight Corridors and Assets—When a rail line is no longer considered economically viable for a Class I railroad to operate, the result is often the sale or the lease of the line, usually from Class I railroads to short line or regional railroad companies. The only other formal alternative is to file a request for abandonment to the Federal STB. In some cases, like Tennessee Pass, the railroad may simply stop operating service without formally abandoning it or selling the line. Rail corridor abandonments can have significant impacts on the statewide multimodal transportation system and on local and regional economies. With the loss of rail service, freight previously being moved by rail must be moved by truck, causing additional deterioration (i.e., pavement surface condition and/or traffic volumes) of local roadways and state highways. Many businesses, particularly in rural areas, cannot compete without rail access and could be at risk of failure or relocation within or out of the state. Once a railroad corridor is abandoned, it is often cost-prohibitive to return to service and is unlikely to be available for any motorized transportation purpose, particularly if rail tracks are salvaged or right-of way is sold.

The ability to respond quickly to a potential abandonment is an important factor in ensuring corridor preservation. A railroad may file a Notice for Exemption or Petition for exemption with the STB if a track has not been used for two or more years or if the track has so little traffic on it that the carrier could not be making a profit. Following this administrative request, abandonment authorization from the STB can take place in as little as 90 days. The Colorado legislature created the State Rail Bank in 1998 as a vehicle to preserve rail corridors from abandonment. The State Rail Bank is currently unfunded, and the process of acquisition must be coordinated with CDOT, the Colorado Transportation Commission, and the legislature. Concepts and funding options that enable flexibility and rapid response to abandonment and acquisition should be considered.



Additional freight rail assets and infrastructure may also be identified for sale by railroads. These assets represent significant opportunities for the state and could be leveraged and repurposed for economic development, multimodal transportation centers, intermodal yards, or passenger rail stations. The State of Colorado, and CDOT, continues to identify and monitor freight rail assets and infrastructure of strategic value (in addition to rail corridors) and considering the purchase or reuse of these sites for public benefit.

In 2016, UP closed the Burnham Yard repair facility in Denver. In 2021, CDOT's CTIO purchased the land from the UP. Burnham Yard is a 70-acre parcel is zoned for industrial development that has significant rail infrastructure, but is near rapidly urbanizing and expanding residential neighborhoods in Denver. The City and County of Denver is currently seeking to plan for a strong city-building vision that sets the course of redevelopment at Burnham Yard and along the South Platte River from the Broncos' Stadium District/River Mile to Broadway Station. CDOT is completing a pre-NEPA Transportation Planning Study that will recommend one or more track layout alternatives for the Consolidated Main Line location and enhancement of RTD light rail while maintaining options for passenger rail within the general area. Planning partners, including RTD, CDOT, and the City and County of Denver, are seeking to preserve the opportunity to locate the alignment of future Front Range Passenger Rail service through central Denver and to expand RTD light-rail operations within the Burnham Yard area.

Safety and Security—Freight rail safety and security issues continue as fatalities and serious injuries at railroad-highway crossings and due to trespassing have not substantially declined over the past decade. The State of Colorado and CDOT can consider additional support, funding, or legislative action to promote safety initiatives. Current programs and initiatives where continued support and additional funding or resources are important include security task forces, trespassing legislation, additional funding for rail crossings, and expanded support for Operation Lifesaver and other educational programs. With a rapidly growing and urbanizing population along the Front Range and in surrounding regions, the safety risks at railroad-highway crossings will grow. Major new planned developments along existing rail lines call for additional rail crossings, but financial support for grade-separated crossings is underfunded. The State of Colorado recently funded the PUC's crossing program for the first time in over a decade, but available monies are well below anticipated local needs. Derailments are also an ongoing safety concern, and there is legislation at both the State and National levels attempting to address this concern using information gathered from the NTSB investigations into derailment incidents. The State of Colorado will also use this information to guide decision-making in the future.

2.3.2 Passenger Rail Priority Issues and Opportunities

The following section summarizes concerns and needs related to passenger rail priority issues in Colorado. These issues will be monitored by CDOT staff, addressed through coordination with rail partners, acted on in implementation efforts, and integrated into future state and regional planning efforts.

Planning for Future Rail Corridors—Passenger rail will be a critical component of Colorado's future multimodal transportation system. Current roadway infrastructure and capacity limitations cannot accommodate future growth in travel. Existing roadway rights-of-way may also limit future expansion. The impact and benefits of future vehicle technology, operational strategies, and high-speed transportation technologies remain uncertain as mechanisms for delivering additional personal travel capacity. Passenger rail and related passenger technologies are long-term investments that require long-term planning. Colorado must remain committed and continue to plan for and preserve right-of-way and rail infrastructure capacity in support of future rail service and rapid travel options. Without planning and coordination between the state and local governments, passenger rail may not be a future option due to development and availability of rights-of-way.

Planning for Shared Use and Interoperability—Passenger rail alignments may operate over portions of existing freight or commuter rail lines and/or right-of-way, subject to previous agreement with the freight rail operator



if a freight rail corridor is planned to be used. Freight railroads must balance the need to preserve service levels and meet the present and future freight capacity needs of customers and communities in considering requests to use existing right-of-way and infrastructure for the passenger travel. BNSF and UP are partners in efforts to advance Front Range passenger rail and to negotiate potential shared use and interoperability of rail services. CDOT will also seek to partner with UP as the Service Development Plan for the Mountain Rail Corridor moves forward. RTD's existing commuter and light rail system may also connect to future passenger rail service or potentially run on shared tracks or right-of-way. RTD is a critical partner in expanding passenger rail within the RTD service area and supporting service to other regions. Issues related to interoperability will continue to be evaluated as the likely technologies, equipment, signaling systems, and future rail corridor alignments for passenger rail are further refined.

Targeted Passenger Multimodal Connectivity Improvements—As options for passenger rail are further evaluated, investments in right-of-way purchases or station area planning may be identified that can or must be made now, even if implementation of rail service remains a long-term solution. For example, regional park and ride facilities or intercity bus stations could be planned and designed to be transformed into regional passenger rail hubs in the future. Existing rail crossings could be eliminated today, and future rail crossings or grade separations at planned developments can be designed to safely accommodate future rail service. These improvements provide stand-alone benefits while also facilitating future passenger rail services. CDOT and planning partners can begin to identify potential improvements and consider funding through current programs and project development processes. Some Amtrak intercity passenger rail stations are not as well integrated and connected to intercity bus or local transit service as they could be. Connectivity improvements, including local transit service, and potential station upgrades and enhancements should also be considered in state and regional planning processes. Seamless connections across the multimodal transportation system are important to making intercity rail an easy and efficient travel option for visitors and residents. Continued support for Southwest Chief track rehabilitation and service extension to Pueblo and Walsenburg is also critical. Southwest Chief service provides critical travel connections and direct economic benefits to communities in southeast Colorado.

Planning and Policy to Preserve Future Capacity—Local governments, businesses, and railroad operators are critical partners in planning for the future of passenger rail. Local land use, development, zoning, and transportation decisions can have significant impacts on the future viability of rail corridor alignments. Decisions made by CDOT, including the design of bridges and overpasses or use of right-of-way, can also help provide future flexibility and rail options or eliminate options. For example, early design decisions for the redevelopment of Denver's Union Station limited the addition of passenger trains into and out of Union Station due to design limits on the number of trains that the station could handle at any one time. CDOT, advocacy groups, and planning partners can share information on future rail alignments, potential station areas, rail infrastructure, and right-of-way needs with local governments and planning partners to better coordinate state and local planning and to avoid future capacity limitations. Preservation of existing rail infrastructure and assets subject to abandonment or sale by state purchase or through public-private partners can also provide flexibility of future uses and leverage key rail infrastructure and development sites.

Addressing Quality of Life Issues—Freight and passenger rail service benefits communities but also presents safety, quality of life, and environmental impacts. Private railroads are implementing new technology to mitigate environmental externalities, such as cleaner and more fuel-efficient locomotives and advanced safety devices on tank cars carrying hazardous materials. Noise and vibration from railroad operations can also affect residential areas in close proximity. In these areas, including mixed-use residential and industrial development in downtown Denver, Fort Collins, Windsor, and other communities, railroads operate under reduced speed and quiet zone regulations. Local governments may apply to the FRA to seek approval to establish quiet zones and must mitigate



against the increased risk at crossings so that the lack of loud horns does not result in an increase in accidents or loss of life.

FRA approved quiet zones allow railroad operators to avoid sounding horns when approaching rail crossings in urban settings. In 2005, the FRA published a final Train Horn Rule requiring locomotive engineers to begin to sound train horns at least 15 seconds in advance of all public grade crossings. Train horns must be sounded in a standardized pattern of 2 long-1 short-1 long blasts. The pattern must be repeated or prolonged until the lead locomotive or lead cab car occupies the grade crossing. Recognizing the noise and quality of life impacts of this rule to local communities and residents near rail lines, FRA also continued its FRA Quiet Zone program in the final Train Horn Rule. In 2016, as part of continuous review of regulations, FRA invited public comments to modify, streamline, or expand any requirements of its locomotive train horn regulations. Many communities throughout Colorado provided comments as part of this process and expressed concerns with the impacts on economic development and quality of life of residents, the inflexibility of train horn rules, and the cost of setting up quiet zones and mitigating safety hazards.

The following table identifies communities and the number of zones, along with established quiet zones or communities that have applied for or are considering quiet zones.

Table 24. Established Quiet Zones in Colorado, 2022

Communities with Established Quiet Zones	Number
Arvada	9
Windsor	4
Boulder	3
Commerce City	3
Fountain	3
Fort Morgan	2
Denver	2
Timnath	2
Winter Park	2
Adams County	1
Broomfield	1
Brush	1
Castle Rock	1
El Paso County	1
Louisville	1
Monument	1
Thornton	1
Westminster	1

FRA Quiet Zone by City and State, 2022



Recognizing the impacts of commuter train horns on the communities they serve, RTD actively works with local jurisdictions along existing rail lines and future passenger rail corridors to support quiet zone applications and to develop noise mitigation plans along passenger rail corridors. RTD is committed to making crossing improvements to address noise and safety issues. Quiet zones are an example of the more complex and costly safety measures at crossings that the public is demanding. Advanced crossing systems and grade separations are also popular in areas with heavy freight and passenger train volumes. These safety solutions are effective and improve quality of life, but they are also more expensive and often beyond the reach of current Federal and state safety funding. To continue to improve quality of life and mitigate risks and impacts, Colorado must make additional resources available through state and local partnerships and/or cost-sharing grants for railroads. CDOT has no role in supporting or approving quiet zone applications to the FRA.



CHAPTER 3. PROPOSED PASSENGER RAIL IMPROVEMENTS AND INVESTMENTS

This chapter summarizes past investments in passenger rail services across Colorado, including major grant awards and cooperative projects completed with state funds. RTD, CDOT, Amtrak, and private railroads contribute funding to support passenger services in the state, with each described further in this chapter. This chapter also summarizes proposed passenger rail concepts relating to opportunities described in Chapter 2.

3.1 State Funded Commuter Rail Capital Improvement Projects

CDOT provides capital and planning funds to support passenger rail service provided by RTD in the Denver metro area. To date, most major planned commuter and light rail lines have been opened, and major planning, operational, and capacity improvements have been completed. The following table summarizes investments supported by CDOT over the past ten years.

Table 25. Previously Completed State Funded Commuter and Light Rail Improvement Projects, 2012-2022

Year	Project Description	Funding Source	Grant Award
2012	104 th /Colorado Station for North Metro	CDOT, FASTER	\$1,100,000
2012	South I-25 RTD Light Rail Shelter	CDOT, FASTER	\$500,000
2013	Southeast Corridor Ticket Vending Machines	CDOT, FASTER	\$440,000
2014	Central Light Rail Corridor Improvements	CDOT, FASTER	\$692,000
2014	Light Rail Manual to Power Emergency Crossover Upgrade Project	CDOT, FASTER	\$1,600,000
2015	Speer Crossing Panel Replacement	CDOT, FASTER	\$500,000
2016	Light Rail Vehicle Overhaul	CDOT, FASTER	\$2,200,000
2017	Light Rail Track and Switch Replacement	CDOT, FASTER	\$1,150,000
2017	19 th and California Light Rail Crossing Rehab and Reconstruction	FASTER	\$1,499,000
2017	Light Rail Midlife Refurbishment and Overhaul (3 vehicles)	FASTER	\$1,000,000
2018	Downtown Track and Switches	FASTER	\$1,150,000
TOTAL	-	-	\$11,831,000

Source: Colorado Department of Transportation, Division of Transit and Rail



3.2 State Funded Intercity Passenger Rail Capital Improvement Projects

Amtrak invests across its national network to jointly fund track maintenance and to maintain infrastructure and assets in a state of good repair. CDOT provides funding and support for intercity passenger service improvements on a limited basis. In the recent past, Colorado applied state funds to leverage additional investment by public and private partners to support improvements to station areas in Winter Park and to leverage redevelopment of Denver Union Station. The State also provided matching funds to improve the Southwest Chief route and—along with direct appropriations—to advance Front Range Passenger Rail. The following sections identify intercity passenger rail projects funded through CDOT’s dedicated transit funding programs and U.S. DOT’s competitive grant funding sources.

Colorado’s recent investments in intercity passenger rail are focused on key passenger rail corridors: the Amtrak Southwest Chief route and the proposed Front Range Passenger Rail route. In addition to these two corridors, the Colorado Transportation Commission recently approved funding to begin developing a service development plan for Mountain Rail service between Denver and Craig.

Southwest Chief Corridor Improvements

The 2021 round of RAISE grants awarded \$2.8 million to complete the work on 29 miles of the Southwest Chief La Junta route, close to the Colorado-Kansas state line. New, continuous welded rail will enhance the rail’s long-term efficiency and reliability by addressing current and projected vulnerabilities with aging and deteriorated bolted rail. It eliminates delays, reduces cost, and increases travel time reliability for intercity passenger rail. This investment is the conclusion of several projects over the past decade that will allow for improved service along the Southwest Chief route.

Front Range Passenger Rail Corridor Improvements

Colorado continues to plan for a future intercity passenger rail corridor between Pueblo and Fort Collins. Front Range Passenger Rail builds on many studies that have been conducted in the past decade to support passenger rail development, including North I-25 EIS Commuter Rail Update, Advanced Guideway System Feasibility Study, Colorado Freight and Passenger Rail Plan, Rocky Mountain Rail Authority High Speed Rail Feasibility Study, Interregional Connectivity Study, and Front Range Passenger Rail Alternatives Analysis.

In 2018, the Colorado General Assembly made a \$2.5 million General Fund transfer to fund the Front Range Passenger Rail Commission, including two years of staffing and the initial consultant work that included stakeholder engagement, preliminary alternatives analysis, and pre-NEPA planning. In September 2020, the rail commission was awarded a 2020 Consolidated Rail Infrastructure and Safety Improvements (CRISI) grant. The Federal funds, totaling \$548,000, were matched by \$137,000 non-Federal funds and will complete railroad simulation modeling and preliminary rail passenger service development planning. In 2023, the District submitted an application to be included in the FRA’s Corridor Identification and Service Development Program.



Table 26. Previously Funded State-Supported Intercity Passenger Rail Improvement Projects, 2012-2022

Year	Project Description	Funding Source	Grant Award
2012	Denver Union Station	CDOT, FASTER	\$4,000,000
2015	TIGER VII Southwest Chief Matching Funds	CDOT, FASTER	\$1,000,000
2016	Winter Park Express Platform Improvements	CDOT, SB-228	\$1,500,000
2017	TIGER IX Southwest Chief Matching Funds	CDOT, FASTER	\$1,000,000
2019	Southwest Chief Through-Car Service to Colorado Springs	CRISI	\$225,000
2020	Animas River Bridge Replacement	CRISI	\$1,945,019
2020	Front Range Passenger Rail Preliminary Service Development Plan and Railroad Simulation Modeling Study	CRISI	\$548,000
2020	CRISI Southwest Chief PTC Installation Matching Funds	CDOT, FASTER	\$400,000
2021	Southwest Chief La Junta Route Restoration Program	RAISE	\$2,790,150
2023	Statewide Intercity Rail and Bus Connectivity Study	CDOT	\$2,000,000
2023	Service Development Plan, Denver to Craig	CDOT	\$3,000,000
Total	-	-	\$18,408,169

Source: Colorado Department of Transportation, Division of Transit and Rail

Amtrak Corridor Improvements

Amtrak provides funding for intercity passenger rail service through ongoing capital investment, operating expenditures, and matching funds to leverage additional private and public investment. Amtrak’s financial contributions in Colorado include matched grant funds, station improvements, and service operations. Amtrak has supported grant applications submitted by partners in Colorado and Kansas that helped preserve and improve Southwest Chief service in Colorado. The legislature adopted the Southwest Chief and Front Range Passenger Rail Commission’s preferred route and its recommendation that Amtrak add Pueblo as a stop on the Southwest Chief passenger train.

Amtrak regularly funds short-term capital improvements to stations in Colorado. These investments include design and construction activities necessary to update stations to ADA standards and to maintain a state of good repair of facilities. Between 2012 and 2022, Amtrak invested \$1,855,343 in stations in Colorado, summarized below.

Table 27. Previously Completed Amtrak Capital Improvement Projects, 2012-2022

Year	Project Description	Improvement Cost
2012	Glenwood Springs	\$196,332
2013	Glenwood Springs	\$5,159



Year	Project Description	Improvement Cost
2014	Glenwood Springs	\$29,001
2015	Denver and Glenwood Springs	\$96,195
2016	Fort Morgan, Lamar	\$248,656
2019	Fort Morgan	\$111,000
2019	Glenwood Springs	\$150,000
2020	La Junta	\$414,000
2021	Granby	\$303,000
2021	Trinidad	\$302,000
Total	-	\$1,855,343

Source: Amtrak, Five-Year Program Plan 2022-2027

3.3 Passenger Rail Improvements and Investments

This section summarizes anticipated future needs for passenger rail services over a 20-year horizon.

3.3.1 Proposed Passenger Service Improvements

Colorado is actively working to develop new passenger service on both the Front Range and Mountain Rail corridors, and will continue to plan for other enhancements and additions. Additional state funding, local or regional dedicated funding, Federal grants or competitive funding, and funds from public-private partnerships will be required to further improve and expand Colorado’s passenger rail networks. This section summarizes available information on future improvements envisioned for commuter and intercity passenger rail.

Commuter and Light Rail Corridor Planned Improvements

Future commuter rail services are identified through long-range planning by RTD and through corridor studies supported by CDOT. RTD’s commuter rail network includes 54 miles of track, 27 active stations, and 66 rolling stock vehicles. There are four commuter rail lines: the East Rail Line (A Line), the Northwest Rail Line (B Line), the Gold Line (G Line), and the N Line. The B Line and N Line are partially completed with future extensions planned as funding becomes available.

The B Line, also referred to as the Northwest Rail Line, is part of RTD’s FasTracks plan to expand transit across the Denver metro region. The proposed 41-mile commuter rail corridor would operate between Denver’s Union Station and Longmont, passing through north Denver, Adams County, Westminster, Broomfield, Louisville, Boulder, and Boulder County. The line’s seven proposed stations are Westminster (completed in 2016), Church Ranch, Flatiron, Louisville, Boulder Junction, Gunbarrel, and Downtown Longmont. The first B Line segment opened in 2016. Front Range Passenger Rail Service would likely replace planned service along this commuter rail corridor.



The N Line is an 18.5-mile electric commuter rail line that connects Union Station with Commerce City, Northglenn, Thornton, and North Adams County. Currently, 13 miles of the corridor is completed with service beginning in 2020. The remainder will be built as funds become available.

RTD’s light rail planned extensions include segments on two existing lines. The L Line or Central Rail Extension would connect existing downtown rail service with the 38th & Blake Station on the A Line. The L Line would provide rail service between downtown Denver and the 38th & Blake Station, and act as a “loop” around downtown. The extension will require new track. The Southwest Line opened in 2000 as an 8.7-mile extension of rail from I-25 & Broadway to Mineral Avenue. RTD has proposed to add an additional 2.5 miles of rail and one new Park-n-Ride to extend service into Highlands Ranch.

Within the City of Aurora, RTD’s A Line crosses Chambers Road which is the only access point from Interstate 70 to the Magellan pipeline terminal. Commercial motor vehicles carrying hazardous materials cross the tracks between 600 to 1,000 times a day, according to the Colorado Motor Carriers Association. The Federal Railroad Administration has identified this as a high-risk crossing given the estimated routing of hundreds of loaded hazardous materials vehicles at this crossing. RTD, with FRA’s involvement, released a report in 2017 recommending shifting outbound hazmat commercial motor vehicle traffic to nearby Airport Boulevard. Other improvement options include crossing separations or alignment improvements to reduce risk.

As Burnham Yard is planned and redeveloped, CDOT is completing a pre-NEPA Transportation Planning Study that will recommend one or more track layout alternatives for the Consolidated Main Line location and enhancement of RTD light rail while maintaining options for Front Range Passenger Rail within the general area. Planning partners, including RTD, CDOT, and the City and County of Denver, are seeking to preserve the opportunity to locate the alignment of future Front Range Passenger Rail service through central Denver and to expand RTD light-rail operations within the Burnham Yard area.

The following table summarizes currently identified future commuter rail improvements proposed in Colorado.

Table 28. Proposed Commuter and Light Rail Corridor Improvements

Project Source	Project Description	Year	Cost	Source
RTD	Line (N Line)—Planned Extension	TBD	TBD	RTD
RTD	Northwest Rail Line (B Line)—Planned Extension	TBD	TBD	RTD
RTD	L—Planned Extension	TBD	TBD	RTD
RTD	Southwest Rail—Planned Extension	TBD	TBD	RTD
CDOT	Chambers Road—A Line Crossing Improvements	TBD	TBD	Various
City of Denver, CDOT, RTD	Burnham Yard Track Improvements	TBD	TBD	Various

Amtrak Intercity Passenger Rail Planned Improvements

Amtrak’s 2022-2027 Five Year Plan includes an objective to grow ridership from pre-pandemic 2019 level of 15.4 million riders nationally to 18.2 million passengers by 2027. No major future improvements are planned at this time for Amtrak’s California Zephyr services in Colorado.



Winter Park Express service will continue as ridership has continued to remain strong even in post-pandemic conditions. In 2019, the third year of operations, a service increase to 33 round trips was scheduled—including the first two Fridays of each month of January, February, and March. For the fourth season in 2020, service was increased, again, to a total of 36 round-trip with operations on all Fridays, Saturdays, and Sundays during the first two months of the year. CDOT will be evaluating enhancements to service to Winter Park in its Mountain Rail service development plan.

Continued support for track improvements and the potential extension of Amtrak’s Southwest Chief route is critical to supporting communities in southeastern Colorado. Several near- and long-term opportunities exist to support this service including additional improvements to existing track and services to expand service to Pueblo and Walsenburg. Amtrak and BNSF will be key partners in determining track needs and upgrades necessary to connect to Pueblo. While initial planning is underway, no specific project information has been developed at this time. Colorado has also recommended to FRA and Amtrak that the Southwest Chief be rerouted to provide service to Pueblo and Walsenburg.

The following proposed or planned projects to support Amtrak service are identified in Amtrak’s Five-Year Program Plan 2022-2027.

Table 29. Proposed or Planned Future Amtrak Intercity Rail Capital Improvement Projects

Fiscal Year Anticipated	Project Description	Funding Source	Budget
FY22	Lamar, Station Design	Amtrak	\$300,000
FY23	Trinidad, Station Construction	Amtrak	\$250,000
FY23	Granby, Station Construction	Amtrak	\$1,950,000
FY23	Winter Park, Station Design	Amtrak	\$300,000
FY22-23	Ft Morgan, Station Construction, Phase 2 Platform	Amtrak	\$2,640,000
FY22-24	Glenwood Springs, Station Construction, Phase 2 Platform	Amtrak	\$3,000,000
FY24	Lamar, Station Construction	Amtrak	\$1,500,000
FY24-25	Grand Junction, Station Design	Amtrak	\$300,000
FY25-26	Winter Park, Station Construction	Amtrak	\$3,750,000
FY26-27	Grand Junction, Station Construction	Amtrak	\$6,150,000

Source: Amtrak, Five-Year Program Plan 2022-2027

Future Amtrak Corridor Planned Improvements

Released in 2021, the Amtrak Connects U.S. Corridor Vision presented a comprehensive plan for developing and expanding intercity rail networks across the country. Amtrak identified the Front Range corridor from Pueblo, Colorado to Cheyenne, Wyoming, with Denver as the mid-point anchor, as a new corridor providing residents with increased mobility options. Many combinations of investment, frequency, and trip times are possible. Initial visioning documents call for three daily trips from Fort Collins to Pueblo with one daily round trip from Cheyenne



to Pueblo. The line is estimated to provide over \$103 million annually in economic impact with an additional \$4.3 billion in economic activity from initial capital investments.

Front Range Passenger Rail Corridor Planned Improvements

One of Colorado's near-term opportunities to improve and expand rail mobility is advancing Front Range Passenger Rail. The State of Colorado established the Front Range Passenger Rail District as an independent Government agency in 2021. The FRPR District is tasked with developing an intercity passenger rail service along Colorado's Front Range Corridor between Fort Collins and Pueblo. This effort will consider many forms in terms of service levels, frequency, stops, alignments, and technology deployed. Prior to the creation of the FRPR District, the Southwest Chief and Front Range Passenger Rail Commission, a now-dissolved entity that was originally tasked with studying possible passenger rail scenarios along the Front Range, completed an Alternatives Evaluation Report in 2020. The report outlined a preliminary corridor vision for service, evaluated corridors for passenger rail service to major population centers along I-25 between the Wyoming and New Mexico borders, considered governance options, and conducted stakeholder outreach. This effort established a framework for future planning, engineering, stakeholder engagement, governance, and environmental analysis.

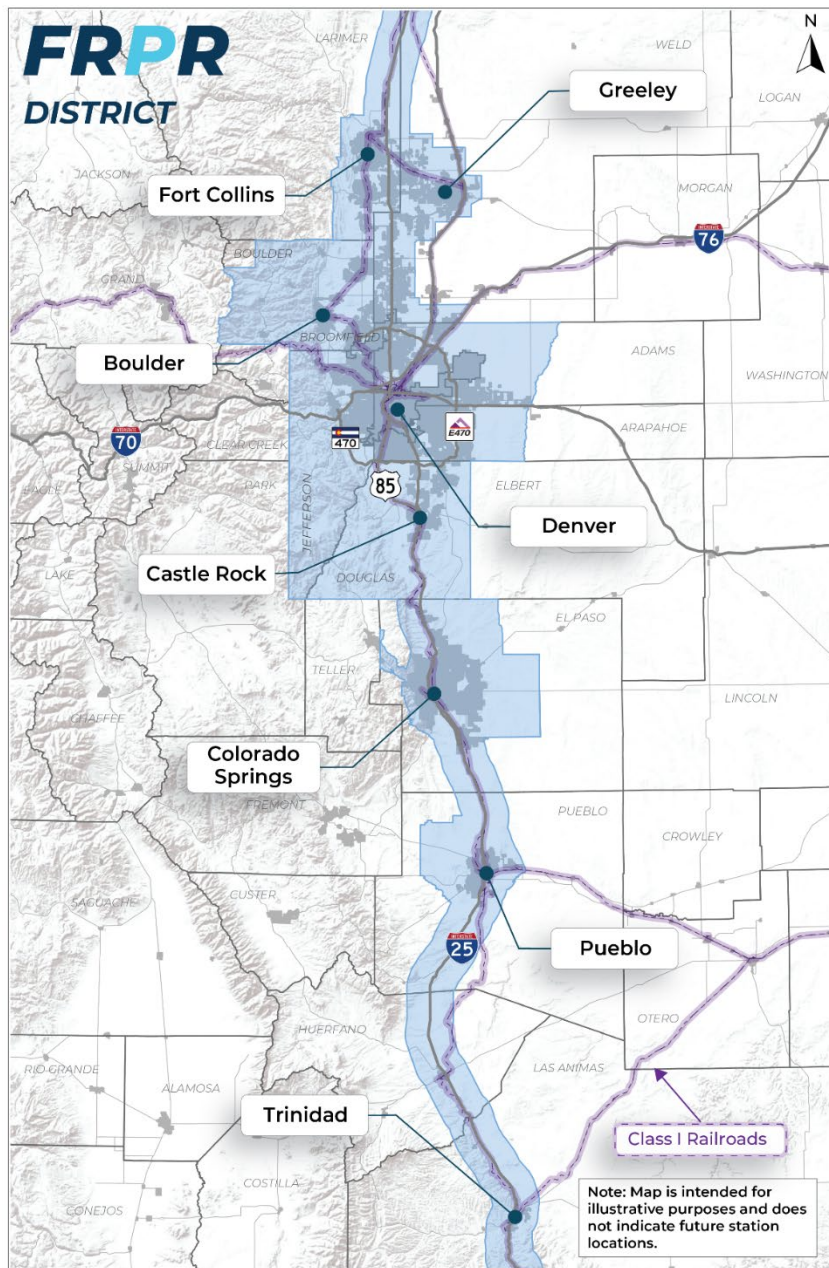
Colorado's population is concentrated in the Front Range, where 85 percent of the state's population resides today and is projected to live in 2050, with the Front Range population projected to be approximately 7.5 million, according to 2023 data from the Colorado Department of Local Affairs. Development of the corridor will facilitate new multimodal transportation connections that link education centers, employment hubs, and communities in one of the fastest growing mega-regions in the country.

The FRPR District is currently working with CDOT to prepare a Service Development Plan (SDP) for the project, with partial funding for the study provided by a CRISI grant administered by FRA. The SDP evaluates route, stations, service, infrastructure, operations, costs, and financing, culminating in an implementation plan for initial train service. Completion of the SDP is a critical component in FRA's intercity passenger rail planning and development process and a key step for receiving additional Federal funding that will support future planning, environmental review, engineering, and implementation activities.

The FRPR District will develop an operating plan for a passenger rail service that focuses on meeting travel demand and customer experience expectations, while optimizing available Federal and non-Federal funding. This is consistent with the FRPR District's purpose, codified in its establishing legislation, to develop, operate, and maintain an interconnected passenger rail system within the Front Range that is competitive in terms of travel time for comparable trips with other modes of surface transportation. Initially offering service from Fort Collins through Denver and south to Pueblo, the FRPR District's authorizing legislation envisions the service eventually connecting Colorado to New Mexico and Wyoming.



Figure 26. Front Range Passenger Rail District Boundaries



The passenger service is being designed to use existing freight rail rights-of-way along the corridor and to have interoperability with freight rail services to allow for the use of shared track. Additional decisions regarding detailed service characteristics are ongoing and will be part of the service development planning process and partnership building currently underway.

The Level 2 alternatives identified in the 2020 Alternatives Evaluation Report presented a range of reasonable routes and offered different costs and benefits. One of the final decisions made by the previous Rail Commission was to officially recommend the alternative referred to as the BNSF Freight Rail Alternative as its preferred option for further corridor development. The BNSF Freight Rail Alternative alignment follows the existing BNSF Railway network between Fort Collins and Pueblo. This alignment includes a portion of the BNSF Front Range



Subdivision between Denver and Fort Collins and the entirety of the BNSF Pikes Peak Subdivision and UP Colorado Springs Subdivision “Joint Line” between Denver and Pueblo.

Specific railroad capital projects needed to implement the proposed service plan will be identified through the service development planning process. In addition to station development and support facilities, other projects may include the construction of new meet/pass sidings, additional main tracks, and flyovers; realignment of curves to increase train speeds; upgrading or modernization of rail bridge structures; and the installation of new or upgraded signaling and train control systems, to include PTC implementation.

Anticipated Public Benefits

The SDP will quantify and monetize anticipated public benefits based on the proposed service plan. Anticipated public benefits represent economic values resulting from rail service improvements, which can be experienced by both users of passenger rail service and the public at-large. These benefits may include transportation cost savings to riders; travel time savings to drivers resulting from reductions in projected congestion; reductions in highway vehicle crashes, pavement maintenance costs, and highway vehicle emissions; and increased economic activity and property values resulting from new or enhanced commercial centers (including transit-oriented development opportunities). Benefits monetized in the SDP will be aggregated into several broad categories that align with U.S. DOT’s criteria, and will include:

- Travel time savings for a range of user types, monetized using the appropriate values of time as defined by U.S. DOT.
- Reductions in projected vehicle miles traveled for a range of user types, converted to monetized benefits related to vehicle operating costs, fuel savings, emissions, reduced pavement damage, and reduced noise costs.
- Reductions in projected safety incidents, including crashes on the regional highway network, converted to monetized benefits associated with reduced injuries and values using the appropriate value of a statistical life metrics as defined by U.S. DOT.

Analyses will also consider the project’s potential to support employment and wage growth in the region. Along with any temporary job impacts associated with construction activity, these impacts will be quantified and described to the extent practicable. In addition, the values of service to important potential travelers will be identified including, for example, higher education students, military personnel, elderly people, and disabled citizens.

Front Range Passenger Rail Potential Capital Projects

The implementation of FRPR intercity passenger rail service will require a suite of targeted capital projects to achieve the service vision proposed in the SDP. These projects will include the construction of new stations, support facilities, track improvements, and signal improvements. In addition, there will likely be an up-front capital cost for rolling stock procurement.

Station Development

New station facilities will need to be planned, designed, and constructed at all of the proposed station locations along the Front Range Corridor other than the existing Denver Union Station. Existing legacy (pre-1971) intercity passenger rail facilities that remain at some locations along the corridor are no longer suitable for passenger service without substantial refurbishment and modifications. Each new station will require the design and



construction of a new boarding platform and associated access and transition plazas that are compliant with the Americans with Disabilities Act and current railroad design standards. At many locations, new station facilities may be constructed at alternate sites that differ from historical station locations.

While precise station locations have yet to be determined, the FRPR Alternatives Evaluation identified the following markets along the BNSF Freight Rail Alternative as the primary station areas for the proposed service:

- Fort Collins
- Loveland
- Longmont
- Boulder
- Downtown Denver (Denver Union Station)
- South Metro (Littleton)
- Douglas County (Castle Rock)
- Colorado Springs
- Pueblo

Station planning work is already completed or underway at the local level for the proposed stations in Colorado Springs and Pueblo. The City of Colorado Springs completed its Passenger Rail Station Location Study in 2022. Pueblo County completed its Pueblo Station Area Plan in 2020. Additionally, Longmont and Boulder have already incorporated station area planning into local neighborhood and transit-oriented development planning. The FRPR District will continue to coordinate with and support local jurisdictions to integrate FRPR station locations into local land use plans.

Support Facilities

In addition to stations, support facilities will be needed to maintain the fleet of locomotives and passenger cars used to provide intercity passenger rail service. This typically consists of a centralized facility for heavy maintenance and one or more outlying facilities for overnight layover, storage, re provisioning, and light mechanical servicing of trains.

Track Improvements

New and upgraded track infrastructure will be needed to reliably deliver the proposed FRPR service frequencies and trip times, while not impairing the efficiency or safety of intercity passenger, commuter, and existing freight rail services in locations where track will be shared, and not otherwise adversely affect existing transportation infrastructure. While precise track improvements have yet to be determined, track improvements are anticipated to include construction of additional track capacity in the form of additional main track and sidings, new or upgraded structures, modifications to track geometry to optimize passenger train speeds through curves, and other elements to support the proposed service.

Signal and Train Control Systems Improvements

The Rail Safety Improvement Act of 2008 (RSIA) mandated the implementation of Positive Train Control (PTC) systems on Class I railroads' main line segments over which 5 million or more gross tons of annual freight traffic and certain hazardous materials are transported, and on any main line segments over which intercity or



commuter rail passenger transportation is regularly provided. PTC is a safety overlay system designed to prevent train-to-train collisions, derailments caused by excessive speed, unauthorized incursions by trains into sections of track where maintenance activities are taking place, and movement of trains through track switches left in the wrong position. This is accomplished through automatic braking enforcement actuated by onboard systems on the locomotive.

Certain segments of the corridor have not met the Federal requirements for implementation and currently do not have PTC installed. This includes the BNSF Front Range Subdivision north of Denver. Per Federal law, PTC implementation will be a required prerequisite before any regularly scheduled FRPR intercity passenger rail service can commence in the corridor, provided that more than four one-way passenger train movements per day will be scheduled.

Rolling Stock Procurement

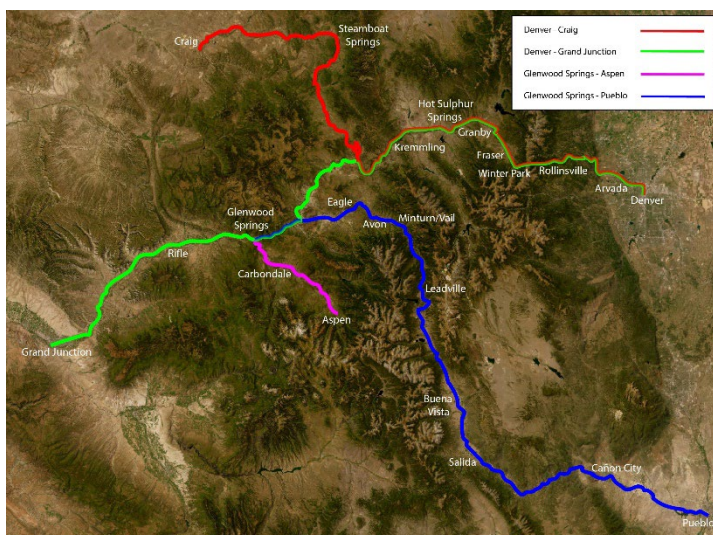
The FRPR District or its contracted passenger rail service provider will need to acquire or lease the locomotives and passenger cars that will be used to provide the service. The needed quantity of locomotives and passenger cars will be dependent on the proposed service plan and the desired spare equipment ratio so that rolling stock can be rotated out of service for maintenance without impacting regularly scheduled service.

Mountain Passenger Rail Corridor Planned Improvements

Union Pacific owns a vast majority of track mileage in the mountains, notably including both passes over the continental divide and the primary east-west routes across the mountains in the state. The Tennessee Pass Subdivision is currently not in service, and some stakeholders have expressed interest in this route as an alternative to I-70 and connections to tourist and resort destinations in the central mountains. The Moffat Tunnel Subdivision, Craig Subdivision, and the Glenwood Springs Subdivisions have seen a decrease in traffic volumes, and with the shift of commodity flow away from coal, traffic is expected to remain low. This has been met with stakeholder interest in increasing current passenger service or adding additional lines.

CDOT’s Division of Transit and Rail prepared a visioning document to outline a potential future full buildout of what an interconnected regional network of passenger train services across the mountains of Colorado could conceptually look like. The system would connect the Western Slope, mountain towns, recreational destinations, and other destinations across the mountains of Colorado. The conceptual system would leverage existing rail corridors (both operating and out of service), and when fully built out, would consist of approximately 620 miles of new, or added and enhanced, passenger train service. Benefits will include reduction in reliance on roads, distributing the load of recreational users of the outdoors, strengthening local economies of bypassed towns, and lessening the environmental impact of transportation in Colorado.

Figure 27. Conceptual Full-Buildout Mountain Rail Network





In late 2023, CDOT received \$5 million in funding from the Transportation Commission to complete a Service Development Plan for a portion of this vision, focused primarily on the Denver to Craig line. This effort would include identification of funding sources, modeling potential ridership and revenues, capital investments needed, operating and maintenance costs, and identifying fleet and operators to make the service happen.

Table 30. Proposed Intercity Passenger Rail Corridor Improvements

Project Source	Project Description	Year	Cost	Sources
FRPRD	Station Development	TBD	TBD	FRPRD, Federal, State
FRPRD	Support Facilities	TBD	TBD	FRPRD, Federal, State
FRPRD	Track Improvements	TBD	TBD	FRPRD, Federal, State
FRPRD	Signal Improvements	TBD	TBD	FRPRD, Federal, State
FRPRD	Rolling Stock Procurement	TBD	TBD	FRPRD, Federal, State
CDOT	Mountain Rail Service Development Plan	2024-2026	\$5 Million	State



C. Enright/CDOT

CHAPTER 4. PROPOSED FREIGHT RAIL IMPROVEMENTS AND INVESTMENTS

Chapter 4 summarizes past investments and improvements by freight rail operators and currently known and anticipated future projects over a 20-year horizon. Information on planned improvements and investments from rail operators, including BNSF, UP, and short line railroads, was requested but was only partially made available. Therefore, this Rail Plan does not fully capture past and planned freight rail investments. Freight railroads anticipate continuing to invest in maintenance and limited capacity expansion in Colorado over the next 20 years.

4.1 Previously Completed Freight Rail Improvements

Colorado’s freight railroads continue to invest in maintaining, improving, and expanding rail infrastructure. These capital expenditures include track maintenance and repairs, facility upgrades, bridge maintenance, signal upgrades to enable PTC technologies, and other critical improvements. Investment in Colorado’s rail systems provides direct economic benefits to the state economy and to regional economies in terms of direct wages, in-state procurement (e.g., ballast, ties, or rail), and contracted services.

From 2018-2022, Union Pacific invested more than \$253 million in its Colorado infrastructure. Projects include new ties and rail, as well as bridge maintenance. In March 2019, BNSF broke ground at its Hudson Logistics Center, a 430-acre rail-served industrial development in Hudson, Colorado. BNSF also has long term plans to construct an Intermodal Facility and Logistics Park near Lochbuie on the east side of Interstate 76 in Weld County that will be separate from the Hudson Logistics Center. As of 2023, BNSF has acquired 1,400 acres of 2,700 needed to support the development. BNSF is participating in conversations between CDOT, Weld County, and local stakeholders on a possible new interchange at County Road 8 to accommodate traffic in the area.

The projects listed in the following table are provided as additional examples of previously completed capital expenditure projects by Class I railroads.



Table 31. Previously Completed Class I Railroad Capital Improvement Projects, 2012—2022

Railroad	Year	Project Description	Estimated Cost
BNSF	2012	Construction of new maintenance of way facility. Signal upgrades to support Positive Train Control systems. 325 miles of track surfacing and 50 miles of track replacement.	\$80,000,000
BNSF	2013	Expansion improvements and replacement of track (rail, tie, surfacing) and infrastructure, such as signals and bridges.	\$67,000,000
BNSF	2014	Expansion improvements and replacement of track (rail, tie, surfacing) and infrastructure, such as signals and bridges.	\$58,000,000
BNSF	2015	Siding extensions in Brush, Barr, Keenesburg, and Wiggins. New siding west of Commerce City and track extension in Denver and Sterling terminals. 580 miles of track surfacing and 16 miles of track replacement. Signal upgrades.	\$148,000,000
BNSF	2016	Maintenance—860 miles of track surfacing/undercutting, replacement of 15 miles of rail and 115,000 ties, signal upgrades for PTC, etc.	\$95,000,000
BNSF	2019	Longmont Railroad Crossing Safety Improvement Project—CRISI Grant	\$4,000,000
BNSF	2022	PTC La Junta Subdivision	\$127,172
UP	2012	Improvements to the line in Grand Junction, including track stabilization along the Colorado River.	\$57,000,000
UP	2013	Improvements to the line between Boyero and Limon. Replacement of 31 miles of rail, switch installation, and surface renewal at 21 road crossings.	\$77,800,000
UP	2014	Improvements to the line between Sterling and Messex. 18 miles of track replacement. Installation of switches and surface renewal at 43 road crossings.	\$91,000,000
UP	2015	Improvements to the line between Dotsero and near Palisade, including surface renewal at 40 road crossings.	\$41,000,000
UP	2016	36 miles of track replacement between Greeley and Windsor. Improvements to the line between Castle Rock and Palmer Lake and the track between Pueblo and Trinidad.	\$70,900,000
UP	2021	Colorado Springs—South Downtown Railroad Underpass Reconstruction Project—CRISI	\$2,500,000

Sources: BNSF and UP publications

Detailed information on past capital expenditures and improvements made by short line railroads in Colorado was not available for inclusion in this Rail Plan.



4.2 Proposed Freight Rail Improvements

Private railroads continue to invest significantly in Colorado’s rail infrastructure. Detailed information on future freight rail improvements was not available from all railroads. Rail operators are likely to continue to maintain and improve rail track, infrastructure, facilities, and other assets to meet future demand in the state.

Specific future rail improvements planned over the next 20 years by short line railroads were not available and are not included in plan. Short line railroads operate on relatively small profit margins and reinvest significant amounts of revenue back into maintenance and improvements of rail lines and facilities. Among the short line railroads and holding companies of railroads operating in the state, total operating expenses represented approximately 81 percent of operating revenue, on average. Short line railroads face significant future investments needs and may require public support to upgrade track and infrastructure to safe and modern standards.

Railroads, businesses, or local governments in industrial development areas and economic development zones may identify additional future freight rail needs for new sidings, spurs, facilities, and other capacity expansions. One such example in the state is the Southern Colorado Rail Park which is located on 3,000 acres between the Colorado Springs Nixon Power Plant and the Fort Carson Military Reservation. This project envisions extending an existing dual service rail spur (UP and BNSF) that will provide for industrial site development and strengthen the military resiliency of Fort Carson by providing a secondary rail service access to support rapid deployment capabilities. In 2020, the project received a U.S. Economic Development Administration grant to support technical planning. In 2023, the City of Colorado Springs and Colorado Springs Utilities approved the rail trackage agreement in support of the Southern Colorado Rail Park. Collaborative plans to redevelop the Burnham Yard area, including integration with commuter rail lines, will also result in improvements or changes to freight rail service.

Rail improvements planned by Colorado’s Class I railroads over the next 20 years were not consistently available and are not all included in this plan. In coordination with CDOT, BNSF has identified significant future project concepts to improve safety, expand capacity, and enable future integration and operations with passenger rail services, as shown in the table below.

Table 32. Proposed Freight Railroad Capital Improvement Projects

Project Source	Project Description	Year	Cost	Source
BNSF	Positive Train Control—Denver to Cheyenne	TBD	TBD	CRISI, FSP
BNSF	Tejon Realignment in Colorado Springs	TBD	TBD	CRISI, FSP
BNSF	Brush/Akron/Hastings Class 5 Railroad	TBD	TBD	CRISI, FSP
BNSF	Grade separators at SH66/119	TBD	TBD	CRISI, RCE
BNSF	Denver South Platte River Program, Bridge 0.49 Replacement	TBD	TBD	CRISI, FSP
BNSF	Loveland Garfield Ave—Signal Replacement/Roadway Modifications	TBD	TBD	CRISI, FSP
BNSF	Hudson Interchange at I-76 & CR8	TBD	TBD	CRISI, FSP



Project Source	Project Description	Year	Cost	Source
BNSF	W. Drake Road Underpass Fort Collins	TBD	TBD	CRISI, RCE
BNSF	N Timberline Road Overpass Fort Collins	TBD	TBD	CRISI, RCE
City of Colorado Springs	Track, Siding, and Spur Improvements to support Southern Colorado Rail Park	TBD	TBD	Grants
City and County of Denver	Burnham Yard freight rail realignment and safety improvements	TBD	TBD	Grants
Freight Rail Operators	Wayside detection, emergency response and safety investments	TBD	TBD	Grants, Private

4.3 Rail Corridor Preservation Needs

In June 2000, the Colorado Transportation Commission first approved a Rail Corridor Preservation Policy, also known as Policy Directive 1607. Based on this Policy Directive, CDOT identified six State Significant Rail Corridors for preservation: the Tennessee Pass Line, the Fort Collins Branch Line, the Towner Line, the San Luis & Rio Grande Railroad, the North Fork Branch/Montrose Lead Line, and the Craig Subdivision. These corridors are noted in an annual report by CDOT to the Transportation Legislative Review Committee. No specific projects are identified, and no funds are currently allocated for the preservation of these lines. CDOT will continue to monitor activities related to rail corridors and rail assets for the foreseeable future.

4.4 Freight Rail Investment Needs

Upgrading and expanding rail infrastructure is costly. Most improvements to rail-owned infrastructure are entirely privately funded. However, for Class I and short line railroads, maintenance and improvement costs represent significant expenditures. Total investment needs of short line railroads are estimated in the hundreds of millions of dollars nationally, and railroads in Colorado have significant project needs to repair and modernize assets. Many rail improvements needed to attract or retain businesses or to develop industrial sites into economic hubs need more “seed” funding and/or low-interest financing to make them happen. Once new sidings, new spurs, or track upgrade projects are completed, the new businesses can produce revenues to pay back the initial investment.

Short line railroads provide critical connections to Class I railroads for Colorado producers and businesses, particularly in regions dependent on agriculture and natural resource industries. The investment needs of these railroads are challenging for operators to fund with current revenues because operating expenses for many railroads are relatively high. Currently, significant investments need to be made to upgrade track to handle 286,000-pound rail cars and to upgrade track, bridges, assets, and equipment.

Relatively little research or peer state comparison data is available on short line or freight rail investment needs. In 2013, FRA estimated that, nationally, regional and short line railroads need at least \$6.9 billion in investment to maintain, modernize, and expand capacity. A total of \$500 million was invested in short line rail roads between 2018-2021 according to the 2022 FRA budget document. A 2015 study by the Washington DOT estimated that more than 740 miles (55 percent) of all short line track miles in the state of Washington were not equipped to handle modern rail car weights. The 2020 Louisiana State Rail Plan estimated \$205 million to upgrade short line



rails to carry 286,000-pound rail cars, and another \$51 million in additional short line improvements. In 2022 a Caltrans study estimated \$168 million in short line investment needs.

Further research is needed to fully understand the scope of Colorado's freight rail investment needs. With many short line operations running on track first built in the 19th century, the scope and scale of investment needed are likely significant. Among other investment needs that need further examination, Colorado will explore with the railroads the need for further investment in safety technology, including the expansion of PTC, wayside detection, remote sensing, and other investments to enhance railroad safety.

4.4.1 Rail Assistance Programs

These public assistance programs cover maintenance and upgrades to existing assets. These programs also cover new improvements to expand capacity and access, including new transloads, business sidings or spurs, team tracks, acquisitions, connections with Class I railroads, and ties into industrial parks. Assistance programs provide low-interest loans, competitive grants, or tax incentives to defray the cost of upgrades to railroads, businesses, and local governments. The previous Rail Plan identified the development of a rail assistance program as a need, and it remains a critical priority for stakeholders.

There are several rail assistance programs across the United States, and Colorado is one of the few states with significant short line rail activity without a funded assistance program. Many of these programs provide grants or subsidized low-interest loans or a combination of both. Funding is available to both public and private sector partners, including privately owned railroads, economic development districts, and local governments. Many programs also include specific economic development goals or are jointly managed with state economic development agencies. A few notable examples from around the country include:

- **The New York State Passenger and Freight Rail Assistance Program** is a multi-year freight and passenger rail funding program passed by the New York State Legislature. Funds are appropriated from general state revenues annually and are available to fund freight and passenger capital improvements. New York also provides an economic development oriented Industrial Access Program. This program is a combination 60 percent grant and 40 percent loan program, up to a maximum of \$1 million available for rail improvements.
- **The State of Washington Freight Rail Investment Bank** provides a loan program to support freight rail capital needs. The Freight Rail Investment Bank program is a loan program available to public sector partners. Loans of up to \$250,000 are available to fund track expansions. Another program, the Freight Rail Assistance Program, provides grants to both public and private sector partners, including local governments, economic development councils, and privately or publicly owned railroads.
- **The Pennsylvania Rail Freight Assistance Program** provides financial assistance for investment in rail freight infrastructure to support economic development through new or expanded rail freight service. Maximum state funding for a Rail Freight Assistance Program project is 70 percent of the total project cost, not to exceed \$700,000. The state's Rail Transportation Assistance Program provides a 70 percent cost share for major projects and requires approval by the Pennsylvania State Legislature. Funds are available to public and private entities to cover maintenance and expansion needs.
- **The Iowa Railroad Revolving Loan and Grant Program** provides assistance to improve rail facilities that support economic development and job growth and provides assistance to railroads for the preservation and improvement of the railroad system. Both grants and low-interest loans are available and are awarded based



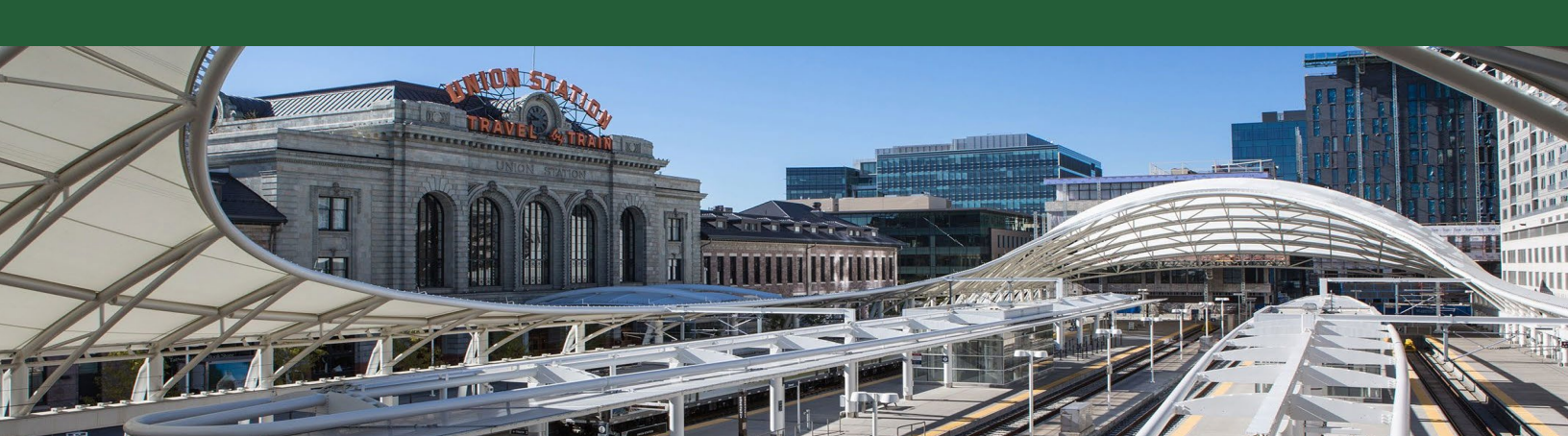
on competitive applications. Grants are also available to local communities to conduct planning studies for rail development that support industrial and business development.

The State of Colorado provides funding programs and P3 authority to advance transportation investments. CDOT's Colorado Transportation and Investment Office (CTIO) was established to facilitate P3s and has helped generate significant private investment in managed lanes and corridors in the state. CTIO has the authority to advance any surface transportation projects, including highways, bridges, and other infrastructure, facility, or equipment used primarily or in large part to transport people. The Colorado State Infrastructure Bank (CO SIB) is a revolving fund that provides loans to finance public transportation projects. The proposed project must ultimately have revenue sources available to it to repay the loan. Without dedicated revenues, rail projects are not typically successful under the CO SIB program.

4.4.2 Federal Railroad Rehabilitation and Improvement Financing

The Railroad Rehabilitation and Improvement Financing program was established by the Transportation Equity Act for the 21st Century and amended by the Safe Accountable, Flexible and Efficient Transportation Equity Act: a Legacy for Users. Under this program, the FRA Administrator is authorized to provide direct loans and loan guarantees up to \$35 billion to finance the development of railroad infrastructure. Not less than \$7 billion is reserved for projects benefiting freight railroads other than Class I carriers (that is, regional railroads and short line railroads).

The funding may be used to: acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, track components, bridges, yards, buildings, and shops; refinance outstanding debt incurred for the purposes listed above; and develop or establish new intermodal or railroad facilities. Direct loans can fund up to 100 percent of a railroad project with repayment periods of up to 35 years and interest rates equal to the cost of borrowing to the Government. Eligible borrowers include railroads, state and local governments, Government-sponsored authorities and corporations, joint ventures that include at least one railroad, and limited option freight shippers who intend to construct a new rail connection. RTD received \$155 million in from the Railroad Rehabilitation and Improvement Financing program for the Union Station project in 2010.



CHAPTER 5. COLORADO'S RAIL SERVICE AND INVESTMENT PROGRAM

Chapter 5 describes Colorado's long-term aspirational vision for the future of freight and passenger rail in Colorado. There is not currently dedicated, recurring state funding to help address future freight or passenger rail needs documented in this Rail Plan. Continued investment and additional Federal, state, local, or private funding sources must be identified, and existing resources redirected to address these needs.

To achieve Colorado's freight and passenger rail vision, this plan identifies a series of high-priority objectives and implementation strategies. Action on these key priorities will advance Colorado's rail vision and support progress toward fully integrating freight and passenger rail into the state's multimodal transportation system. This chapter documents Colorado's Rail Service and Investment Program (RSIP) by summarizing future freight and passenger rail needs, as described in Chapters 3 and 4, and lists short and long-term potential improvements.

This chapter includes potential investments as currently envisioned and based on available information. These projects are described for major state rail corridors and are subject to refinement based on future implementation, partnership, and funding opportunities. Cost estimates and timing are provided as currently known. These investments are linked to the goals and objectives of this Rail Plan and correlated to likely program effects and benefits. Finally, this chapter includes proposed studies and other recommendations needed to implement this plan.

5.1 Vision, Strategies, and Implementation Action Plan

Build a robust and safe rail network for passengers and freight that is an integral element of Colorado's multimodal transportation system and supports access to sustainable mobility for all people, goods, and services.

This Rail Plan establishes an ambitious vision for the future of rail in Colorado. Stakeholders and partners involved in this Rail Plan developed this shared vision, with consultation from key planning partners and CDOT committees. This statement reflects the importance of maintaining and expanding the role of rail in transporting both people and products and focuses on providing mobility, connectivity, and economic opportunity for workers and industries across the state.

To support this vision, the Rail Plan goals are aligned with Colorado's Statewide Transportation Plan (SWP), Freight Plan (CFP), Statewide Transit Plan, and the guiding principles of the Division of Transit and Rail (DTR). Together, Colorado's vision, goals, high-priority objectives, and key implementation strategies provide the



strategic direction for evaluating future opportunities, acting on recommendations, pursuing improvements and investments, and aligning future decision-making. This strategic framework will guide future implementation activities and planning efforts, not only for CDOT but also for public and private rail partners and stakeholders across the state. The following section provides an overview of Colorado’s rail goals, high-priority objectives, and implementation strategies.

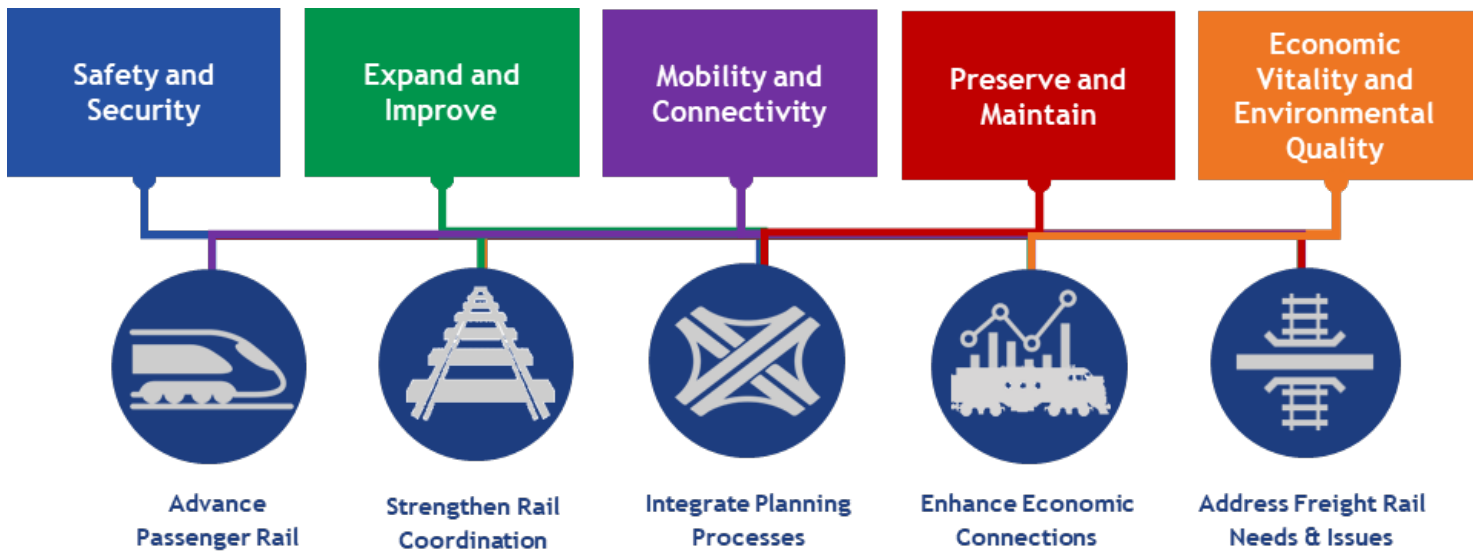
5.1.1 Priority Objectives and Implementation Strategies

This Rail Plan provides strategic direction to CDOT and partners on priority actions that support national and state goals and that will significantly advance Colorado’s future rail vision. Supporting strategies will equip CDOT, railroads, rail-reliant businesses, and regional and local planning partners to be responsive and agile in responding to and moving forward on statewide needs.

CDOT DTR, with critical support from partners, will direct implementation by acting as a convener, a facilitator, a researcher, a leader, and an advocate. Support from planning and business partners will be necessary to move forward. These partners are instrumental in forming connections, providing resources, developing information, and acting as champions for rail in Colorado. Action on these priorities will help achieve Colorado’s vision to support freight and passenger rail systems as critical components of the state’s multimodal transportation system.

Each of the five priority objectives identified in this Rail Plan supports shared statewide goals and is linked to multiple rail plan goal areas, as shown in the graphic below.

Figure 28. Colorado State Freight and Passenger Rail Plan Goal Area and Priority Strategies Linkages





Advance Passenger Rail

Why is this important?

Passenger rail service along the Front Range has been a key part of transportation planning conversations for decades and is generally supported by businesses, economic development organizations, local officials, and transportation planners along the corridor. As the Front Range continues to grow, demand for moving business travelers, daily commuters, and visitors from around the globe will only intensify. Maintaining mobility for the Front Range will be a challenge.

Mountain communities are seeing a decrease in freight traffic through their towns. With this decrease, the railroads have become more amenable to the potential of reintroducing passenger rail service through the Rocky Mountains. Residents of mountain communities, Front Range residents, and visitors to Colorado already rely a comparatively high amount on the limited intercity passenger rail service within Colorado as compared to the rest of Amtrak's long distance network, suggesting that a study of expanding the Mountain rail network has merit.

What are we doing?

The Front Range Passenger Rail District (FRPR District), the successor to the Southwest Chief and Front Range Passenger Rail Commission, was established in 2021 with the purpose of planning, designing, developing, financing, constructing, operating, and maintaining a passenger rail system. To achieve this, the FRPR District has the power to levy a sales or use tax after the approval of said tax from voters within its boundaries, which roughly follows the alignment of I-25 within the borders of Colorado. Currently, the FRPR District is working with CDOT to prepare a Service Development Plan (SDP) for the FRPR project. CDOT is supporting these efforts by providing staff, resources, technical input, coordination, and partnerships, as appropriate.

In 2023, local communities along the Yampa Valley brought attention to the potential to re-establish passenger rail within the mountains of Colorado, specifically along the 191-mile Union Pacific Railroad route that runs from Denver through Winter Park and Steamboat Springs, ending in Craig. Passenger rail service along this route formerly existed but ended in 1968. In response, in October of 2023, the Colorado Transportation Commission approved \$5 million for CDOT to examine the potential of increasing and/or introducing passenger rail service within the Mountains of Colorado, including a look at statewide transit connectivity.

How will we proceed?

- Support the Front Range Passenger Rail District to advance a Front Range Passenger Rail service, alignment, and financing, including providing passenger rail service on the Northwest Rail corridor.
- Develop the future Front Range Passenger Rail corridor and alignment and share findings with regional and local planning partners to better integrate planning efforts and avoid preclusion of future uses, specifically around future station areas.
- Complete a Service Development Plan for the Mountain Rail Corridor, with a focus on the potential of restoring service between Denver and Craig, sharing findings and collaborating with stakeholders to increase the connectivity of transit and other modes, better integrate planning efforts, and avoid preclusion of future uses, specifically around future station areas.
- Develop and update the priority list of mobility, connectivity, and accessibility improvements needed to support future passenger rail service. Integrate identified projects into CDOT decision-making and project selection processes (for example, 10 Year Development Program, FASTER statewide funds, etc.).



Strengthen Rail Coordination

Why is this important?

Until relatively recently, CDOT did not have dedicated staff resources or committee structures to effectively engage with public and private rail operators on a regular basis. CDOT's DTR was established in 2009, the TRAC was formed in 2011, the state's first modern rail plan was completed in 2012, and the Freight Advisory Council (FAC) was reconstituted in 2015. Consultation among CDOT and rail partners was often reactive, irregular, and focused on immediate needs, rather than on longer term strategic opportunities. Developing ongoing relationships and communications among CDOT; Class I, short line, and scenic railroads; and state and national public rail agencies is key to strengthening rail coordination on a wide range of issues.

What are we doing?

This priority strategy focuses on key actions to establish and maintain regular consultation processes between CDOT and rail operators and to leverage this coordination to identify opportunities for partnerships and joint efforts that address infrastructure, planning, safety, and security needs. Partnerships among state, regional, and local agencies and rail operators resulted in restoring the Winter Park Express, formerly known as the Ski Train, in 2017; successfully competing for Federal grants to preserve Amtrak's Southwest Chief service; implementing rail improvements along the U.S. 85 corridor; and expanding financing and operation authority for the FRPR District. Through the development of this Rail Plan, additional opportunities to collaborate with freight and scenic railroads, Amtrak, and industry partners have been identified.

CDOT's DTR and DTD will continue to develop and implement coordination and communication processes with all freight and passenger rail operators in the state, by leveraging existing relationships and committees, including the FAC. Continual planning and ongoing coordination will help advance priority strategies and actions; identify improvement and investment needs early in project scoping processes; explore joint funding and grant opportunities; support programs addressing safety and security issues; and continue to develop partnerships for the future.

How will we proceed?

- Continue to develop CDOT's partnership with public and private rail operators by establishing a regular and recurring consultation process. Consultation will include annual meetings between CDOT and rail operators to identify issues, discuss coordination opportunities, and align improvements and initiatives.
- Support private railroads through technical assistance, grant applications, and other active efforts to ensure the full implementation of PTC or additional safety technologies across the state.
- Coordinate with the Colorado PUC, railroads, and local planning partners to identify and fund crossing improvement needs not eligible for Section 130 funding.
- Continue support and participation of CDOT and local governments in joint public-private task forces, working groups, councils, committees or initiatives that improve the safety and security of railroad lines, infrastructure, and assets.



Integrate Planning Processes

Why is this important?

At the state level, freight and passenger rail is a key consideration in the SWP and state modal plans such as the Statewide Transit Plan and Colorado Freight Plan. The issues, needs, and priorities identified at the state level are intended to inform regional and local decision-making from planning and project selection through design, engineering, and construction. However, statewide rail priorities may not always be effectively integrated into regional and local plans. Rail issues can still be better incorporated into internal CDOT decision processes. When integration is not effective, new facilities such as overpasses or station areas may not be built to accommodate future rail service; new developments or land use plans might create unintended conflicts with existing freight-oriented industrial areas or rail and intermodal yards; and local planning efforts may not consider critical statewide rail corridors or the strategic plans and long-term needs of private railroads or economic development organization.

What are we doing?

CDOT continues to work to fully integrate and address rail considerations in statewide, regional, and local planning processes. This will help ensure that transportation decisions are made with full information and that all partners are working together to achieve Colorado's rail vision. For transportation planning processes within CDOT, new guidelines and process improvements can readily integrate rail needs and opportunities into plans and designs. For regional and local processes, information on best practices and communication of statewide priorities can help ensure that common solutions are considered, including rail corridor preservation strategies. It is critical that state, regional, and local partners work together and align efforts so that development or decisions made now do no harm to existing rail infrastructure or future rail corridors.

How will we proceed?

- Consider guidelines, principles, or policy directives that effectively integrate freight and passenger rail issues and future mobility needs into CDOT planning and program development processes that affect future rail corridors, including Planning and Environmental Linkages (PELs), corridor studies, minimum design standards, and other CDOT planning, development, and project selection processes.
- Develop a program for freight-focused academies, workshops, or summits to educate local and regional planning partners and engineering region staff on rail industry activities and needs. This program can improve the identification of multimodal freight and rail projects and connect businesses to CDOT engineering region staff.
- Establish a process (e.g., speaker's bureau) to share information with local planning partners and the public on the development and outcome of freight and passenger rail studies to better align future decisions, including land use, zoning, and development.
- Craft information, policies, or guidelines to better align local decision-making and statewide rail priorities, including preserving, improving, and enhancing freight and passenger rail capacity and future right-of-way; developing Transit Oriented Development (TOD) supportive land uses, minimizing development conflicts; and improving safety.



Enhance Economic Connections

Why is this important?

Freight rail delivers critical materials and products for businesses, while passenger rail connects workers to jobs and brings visitors to communities across the state. Rail access is a key factor in the economic development decisions of communities and the relocation and expansion decisions of private businesses. Investments in rail improvements that expand access, provide new connections, or improve service to businesses can have major impacts on business decisions and the competitiveness of Colorado's regional economies.

What are we doing?

Economic development opportunities and impacts can be more fully integrated into transportation planning and decision processes so that they are considered consistently across regions and projects. Establishing communication and coordination among local and regional transportation planners, economic developers, and railroads is key to understanding and responding to the needs of local businesses. Several communities could better market their areas and attract employers with rail-served industrial sites or with improved road and rail access to redevelopment sites, including former rail infrastructure. Local and regional transportation plans do not always consider these types of projects and needs. Formalizing communication channels will help identify projects related to economic development, freight, or rail earlier in planning processes and foster ongoing dialogue. As CDOT shifts toward a performance-based planning process and data-driven decision-making, understanding how to incorporate economic factors into decisions will also be critical. Freight data, including exports, commodity flows, and rail movements are increasingly available and provide a robust data source to inform local and regional planning efforts.

How will we proceed?

- Develop ongoing coordination processes and communication channels with state, regional, and local economic development organizations and planning partners, as well as with businesses and freight railroads, to assess needed multimodal freight improvements to existing and future economic or industrial development zones, with a focus on the needs of rail-served sites or improved rail access.
- Support state and regional economic development and education partners in evaluating and responding to freight and logistics workforce needs and labor supply. Consider supporting programs, in partnership with other agencies and businesses, to address regional workforce needs.
- Quantify regional trade relationships and commodity flows and apply findings to customize transportation plans and to implement strategic regional multimodal freight projects, programs, or policies.
- Develop a statewide export, manufacturing, and trade and logistics transportation strategy to support an increase in outbound shipments.



Address Freight Rail Needs and Issues

Why is this important?

Upgrading and expanding rail infrastructure is costly. Most improvements to rail-owned infrastructure are entirely privately funded. However, for short line railroads, maintenance and improvement costs represent significant expenditures. The investment needs of short line railroads are estimated in the hundreds of millions nationally and railroads in Colorado have significant project needs to repair and modernize assets. Additionally, private railroads cannot solely fund rail improvements or investments needed to attract or retain businesses or to develop industrial sites into economic hubs. Local governments or economic development organizations may require public loans or grants to bring new sidings or spurs into economic redevelopment zones or to preserve key rail infrastructure and assets from abandonment.

What are we doing?

Funding for rail improvements is limited in Colorado, and there is a need to identify additional existing and potential resources to maintain and improve rail infrastructure. A key strategy within this Rail Plan and the CFP is to better identify and integrate freight-specific projects into current planning, programming, and project selection processes. Considering rail-related projects for funding, including highway connections to rail-served industrial sites or intermodal facilities, is critical. Coordinating resources among state, regional, and local agencies, as well as railroads and economic development organizations, can leverage limited funding to move forward on needed investments.

How will we proceed?

- Coordinate and evaluate needed safety improvements on freight corridors, especially with hazardous materials cargoes, including adequacy of PTC, wayside detector and other capacities.
- Develop an inventory of short line rail service constraints (condition, track weight, speed, physical, etc.) and estimate the value of needed improvements.
- Explore feasibility of a freight railroad assistance program (e.g., loans, grants, investment tax credits, or a hybrid program) to fund critical capacity and connectivity needs, track and infrastructure upgrades, and other improvements with a focus on short line railroads.
- Continue coordination with Class I railroads to identify planned or needed improvements and coordinate with engineering regions and local planning partners.
- Identify potential projects that address rail-related infrastructure constraints or rail access and connectivity improvements. Consider and prioritize improvements within CDOT's existing freight project selection processes or regional planning processes. Identify and apply available funding sources to rail projects.
- Expand the SB-37 abandonment reporting process to identify additional rail-related infrastructure, land, or assets at risk and coordinate with partners to avoid precluding future or alternative uses.

Implementation Action Plan

For each priority objective identified through this planning effort, CDOT identified critical next steps, potential partners, and implementation pathways, and prioritized the timing of action steps. The action plan presented in this section summarizes future implementation efforts. CDOT will continue to refine and update these strategies



in consultation with rail operators, industry partners, and regional and local planning partners. Identified actions will help establish the connections, networks, and partnerships necessary to coordinate efforts, to identify rail improvement needs earlier in planning processes, and to generate momentum and establish the business case for investing in rail.

The following action plans for each priority objective will be further refined in implementation planning efforts. Timing indicates the first year in which an action of this Rail Plan can reasonably be initiated. Many actions are continuing and will be supported beyond the planning horizon of this Rail Plan. CDOT’s likely role is identified, though every action will require commitment and coordination with many partners, also noted. Next steps include key strategies, actions, studies, or resources needed to move forward.

Table 33. Advance Passenger Rail

Action Step	Timing	CDOT Role	Potential Partners	Next Steps
Support the Front Range Passenger Rail District	Ongoing	Support	<ul style="list-style-type: none"> FRPRD Member Organizations ColoRail and Advocacy Organizations 	<ul style="list-style-type: none"> Support identified needs and actions of the FRPRD Support funding of the FRPRD work, including in-kind staff resources
Develop a Service Development Plan for potential mountain rail corridor, including statewide transit connectivity	2023-2026	Lead	<ul style="list-style-type: none"> Rail Operators, TPRs, Local Government, Local Transit Agencies 	<ul style="list-style-type: none"> Procure a consultant(s) to assist CDOT in the development of a Mountain Rail Corridor SDP Execute service planning efforts Provide staff support
Document future capacity considerations and constraints on potential passenger rail corridors	2023-2027	Lead	<ul style="list-style-type: none"> Colorado Rail Operators RTD and Transfort MPOs, TPRs, and Local Governments 	<ul style="list-style-type: none"> Coordinate with rail operators and planning partners Communicate study findings to planning partners Provide staff and/or consultant support
Develop and maintain a priority list of mobility, connectivity, and accessibility improvements needed to improve existing passenger rail service and/or support future service	2023-2027	Lead with Support	<ul style="list-style-type: none"> Colorado Rail Operators MPOs, TPRs, and Local Governments CDOT Engineering Regions 	<ul style="list-style-type: none"> Coordinate within CDOT to incorporate rail into planning and project development processes Develop the process to generate and update project lists for consideration within current CDOT funding programs



Table 34. Strengthen Rail Coordination

Action Step	Timing	CDOT Role	Potential Partners	Next Steps
Continue to develop partnerships and consultation with public and private rail operators	2023-2027	Lead	<ul style="list-style-type: none"> Colorado Rail Operators FRA 	<ul style="list-style-type: none"> Expand role and representation of rail operators on FAC Continue to develop connections and coordination opportunities with passenger rail operators Benchmark best practices identified by other states
Support efforts to ensure full implementation of Positive Train Control	Ongoing	Support	<ul style="list-style-type: none"> Colorado Rail Operators FRA PUC Amtrak 	<ul style="list-style-type: none"> Provide support for necessary funding, state actions, or regulations
Coordinate with partners to identify and fund safety, security, and crossing needs	Ongoing	Support	<ul style="list-style-type: none"> PUC MPOs, TPRs, and Local Governments Colorado Rail Operators Federal Agencies (FTA, FRA, FHWA) 	<ul style="list-style-type: none"> Develop process to coordinate with PUC Identify additional funding sources or grant opportunities Provide CDOT information and/or expertise in support of environmental “clearance” activities that railroads may pursue to obtain funding.
Support and participate in joint efforts to improve safety and security	Ongoing	Support	<ul style="list-style-type: none"> Colorado Rail Operators Federal Agencies (FTA, FRA, FHWA) PUC MPOs and Local Governments 	<ul style="list-style-type: none"> Track projects, initiatives, working groups, etc., for involvement by CDOT and Region staff Continue to support Operation Lifesaver

Table 35. Integrate Planning Processes

Action Step	Timing	CDOT Role	Potential Partners	Next Steps
Consider guidelines or directives that integrate freight and passenger rail issues and needs into CDOT planning processes	2023-2025	Lead with Support	<ul style="list-style-type: none"> CDOT Engineering Regions MPOs and TPRs 	<ul style="list-style-type: none"> Coordinate within CDOT to integrate rail planning needs within corridor studies, TPR plans, PELs, etc.



Action Step	Timing	CDOT Role	Potential Partners	Next Steps
Develop a program for freight-focused workshops or summits to connect local and regional planning partners with industry	2024-2026	Support	<ul style="list-style-type: none"> ▪ Rail Operators ▪ CDOT Engineering Regions ▪ MPOs and TPRs ▪ FAC 	<ul style="list-style-type: none"> ▪ Work with industry and regional and local planning partners to initiate program ▪ Provide staff and/or consultant resources
Establish a process to share information with local planning partners and the public on outcomes of freight and passenger rail studies	Ongoing	Support	<ul style="list-style-type: none"> ▪ ColoRail ▪ MPOs and TPRs ▪ Civic Organizations and Industry Associations 	<ul style="list-style-type: none"> ▪ Leverage Colorado Delivers brand communications efforts ▪ Develop shareable information, data, presentations, etc., for use by planning partners and stakeholder groups
Craft information, policies, or guidelines to better align local decision-making and statewide rail priorities	2023-2025	Support	<ul style="list-style-type: none"> ▪ MPOs, TPRs, and Local Governments ▪ Rail Operators ▪ Civic Organizations and Industry Associations ▪ Office of Economic Development and International Trade (OEDIT) ▪ Department of Local Affairs 	<ul style="list-style-type: none"> ▪ Develop and share national best practices on integrated planning for freight and transit needs ▪ Develop a process to integrate rail considerations into regional and local planning efforts

Table 36. Enhance Economic Connections

Action Step	Timing	CDOT Role	Potential Partners	Next Steps
Develop ongoing coordination processes and communication channels with economic organizations and planning partners	2023-2027	Lead with Support	<ul style="list-style-type: none"> ▪ OEDIT Regions ▪ MPOs, TPRs, and Local Governments ▪ Economic Development Organizations ▪ Rail Operators 	<ul style="list-style-type: none"> ▪ CDOT staff and resource capacity to develop and continue process ▪ Education and networking for regional and local planning partners ▪ Make available information on site selection, planned developments and economic opportunity areas



Action Step	Timing	CDOT Role	Potential Partners	Next Steps
Quantify regional trade relationships and commodity flows and apply findings to customize transportation plans	2023-2027	Lead	<ul style="list-style-type: none"> MPOs and TPRs CDOT Engineering Regions 	<ul style="list-style-type: none"> Distribute data on freight flows to local and regional planning partners Integrate economic considerations into TPR plans
Support state and regional economic development and education partners in evaluating and responding to freight and logistics workforce needs and labor supply	2023-2027	Support	<ul style="list-style-type: none"> Colorado Workforce Boards Local Governments Industry Associations 	<ul style="list-style-type: none"> FAC to develop letter of support for regional workforce boards to better engage on freight and logistics industry workforce needs
Develop a statewide export, manufacturing, and trade and logistics transportation strategy	2023-2027	Support	<ul style="list-style-type: none"> OEDIT 	<ul style="list-style-type: none"> Joint or pooled research and strategic plan

Table 37. Address Freight Rail Needs and Issues

Action Step	Timing	CDOT Role	Potential Partners	Next Steps
Evaluate additional safety technology and other investments	2025-2027	Lead	<ul style="list-style-type: none"> Colorado Rail Operators 	<ul style="list-style-type: none"> Coordinate with railroad operators to identify pilot programs or specific improvements
Develop an inventory of short line rail service constraints	2025-2027	Support	<ul style="list-style-type: none"> Colorado Short Line Rail Operators American Short Line and Railroad Association (ASLRRRA) MPOs and TPRs Universities 	<ul style="list-style-type: none"> Coordinate with short line rail operators Explore alternative funding or research opportunities with national associations, universities, or other partners
Explore feasibility of a freight railroad assistance program	Ongoing	Support	<ul style="list-style-type: none"> Colorado Freight Rail Operators FAC State Legislature 	<ul style="list-style-type: none"> Study and adapt best practices from other state programs Build support with Colorado Transportation Commission and State Legislature



Action Step	Timing	CDOT Role	Potential Partners	Next Steps
Continue coordination with Class I railroads to identify planned or needed improvements	Ongoing	Lead with Support	<ul style="list-style-type: none"> Colorado Freight Rail Operators MPOs, TPRs, and Local Governments 	<ul style="list-style-type: none"> Proactively engage freight railroads and economic development organizations, communities, and industry customers served by railroads
Identify potential projects that address rail-related infrastructure constraints or rail access and connectivity improvements	2025-2027	Lead with Support	<ul style="list-style-type: none"> Colorado Freight Rail Operators CDOT Engineering Regions 	<ul style="list-style-type: none"> Integrate rail projects into CDOT internal planning and project development and selection processes, including competitive grant requests
Expand the SB-37 abandonment reporting process to identify additional rail-related infrastructure at risk	Ongoing	Lead	<ul style="list-style-type: none"> Colorado Freight Rail Operators FRA 	<ul style="list-style-type: none"> Distribute findings to regional and local planning partners Explore additional funding for preservation needs

5.2 Program Coordination

Consistent with Colorado’s coordinated and cooperative rail planning efforts, implementation of the goals and priority objectives will be coordinated across CDOT and with external partners. The vision and goals of this Rail Plan were developed in coordination with the CFP and support goals established in CDOT’s SWP. Colorado’s rail planning partners will continue to work across agency, jurisdictional, regional, and statewide boundaries and to coordinate efforts. CDOT DTR will continue to integrate freight and passenger rail considerations into statewide transportation planning efforts and into statewide and regional transit development and corridor plans. Action on key objectives and implementation strategies will also help support greater consideration of intercity or commuter passenger rail options within CDOT corridor planning efforts or major long-term investment priorities listed in the Transit Development Program or 10-Year Development Program. Rail oriented projects will be considered for funding under eligible programs, including state-controlled funds such as FASTER funds or the Federal National Highway Freight Program.

5.3 State Rail Agency Authority

Created by state legislation in 2009, DTR is responsible for planning, developing, operating, and integrating transit and rail into the statewide transportation system. DTR works with other CDOT divisions, regional transit agencies, Amtrak, private rail operators, transit and rail advocacy organizations, and other stakeholders to coordinate passenger rail planning and improvements. DTR currently has the authority under state statute to design, build, finance, operate, maintain, and contract for transit services, including passenger rail and advanced guideway system services. DTR currently exercises this authority to finance and operate intercity and rural regional bus service. New passenger rail service within Colorado could be governed by DTR without requiring policy or legislative changes. Future implementation of passenger rail in the state is more likely to be governed by regional transportation authorities, such as the Front Range Passenger Rail District. CDOT DTD, including representation of freight rail issues through the FAC, leads freight rail planning coordination.



5.4 Program Effects

As described in Chapter 2, rail investments and activity generate significant benefits to communities and regions and improve the competitiveness of the state economy. Public and private benefits of rail investments are well documented in national literature available from sources such as the Transportation Research Board, American Association of Railroads, American Short Line and Regional Railroad Association, and individual state transportation and rail agencies. Due to uncertainty surrounding the scope and scale of future rail improvements, this Rail Plan does not quantify specific benefits of new investments.

For each major proposed improvement and investment described in this subsection of this chapter, potential benefits and impacts are noted as program effects. Program effects consider the likelihood and magnitude of future rail investments for the following areas:

- **Statewide multimodal transportation system, including transportation system capacity, congestion, safety, and resiliency across all modes**—Without rail, millions of passengers and products would travel on Colorado’s already congested roadways. Colorado highway users benefit whenever freight or passengers are transported over the state’s rail network instead of over the highway system. Direct benefits to highway system users include travel time savings, reduced maintenance and vehicle ownership costs, and offset safety costs from reductions in accidents and incidents. While freight rail is safer per ton than trucking and has been making safety gains, there remains risks of derailments and safety issues. Further investment can increase the safety of the system.
- **Economic and employment impacts, including direct and indirect benefits to public and private entities and macroeconomic impacts to state and regional economies**—Economic benefits are usually categorized into direct and indirect impacts. Direct benefits are those that are directly associated with investments and include planning, construction, and ongoing expenditures. In Colorado, investment by private railroads results in significant direct economic benefits across the state every year, including purchases of rail, ties, ballast, bridge repairs or replacements, and services provided by Colorado-based companies. Indirect benefits and costs refer to the broader economic effects that investments bring to regional economies. For example, new passenger rail service may expand tourism activity and visitor spending. The economic impact of visitors to Colorado is substantial and particularly important for rural communities across the state. Efficient and cost-effective freight rail service can have a significant impact on employment and output of Colorado’s traditional agricultural and natural resources industries, as well as on emerging advanced industries. For private businesses, freight rail service and efficient transport costs affect productivity and profitability of both railroads and freight-dependent businesses.
- **Environmental mitigating impacts, including the potential to divert truck or personal vehicle traffic from roadways to freight or passenger rail and the associated benefits to air quality, greenhouse gas emissions, and overall transportation energy use**—Rail transportation takes pressure and traffic off Colorado’s constrained highway network and provides environmental benefits through increased fuel efficiency, lower air pollutants and emissions, and more sustainable land use and development patterns. Freight and passenger rail are energy efficient modes of transport and travel that provide environmental benefits compared to passenger vehicles, commercial trucks, or air travel. On average, a Class I train can carry the load of 280 or more trucks and move a ton a freight nearly 500 miles on a gallon of fuel, helping to reduce highway congestion and ease vehicle emissions. A fully utilized four-car light rail passenger train carries the equivalent number of commuters as 360 personal vehicles.



- Rail corridor capacity and congestion, including potential benefits to alleviating congestion or potential impacts of reducing capacity for freight or passenger rail service**—Rail capacity can be improved by upgrading existing infrastructure, including track and bridges. For example, upgrading track to 286,000-pound standards can result in operational improvements by enabling higher speeds and heavier trains. Freight rail improvements or expansions for yard infrastructure or sidings also improve main line track capacity and transloading operation efficiencies. These investments are typically privately funded and produce efficiency and operational benefits for private businesses and railroad operators. System and operational improvements, including grade-separated crossings, PTC, or other signaling and safety systems, can increase capacity and throughput along passenger and freight rail lines. These overall program effects benefit Colorado’s economy and communities. For improvements and investments included in the short-term and long-term RSIP, potential program effects are noted in the following table.

Table 38. Potential Program Effects for Passenger Rail Projects Included in Short-Term RSIP

Project Description	State Rail Plan Goal: Safety and Security	State Rail Plan Goal: Expansion and Improvement	State Rail Plan Goal: Mobility and Connectivity	State Rail Plan Goal: Preservation and Maintenance	State Rail Plan Goal: Economic and Environmental	Program Effect: Statewide Transportation System	Program Effect: Economic and Employment	Program Effect: Environmental Mitigation	Program Effect: Corridor Capacity and Congestion
Front Range Passenger Rail Station Development		✓	✓		✓	✓	✓		✓
Front Range Passenger Rail Support Facilities		✓	✓		✓	✓	✓		✓
Mountain Rail Planning		✓	✓		✓	✓	✓		✓

Table 39. Potential Program Effects for Passenger Rail Projects Included in Long-Term RSIP

Project Description	State Rail Plan Goal: Safety and Security	State Rail Plan Goal: Expansion and Improvement	State Rail Plan Goal: Mobility and Connectivity	State Rail Plan Goal: Preservation and Maintenance	State Rail Plan Goal: Economic and Environmental	Program Effect: Statewide Transportation System	Program Effect: Economic and Employment	Program Effect: Environmental Mitigation	Program Effect: Corridor Capacity and Congestion
Line (N Line)—Planned Extension		✓	✓		✓	✓	✓	✓	
Northwest Rail Line (B Line)—Planned Extension		✓	✓		✓	✓	✓	✓	



Project Description	State Rail Plan Goal: Safety and Security	State Rail Plan Goal: Expansion and Improvement	State Rail Plan Goal: Mobility and Connectivity	State Rail Plan Goal: Preservation and Maintenance	State Rail Plan Goal: Economic and Environmental	Program Effect: Statewide Transportation System	Program Effect: Economic and Employment	Program Effect: Environmental Mitigation	Program Effect: Corridor Capacity and Congestion
Chamber Road—A Line Crossing Improvements	✓		✓		✓		✓	✓	✓
Burnham Yard Track Improvements		✓	✓		✓	✓	✓		✓
Passenger Rail Track Improvements		✓	✓		✓	✓	✓	✓	
Passenger Rail Signal Improvements		✓	✓		✓	✓	✓	✓	
Passenger Rail Rolling Stock	✓	✓	✓		✓	✓	✓	✓	
Bridge Replacement over South Platte River	✓	✓		✓		✓	✓		✓
Longmont Rail Bypass	✓	✓	✓		✓	✓	✓		✓

Table 40. Potential Program Effects for Freight Rail Projects Included in Short-Term RSIP

Project Description	State Rail Plan Goal: Safety and Security	State Rail Plan Goal: Expansion and Improvement	State Rail Plan Goal: Mobility and Connectivity	State Rail Plan Goal: Preservation and Maintenance	State Rail Plan Goal: Economic and Environmental	Program Effect: Statewide Transportation System	Program Effect: Economic and Employment	Program Effect: Environmental Mitigation	Program Effect: Corridor Capacity and Congestion
Positive Train Control—Denver to Cheyenne (BNSF)	✓	✓	✓			✓			✓
Positive Train Control—South of Denver (BNSF)	✓	✓	✓			✓			✓
Positive Train Control—Craig Subdivision (UP)	✓	✓	✓			✓			✓
Section 130 Highway-Rail Grade Crossing Improvements	✓		✓	✓		✓	✓		✓



Project Description	State Rail Plan Goal: Safety and Security	State Rail Plan Goal: Expansion and Improvement	State Rail Plan Goal: Mobility and Connectivity	State Rail Plan Goal: Preservation and Maintenance	State Rail Plan Goal: Economic and Environmental	Program Effect: Statewide Transportation System	Program Effect: Economic and Employment	Program Effect: Environmental Mitigation	Program Effect: Corridor Capacity and Congestion
Brush/Akron/Hastings Class 5 Railroad		✓	✓			✓	✓		✓
Grade Separators at SH66/119	✓		✓				✓		✓
Denver South Platte River Program, Bridge 0.49 Replacement	✓		✓	✓			✓	✓	
Loveland Garfield Ave—Signal Replacement/ Roadway Modifications	✓		✓				✓		✓
Hudson Interchange at I-76 & CR8	✓		✓				✓		✓
W. Drake Road Grade Separation Fort Collins	✓		✓				✓		✓
N Timberline Road Grade Separation Fort Collins	✓		✓				✓		✓

Table 41. Potential Program Effects for Freight Rail Projects Included in Long-Term RSIP

Project Description	State Rail Plan Goal: Safety and Security	State Rail Plan Goal: Expansion and Improvement	State Rail Plan Goal: Mobility and Connectivity	State Rail Plan Goal: Preservation and Maintenance	State Rail Plan Goal: Economic and Environmental	Program Effect: Statewide Transportation System	Program Effect: Economic and Employment	Program Effect: Environmental Mitigation	Program Effect: Corridor Capacity and Congestion
Section 130 Highway-Rail Grade Crossing Improvements	✓		✓	✓		✓			✓
Track, Siding, and Spur Improvements to support Southern Colorado Rail Park	✓	✓	✓		✓	✓	✓		✓
Tejon Realignment in Colorado Springs (BNSF)	✓		✓					✓	✓



5.5 Passenger Element

5.5.1 Passenger Rail Capital Projects

This subsection summarizes potential passenger rail improvements, outlines capital and operating financing assumptions, and summarizes key benefits for the passenger rail component of this Rail Plan. More detailed information on project costs, funding sources, and timing is provided for short-term projects and information is summarized for long-term projects.

Potential passenger rail investments described in Chapter 3 and summarized in this chapter were drawn from existing studies, reports, and initiatives on rail service needs and development. Chapter 1 describes these sources in detail for each significant rail corridor, which also includes long-range plans from the FRPR District, MPOs, long-range state transit development programs, and short-term budgets and strategic plans from RTD. Major program recommendations and potential investments, including further studies, planning efforts, or capital improvements, from these studies were assessed for consistency with Rail Plan goals and other readiness considerations. Assessment factors include:

- **Statewide goals**—including safety and security; expansion and improvement; mobility and connectivity; preservation and maintenance; and economic and environmental considerations.
- **Readiness considerations**—including order of magnitude cost estimates; availability of funding sources; feasibility of completion; planning or construction readiness; and availability of information.

Based on this qualitative assessment, passenger rail improvements and needs identified in Chapter 3 were prioritized into the following three categories:

- **Near-term needs**—These capital projects or necessary planning studies may currently be underway or have significantly advanced in state or regional planning processes. These projects are likely to be initiated within the next four years and are included in the short-term RSIP.
- **Future needs**—These capital projects or longer-term planning efforts respond to anticipated future needs. These efforts are drawn from previous planning studies, generally have stakeholder support, and respond to identified needs. These projects can be expected to be initiated over the next 20 years and are included in the long-term RSIP.
- **Need to be determined**—These potential projects represent conceptual ideas drawn from previous planning processes or stakeholder input. Information on needs or potential capital investments for these efforts are not identified at this point. In addition, these concepts represent ideas that may have been proposed by stakeholders, but that may not respond to passenger and freight rail needs identified over the next 20 years. Potential project concepts are included in the long-term RSIP to better position Colorado to respond to future opportunities.

The improvements shown in later subsections of this chapter reflect only those improvements and investments committed or proposed over the 4-year and 20-year horizons.

5.5.2 Capital Financing Plan

Colorado's approach to financing the RSIP relies on the need to supplement limited state and Federal rail funding with various financing mechanisms, funding and revenue sources, and cost-sharing partnerships. The vision and



improvements described in this Rail Plan represent a long-term development program for rail in the state. Developing capital and operating financing plans is also a long-term goal that can be achieved over time, as projects come online, and as current or potential new operating revenue sources become available. State, local, and private funding commitments to planning, capital investment, and operating support for passenger rail have already been demonstrated in Colorado. Coalitions of public and private partners have developed partnerships to support the Winter Park Express route, to secure grant funding for needed maintenance to the Southwest Chief route, and to advance Front Range Passenger Rail. These examples show that diverse funding sources can be leveraged to support priority investments.

The state and Federal funding sources identified in Chapter 2 will be leveraged to support proposed improvements and investments identified in this Rail Plan. CDOT and DTR have limited funds available through the FASTER transit grants fund that can be used to support smaller-scale cost-sharing match agreements, planning initiatives, and capital improvements for passenger rail. Colorado is examining possible ongoing sources of revenue from the Legislature to support passenger rail capital development, operation and maintenance. These funds must support transit services of all kinds across the state and are not typically dedicated to a single initiative, such as the significant investment required to expand passenger rail service along the Front Range.

Colorado's CTIO was created to fund surface transportation programs through innovative financing mechanisms, including P3s, bonding, and other arrangements. For major projects, including development of Front Range passenger rail, innovative financing and private partnerships warrant consideration. CDOT will also continue to evaluate and pursue Federal discretionary funding and grant programs to advance planning and service development for future passenger rail efforts.

5.5.3 Operating Financing Plan

To finance ongoing operations and maintenance of passenger rail services in Colorado, a range of financing tools will be needed. No state agency transportation funds are currently dedicated to supporting operating costs for passenger rail services, but the State is actively considering it. State appropriated FASTER transit grant funds do not currently support operations or maintenance costs for regional and local transit services. RTD's operating costs for commuter and light rail service in the Denver region are primarily funded through sales-tax revenues and passenger fares.

FRPRD and RTD are examples of special districts that are empowered with taxing and bonding authority to fund transit and rail services. Colorado statutes allow the creation of mass transit districts and regional transportation authorities. These authorities are empowered to develop and operate transit systems and may construct and maintain roadways. Allowable revenues generated by districts include tolls, sales and use taxes, motor vehicle registration fees, and lodging fees. SB 21-238 created the FRPRD in 2021, with the power to levy a sales or use tax after the approval of voters within the boundaries of the District.

Amtrak's Section 209 state-supported intercity rail program enables participating states to contract with Amtrak to operate intercity passenger rail services on routes less than 750 miles in length. According to a 2016 report by the Government Accountability Office, most states use state general fund monies to reimburse Amtrak for operating costs of these state-supported corridors. Of the 18 states surveyed in this report, the average state share of operating costs for Amtrak provided services was 76 percent, with the remaining costs covered by Amtrak. The Colorado General Assembly must authorize general fund revenues to support passenger rail service, and these funds are subject to the annual budget process.



Future operating funding will almost certainly include both public and private sources. Private funding to support the ongoing costs of intercity passenger rail service could include advertisement, sponsorship, or cost-sharing arrangements. There are examples of these arrangements within Colorado. In 2015, RTD sold the naming rights for the commuter rail A-Line to the University of Colorado for \$5 million over five years. This transaction occurred through RTD's corporate sponsorship and brand program. RTD's Board determines how funds raised by this program are used, but they are considered a flexible source of revenue. Similarly, Amtrak Winter Park Express service to Winter Park Resort relies on private funding sources, including funds raised through sponsorship of service and amenities as well as advertising.

5.5.4 Public and Private Economic Benefits

Public and private economic benefits that are anticipated from proposed rail investments identified in Colorado's RSIP include improving mobility, connectivity, and safety for both rail and roadway users. Freight and passenger rail improvements are also aimed at generating economic activity, both direct and indirect impacts, and mitigating environmental costs resulting from transportation.

In 2021, Amtrak estimated a combined economic impact of more than \$29 million on the Colorado economy. This total impact includes more than \$21.3 million in direct construction and service spending and \$7.8 million in direct employment earnings. A 2019 study performed by the Trent Lott Center at the University of Southern Mississippi, found that Amtrak's Southwest Chief passenger rail line contributes \$49 million a year in direct and indirect impacts to Colorado's economy. As Colorado moves forward with Front Range Passenger Rail service, the economic impacts of current Amtrak service serve as a guide to potential total statewide benefits.

Amtrak's 2021 Connect U.S. Vision for Improving Transportation Across America proposes that the Federal Government invest \$75 billion over fifteen years to develop and expand intercity passenger rail corridors around the nation in collaboration with existing and new state partners. Amtrak produced planning level estimates for ridership and benefits resulting from a Front Range Corridor service connecting Denver and Cheyenne. Expected ridership in 2035 for this route is estimated to be 196,000. Service is assumed to include three daily round trips Fort Collins-Denver-Pueblo, with one round trip extending to Cheyenne. Investing \$75 billion nationally is estimated to result in net economic benefit from operations of \$8 billion annually by 2035, with an additional \$195 billion in economic activity generated by additional capital investments during 2021-2035. Over 26,000 ongoing permanent jobs, plus 616,000 person-years of temporary employment supported by capital investments during 2021-2035, will be created or supported by this effort.

Public and private economic benefits of passenger rail investments are currently being studied, including benefit-cost analysis, and detailed information on improvements are being outlined as part of the FRPR SDP. Current studies to evaluate FRPR alternatives are underway and will produce detailed estimates of public and private economic benefits. CDOT is also initiating the process of developing a Service Development Plan for the Mountain Rail Corridor, which will produce similar reports of the projected economic benefits of increasing and introducing passenger rail within the mountains of Colorado.

5.6 Freight Elements

5.6.1 Financing Plan

Freight railroads anticipate continuing to invest in maintenance and limited capacity expansion in Colorado over the next 20 years. Private railroads fund infrastructure improvements and maintenance needs in Colorado through



revenue from rail operations. Class I railroads anticipate making future investments in capacity and maintenance in Colorado similar to past improvements and based on overall freight demand and business strategy. Short line railroads operate on relatively small profit margins and reinvest significant amounts of revenue back into maintenance and improvements of rail lines and facilities. These railroads face significant future investment needs and may require public support to upgrade track and infrastructure to safe and modern standards. CDOT and partners support the use of National Highway Freight Program funding for eligible freight rail or private intermodal terminal projects in the state. CDOT continues to work directly with railroads to identify potential projects for joint funding, including making highway improvements that support efficient and safe rail operations.

5.6.2 Public and Private Economic Effects

Freight and passenger rail provide significant direct economic benefits to Colorado. Railroads directly employ thousands of Coloradans, invest hundreds of millions of dollars in projects in the state, and contribute wage earnings, state and local taxes, and visitor spending to communities. These direct impacts add up and are multiplied through indirect spending and investment. For example, the AAR estimates that for each worker employed by freight railroads, nine other jobs are supported in the economy. In 2022, Union Pacific's direct economic impact to Colorado included over \$74 million in annual payroll, \$234 million in in-state purchasing, \$54 million in capital investment, and \$442,000 in community philanthropy.

Class I railroad investment includes direct in-state spending and capital investments that benefit Colorado workers and companies. EVRAZ Rocky Mountain Steel in Pueblo is the largest producer of rail in North America. When economically feasible, private railroads use the EVRAZ facility to source steel rail for track maintenance and upgrade purchases. These earnings support Colorado workers and families and have induced spending impacts throughout the economy.

Additional investment and improvements by Colorado's private railroads produce significant public and private benefits to Colorado workers, regional industries, and the statewide economy. Should public funding be made available to support freight rail infrastructure projects, long-term economic development benefits can make significant contributions to regional and state economies.

5.7 Rail Studies and Reports

To support Colorado's vision for freight and passenger rail and to continue to advance coordinated rail planning or early concepts, a variety of rail-related studies and reports have been identified over the next 4 years. Stakeholders determined the need for these planning efforts through the Rail Plan development process while other studies continue earlier rail planning work supported by CDOT and regional partners.

Specific to freight, several rail studies are needed in Colorado. An inventory and assessment of freight rail infrastructure constraints and capital needs, with a focus on short line railroad infrastructure, is necessary to assess statewide investment needs. This study can provide the foundation for additional reports on national best practices and potential governance structures to create a Freight Rail Assistance program in Colorado. Additional research and support may be needed to identify a strategic implementation plan to better integrate freight rail considerations into state, regional, and local transportation and economic development planning processes.

Passenger rail corridors under active consideration and advance planning in Colorado include the Amtrak Southwest Chief Route, Mountain Rail Corridor Vision, Front Range Passenger Rail, and potential extensions of commuter rail service along key corridors in the Denver region. Each corridor is in a different stage of planning,



pre-construction, or construction activities. Studies and reports needed include further conceptual analysis or consensus building efforts, service development and planning studies, or detailed feasibility studies and assessments. The RSIP includes longer-term planning efforts in coordination with potential capital investment projects. The following table lists currently identified short-term rail studies and reports.

Note that these projects are not prioritized and the State of Colorado will prioritize needs based on grant or capital assistance cycles. In general, the State anticipates prioritizing projects that benefit safety and passenger rail service development.

Table 42. Short-Term (one to four Year) Rail Studies and Reports

Study	Description	Estimated Timing	Estimated Cost	Potential Funding Sources
Pueblo Extension Study	Integrated vision and service planning for Southwest Chief service between La Junta and Pueblo	TBD	Unknown	FASTER Local Private or Community Funds
Freight Rail Assistance Program Report	Feasibility report for the creation of a freight rail assistance program	2024	Unknown	FASTER NHFP
Short Line Railroad Needs Study	Survey and assessment of short line infrastructure needs	2026	Unknown	FASTER NHFP
Freight Rail Mobility Needs Report	Inventory freight rail capacity and infrastructure constraints	2028	Unknown	FASTER NHFP
Mountain Rail Corridor Planning	Feasibility studies for alternatives for Mountain Rail corridors	2023-2025	Unknown	CDOT

¹ These studies are underway and while not solely focused on rail, they either contain rail elements, may impact or be impacted by railroad operations or are linked to the provision of future rail service. As such, serious consideration must be given to rail during development of these studies.

5.8 Passenger and Freight Rail Capital Program

The following tables summarizes currently identified passenger rail projects for the short-term (one to four years) and long-term vision (20-year).



Table 43. Passenger Rail Service and Improvement Program, Short-Term Projects

Project Description	Potential Fund Sources	Total Funding	Estimated Completion
Front Range Passenger Rail Station Development	FRPRD, State, Local, Federal	TBD	2027
Front Range Passenger Rail Support Facilities	FRPRD, State, Local, Federal	TBD	2028
Mountain Rail Service Development Plan	State	\$5M	2026
Passenger Rail Signal Improvements	FRPRD, State, Local, Federal	TBD	TBD
Passenger Rail Rolling Stock	FRPRD, State, Local, Federal	TBD	TBD

Table 44. Passenger Rail Service and Improvement Program, Long-Term Vision

Project Description	Potential Fund Sources	Total Funding	Estimated Completion
(N Line)—Planned Extension	RTD	TBD	TBD
Northwest Rail Line (B Line)—Planned Extension	RTD	TBD	TBD
Chambers Road—A Line Crossing Improvements	RTD, FRA, Local	TBD	TBD
Burnham Yard Track Improvements	Federal Grant, CDOT, Local	TBD	TBD
Passenger Rail Track Improvements	FRPRD, State, Local, Federal	TBD	TBD
Bridge Replacement over South Platte River	FRPRD, State, Local, Federal	TBD	TBD
Longmont Rail Bypass	FRPRD, State, Local, Federal	TBD	TBD

The following tables summarizes currently identified freight rail projects for the short-term (one to four years). There are few long-term freight rail investments or projects publicly identified by freight railroads in Colorado.

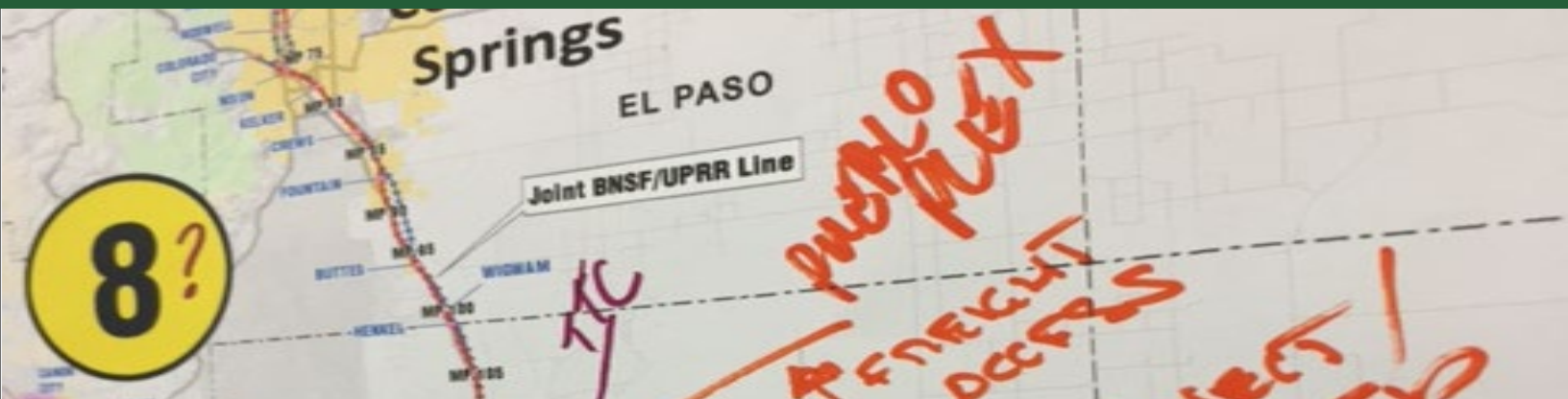


Table 45. Freight Rail Service and Improvement Program, Short-Term Projects

Project Description	Potential Fund Sources	Total Funding	Estimated Completion
Positive Train Control—Denver to Cheyenne (BNSF)	Federal Grants, CDOT, FRPRD	TBD	2027
Brush/Akron/Hastings Class 5 Railroad	Federal Grants, Private, Local	TBD	TBD
Grade Separators at SH66/119	Federal Grants, Private, Local	TBD	TBD
Denver South Platte River Program, Bridge 0.49 Replacement	Federal Grants, Private, Local	TBD	TBD
Loveland Garfield Ave—Signal Replacement/Roadway Modifications	Federal Grants, Private, Local	TBD	TBD
Hudson Interchange at I-76 & CR8	Federal Grants, Private, Local	TBD	TBD
W. Drake Road Grade Separation Fort Collins	Federal Grants, Private, Local	TBD	TBD
N Timberline Road Grade Separation Fort Collins	Federal Grants, Private, Local	TBD	TBD

Table 46. Freight Rail Service and Improvement Program, Long-Term Vision

Project Description	Potential Fund Sources	Total Funding	Estimated Completion
Track, Siding, and Spur Improvements to support Southern Colorado Rail Park	Federal Grants, DOD, Local, Private	TBD	2030
Tejon Realignment in Colorado Springs (BNSF)	Federal Grants, Private, Local	TBD	TBD



CHAPTER 6. COORDINATION AND REVIEW

This chapter describes how CDOT reached key stakeholders, what issues were raised, how recommendations were incorporated, and how planning and review were coordinated. Input and ideas from freight and passenger rail operators, regional and local transportation planning partners, rail advocacy organizations, businesses, and the traveling public shaped this Rail Plan. DTR is committed to a collaborative process of rail planning in the state with the continued direct involvement of rail operators, agency partners, and the public in crafting future rail plans and coordinating rail opportunities. Engagement, outreach, and coordination activities will continue as this Rail Plan is implemented and as future rail plans and projects are advanced.

6.1 Approach to Public and Agency Participation

Development of this Rail Plan was informed through outreach and engagement to members of the traveling public, freight and passenger rail operators, businesses, and local and regional planning partners, including MPOs. Outreach efforts included targeted interviews and a survey of railroads; a survey of the general public; and information posted on CDOT's website. This Rail Plan has also been informed, since the previous Rail Plan in 2018, by ongoing planning and engineering efforts, each of which has had its own more geographically focused efforts.

Outreach objectives included soliciting input on issues and needs, investment priorities, future demand, and comments on key plan elements. A secondary objective was to establish and strengthen relationships among CDOT and rail operators, businesses, industry associations, and advocacy organizations. Key findings and outcomes from this outreach are provided in this chapter.

Through the coordinated planning process for this Rail Plan and to support ongoing implementation efforts, CDOT reached key stakeholders through interviews, briefings, and surveys. Coordination conversations focused on identifying the perspectives, needs, and issues of Class I railroads, short line railroads, passenger rail service operators, scenic and tourist railroads, and rail-reliant businesses. Efforts were made to reach every railroad in Colorado. These discussions provided valuable insight to help CDOT better understand how freight and passenger rail services contribute to Colorado's economic vitality and support community livability. Interview findings are detailed in later sections of this chapter and were incorporated into strategy and plan development.



The following rail stakeholders were reached through this Rail Plan process:

- Amtrak
- BNSF
- ColoRail
- CWC Rail, Inc
- Denver Regional Council of Governments
- Denver Rock Island
- Front Range Passenger Rail District
- Freight Advisory Council
- Genese & Wyoming
- Ogborn Consulting
- Omnitrax
- Regional Transportation District
- Rock and Rail
- Rocky Mountaineer
- Union Pacific
- Watco
- Western Group

6.1.1 Stakeholder Surveys

CDOT developed a series of surveys to gather input from rail stakeholders and members of the traveling public across the state. These surveys addressed both freight rail and passenger rail issues, needs, and priorities. Survey responses are detailed in later sections of this chapter and were incorporated into strategy and plan development. Surveys and discussion guides were sent to every freight and scenic rail operator in Colorado with contacts provided by the Freight Advisory Committee, American Short Line Railroad Association Directory, and through existing CDOT contacts. In addition, an online survey was distributed through CDOT’s social media channels. This survey asked general questions about perceptions of rail traffic, public prioritization of goal areas, and use of passenger rail services.

6.2 Multistate Coordination

Since the 2012 Rail Plan, Colorado has coordinated with neighboring states on studies, grant applications, and multistate planning initiatives described in detail in Chapter 1. For this Rail Plan, recent freight and rail plans, relevant rail service plans, and grant activities were reviewed. Key issues and opportunities for future coordination and consultation include the following:

- **New Mexico**—New Mexico DOT (NMDOT), Kansas DOT (KDOT), and CDOT have coordinated on and contributed to three successful U.S. DOT TIGER discretionary grants for the stabilization of Amtrak’s Southwest Chief long-distance passenger service route through Kansas, Colorado, and New Mexico. Since the completion of these grant projects, NMDOT does not have significant new rail projects or corridor studies that would impact Colorado. The state has not prepared a recent state rail plan. NMDOT is an ex-officio member of the FRPR District and the state is supportive of FRPR development efforts. The New Mexico State Constitution include articles prohibiting the state, county, school district, or municipality from financing or directly funding private railroads. This prohibition may have implications for future support of FRPR within the state. Colorado and New Mexico, as joint owners through the bi-state Cumbres and Toltec Scenic Railroad Commission, will continue support and coordination for the C&TSR, including joint funding and service enhancement opportunities.
- **Wyoming**—The State of Wyoming is an ex-officio member of the FRPR District. The Wyoming Department of Transportation (WYDOT), City of Cheyenne, and public and private entities within Cheyenne support the



development of FRPR. The Wyoming State Constitution includes articles prohibiting the state, county, school district, or municipality from financing or directly funding private railroads. This prohibition may have implications for future support of FRPR within the state.

- **Kansas**—KDOT and CDOT have contributed to three successful U.S. DOT TIGER discretionary grants for the stabilization of Amtrak’s Southwest Chief long-distance passenger service route through Kansas, Colorado, and New Mexico. CDOT also supported KDOT’s 2017 Federal INFRA grant application to strengthen and upgrade 207 bridges along the Goodland, Phillipsburg, Belleville, Yuma, and Concordia subdivisions of the KYLE Railroad. Colorado will continue to coordinate with KDOT and short line railroads with multistate operations, including potential joint funding of Federal grant opportunities to address short line needs.
- **Nebraska**—BNSF has indicated a desire to upgrade the tracks along their brush subdivision between Denver and McCook, NE. Such an upgrade would require coordination with Nebraska. Nebraska DOT has indicated a willingness to provide a letter of support but would not be able to provide funds to assist. No other significant freight or passenger rail issues or shared opportunities have been identified to date. CDOT will coordinate efforts with the Nebraska DOT and short line railroads with multistate operations on emergent issues and/or opportunities.
- **Oklahoma**—No significant freight or passenger rail issues or shared opportunities have been identified to date. CDOT will coordinate efforts with the Oklahoma DOT and short line railroads with multistate operations on emergent issues and/or opportunities.
- **Utah**—No significant passenger rail issues or opportunities have been identified to date. Utah DOT (UDOT) is participating in the FRA Long-Distance Study. Freight railroad issues impacting Colorado are primarily associated with the proposed Uinta Basin Rail Project. This project is an 88-mile new rail line to connect producers in the Uinta Basin region of eastern Utah to the national rail network. New short-line rail capacity would enable production to increase and for resulting oil products to be moved on national rail networks to ports in Texas. STB documents indicate that a significant amount of the resulting traffic increase would be routed east on UP routes through Colorado. In 2019, the Seven County Infrastructure Coalition partnered with Rio Grande Pacific Corporation, a shortline railroad holding company, and identified potential rail corridors. Four routes were submitted to the STB for a detailed study and EIS. The STB granted approval for the project in 2021. In 2022 and 2023, lawsuits were filed by groups in Utah and Colorado challenging the environmental impacts. In 2023, the U.S. Court of Appeals for the District of Columbia Circuit ruled that the 2021 EIS and biological opinion from STB were rushed and violated Federal laws. The legal challenge was brought by Eagle County, Colorado. The matter is referred back to the STB for further decision.

CDOT’s DTR will continue to coordinate with neighboring states as joint funding and shared improvement opportunities arise.

6.3 Involvement in Preparation and Review

To guide development of this Rail Plan, CDOT involved freight and passenger rail stakeholders who provided critical information, recommendations, and review and comment that helped shape this Rail Plan and position Colorado to proactively address freight and passenger rail issues and priorities. The following committees provided critical guidance and input throughout the development of this Rail Plan.

- **Colorado Transportation Commission**—members represent 11 districts across the state. Briefings on the Rail Plan were provided to this group for comment and consideration.



- **Transit and Rail Advisory Committee**—representatives include public and private transit providers, railroads, and local agencies. Briefings provided a forum for discussing state and regional freight and passenger rail issues and guided development of the recommendations within this Rail Plan.
- **Colorado Freight Advisory Council**—members include over two dozen public and private sector representatives from key industries, associations, transport modes, and planning partners. This committee provided a forum for discussing state and regional freight rail related issues and for guiding development of key strategies and recommendations included within this Rail Plan. In addition, the *Freight Rail Policy Subcommittee* of the FAC was engaged multiple times over the course of plan development to provide feedback, review trends, identify issues, and prioritize strategies.
- **Statewide and MPO Working Group**—members include planning staff from each TPR and Colorado’s MPOs. Briefings provided a forum for discussing regional rail transportation issues and provided feedback and guidance to CDOT on key recommendations and investment decisions within this Rail Plan.

6.4 Key Themes and Issues

The following key themes summarize input received through the development of this Rail Plan. Issues and comments were addressed through discussion and consideration by CDOT and are integrated into the final recommendations, strategies, and implementation actions described in this Rail Plan.

Ridership and Interest in Passenger Rail Remains High

Continuing to expand current commuter and light rail service in the Denver metro area, specifically to connect northern and northwest communities, was frequently mentioned. Public comments expressed support for Front Range Passenger Rail service, as well as for Mountain Rail Corridor service. Some stakeholder and public comments voiced opposition to funding passenger rail service in the state. In 2019, CDOT commissioned a public survey to gauge support for FRPR. The survey was online and opt-in and resulted in 6,900 responses. Among respondents, 95 percent believe that passenger rail service could help address transportation needs along the Front Range. A similar statistically significant opinion survey in 2019 found that 85 percent of respondents supported passenger rail service as a mode of transportation for residents and communities along the Front Range. In 2020, an online meeting for the FRPR SDP gathered responses from 8,279 respondents. That forum explored operational characteristics of proposed FRPR service and found that top priorities included: stations close to origins and destinations, ability to connect with other modes, and reasonable travel times. In 2023, CDOT administered a survey of the general public to gauge perceptions and priorities on freight and passenger rail. A web-based survey was made available through CDOT social media channels, garnering a total of 89 responses. In this survey, 71 percent of respondents felt that expanding and improving passenger rail was the top priority for making it easier and safer for rail lines to move people and goods.

Scenic and Historic Railroads Are Critical to Local Economies

According to Colorado OEDIT estimates, 10 percent of tourists in Colorado visit one of the state’s seven scenic railroads each year. Ridership of individual scenic rail operators ranges from 30,000 to 130,000 or more annually. Visitors generate significant local economic impact in sales and lodging tax revenues and boost indirect spending in the towns and counties surrounding these historic assets. According to a 2014 study of the C&TSRR, “Economic Impacts of the Cumbres & Toltec Scenic Railroad,” rail operations support 147 direct jobs and result in a total annual economic impact of \$14.8 million in the surrounding five-county region of Colorado and New Mexico. The Durango & Silverton Narrow Gauge Railroad produced \$140 million in benefits to the region’s economy, according



to a Fort Lewis College study. In CDOT's 2023 survey of the general public, 96 percent of respondents agreed with the statement that "Scenic trains and historic rail destinations are important for visitors and residents."

Most scenic rail operations in Colorado are privately owned, operated, and maintained. Private rail operators view those operations supported with state or local funds as unfair competition. A common concern raised in interviews with two scenic operators was the lack of tourist wayfinding and signage on state highways and interstates. Scenic railroads require significant annual investments to maintain a state of good repair. Deterioration of track conditions and delayed maintenance of equipment and rolling stock can pose safety risks, result in delays and slower operating speeds, and affect customer satisfaction. Grants from History Colorado for preservation and maintenance are available; however, many private rail operators do not pursue these grants because of regulatory requirements and restrictions on use associated with historical preservation standards.

Short Line Rail Operators in Need of Capital Upgrades

Interviews with Colorado short line railroads identified issues related to capacity, condition, and competitiveness. Most significantly, short lines in Colorado report the need for upgrades to track, facilities, bridges, and equipment to remain competitive with other transport modes and to better serve customers.

To connect to Class I rail lines, to meet modern rail car standards, and to deliver reliable and efficient service, short line railroad track and structures should meet 286,000-pound axle gross weight standards. Track with lower gross weight capabilities requires trains to operate at reduced speeds sometimes as low as five to 10 mph. Colorado's short line railroads operate on various track conditions, ranging from new or upgraded former Class I track to much lighter and older tracks, some more than 100 years old. Because upgrading track and replacing ties are costly, short line operators may pursue financial assistance from Federal agencies or other sources to complete upgrades. For several short lines operating in Colorado, no portions of track meet 286,000-pound axle weight standards, while for others all track has been upgraded. Some short lines lease track owned by Class I railroads but maintained by the short line. Because maintenance on these sections is sometimes deferred, tracks are in poor condition. For short line operators with unstable revenue and tight operating margins, deferred investment in track is often common and some operators have not been able to reinvest in track for 10 or more years. Maintenance needs can risk derailments and force short line operators to run at reduced speeds.

The rail industry is extremely capital intensive and requires significant and ongoing investment in track, facilities, structures, and equipment. Most capital needs are met without the need for public assistance. However, smaller short line rail operators welcome assistance programs to offset costs and to preserve service levels. Colorado's short line operators support some form of state assistance, including tax incentives, revolving loans, or grant programs to ensure that current and future capital investment needs can be met. The Federal Section 45G Railroad Track Maintenance Credit has been helpful to short-line railroads operating in the state. A state form of this tax credit would be beneficial to Colorado railroads. Across the country, a number of states including rail dependent states such as Minnesota, Kansas, Illinois, Arkansas, Georgia and others have some form of investment tax credit programs in place.

Freight Rail Service and Access Need to Support Business Development

Economic development organizations acknowledge that rail-served industrial parks play a role in business location decisions. Freight rail-oriented development is viewed as an opportunity to expand business development efforts and to develop efficient alternatives for trucking-dependent businesses. Maintaining service levels to areas of the state that are experiencing declines in rail traffic due to fewer coal movements is also important to businesses that use those rail lines. CDOT's DTR and DTD will work to establish connections among regional economic



development stakeholders, CDOT’s planning and engineering regions, businesses, and freight railroads. Coordination of planning activities and communication of needs may help identify needed projects and improvements earlier in decision-making processes and can help develop needed connections to industrial parks and development zones.

Railroads and private companies are investing in new transloading, multimodal, and rail-served industrial facilities in Colorado. BNSF’s facility at Hudson, Port Colorado in Aurora, Rocky Mountain Rail Park in Adams County, and Great Western industrial park in Windsor are notable examples already under development or approved since 2019. Other major intermodal rail parks are envisioned or planned in Fountain, Grand Junction, and other communities.

Agricultural Producers Benefit from Improved Rail Service

Every Colorado county produces agricultural crop and livestock products, and many producers depend on rail connections to ship inputs such as fertilizer and export grain and wheat. County farm bureaus and agricultural businesses suggest that while highway access, condition, and congestion remain top issues, many producers are concerned about declining rail service, increasing costs, and lack of rail access in some regions. Common issues raised include the reliability and cost of services offered by freight railroads and the discontinuation of rail service to grain elevators and yards.

6.5 Stakeholder Recommendations

This section describes key issues identified by stakeholders during the development of this Rail Plan.

Table 47. Critical Rail Issues and Needs Identified by Stakeholders

Goal Area	Critical Rail Issues and Needs
Safety and Security	<ul style="list-style-type: none"> ▪ Land use, development, and zoning ▪ At-grade crossings ▪ Enhanced wayside detection and other safety investments ▪ Trespassing and theft ▪ Safety mitigation ▪ Common carrier obligations
Expansion and Improvement	<ul style="list-style-type: none"> ▪ Future corridors and planning ▪ Rail served developable land/zones ▪ Local, state, and Federal coordination ▪ Capacity/physical constraints ▪ Policy, partners, and education ▪ Funding and financing
Mobility and Connectivity	<ul style="list-style-type: none"> ▪ Passenger multimodal connectivity ▪ Transit oriented development ▪ Shared use/interoperability ▪ Freight intermodal connectivity ▪ Access to rail-served facilities ▪ Funding and financing



Goal Area	Critical Rail Issues and Needs
Maintenance and Preservation	<ul style="list-style-type: none"> ▪ Preservation of future capacity ▪ Funding limitations ▪ Federal budget priorities ▪ Abandonment and alternative uses ▪ Encroachment and land use
Economic Vitality and Environmental Quality	<ul style="list-style-type: none"> ▪ Economic competitiveness ▪ Future population growth ▪ Industry/export specific needs ▪ Tourism and scenic railroads ▪ Land use compatibility and access ▪ Community impacts ▪ Environmental ▪ Quality of life

6.6 Coordinated Rail Planning

This Rail Plan was developed in parallel with the CFP, recognizing that freight rail is a common element of both plans, and that improvements, policies, and plans must be coordinated across modes. Planning efforts were coordinated with the DTD’s Multimodal Planning Branch and with CDOT Engineering Regions, TPRs, and regional planning partners, including MPOs. State agencies including the Colorado PUC, Colorado OEDIT, Colorado Tourism Office, and Colorado Department of Agriculture were key partners in developing and guiding this planning effort. The DTR also coordinates passenger rail planning activities with local governments, rail operators, and other local and regional planning partners through ongoing consultation and planning studies.

6.6.1 Rail Plan Implementation

This Rail Plan is a flexible document that provides future guidance, direction, and action steps for CDOT, public and private partners, and CDOT committees and commissions. Implementation efforts will focus on key plan elements, including continuous planning; forming and strengthening partnerships; launching education and communications initiatives; and progress on priority strategies.

Continual Planning Efforts

The SWP, Statewide Transit Plan, CFP implementation, and other project prioritization and coordination efforts within CDOT provide ongoing opportunities to further integrate freight and passenger rail considerations into statewide plans and to further implement communications efforts. CDOT’s DTR will work with internal partners at CDOT to ensure that freight and passenger rail are integrated as key elements of future statewide plans and project development processes. The vision and priorities established in this Rail Plan will inform continuous planning efforts and carry forward the direction and guidance of the stakeholders and partners engaged in this plan development process. CDOT will continue to coordinate with private industry and private and public railroad operators to ensure that long-term strategic plans are coordinated, and that short-term needs and issues are addressed.

Partnerships

CDOT recognizes that private industry and public planning partners are critical to implementing the priority strategies and recommendations identified in this Rail Plan. Most rail infrastructure in the state is privately



owned, maintained, and improved. CDOT alone does not have the resources or the capacity to act on all recommendations and priority strategies. For some strategy action steps, CDOT may be the lead implementer, while on others CDOT may provide convening or facilitation support to lead partners. Establishing new connections and joint efforts with private and public partners is essential to funding, organizing, championing, and maintaining progress.

To implement priority rail strategies, partnerships with private railroads, regional agencies, local governments, economic development organizations, industry associations, advocacy organizations, and businesses are essential. Developing agreements for shared use, right-of-way, and operations of future passenger rail service with BNSF and UP is necessary and provides an opportunity to advance innovative P3s and agreements. Private railroads are also critical funding partners in Federal grants to restore Southwest Chief service, to improve crossing safety and address security concerns, to implement PTC, and to develop infrastructure and connections to businesses and economic development sites.

The action plan in the previous section identifies potential partners in implementation efforts including organizations such as ColoRail, Ports to Plains Alliance, Colorado Municipal League, Colorado Counties, Inc., Colorado OEDIT, American Short Line & Regional Railroad Association, and others. These civic and industry groups will continue to be engaged to develop and distribute information on rail planning efforts, to coordinate rail planning with local plans and economic development strategic plans, and to identify national best practices for application in Colorado. Transit agencies, MPOs, local governments, transportation planning regions, economic development organizations, chambers of commerce, and private businesses will continue to be vital partners in making Colorado's rail vision a reality and acting on the coordination and economic strategic priorities.

Building on these examples and other national best practices, CDOT will work with industry partners, individual businesses, state and regional agencies, and other partners to identify opportunities for cooperation and collaboration. The TRAC and the FAC will provide direction, guidance, connections, and support for partnerships and will help establish priorities and identify actions to implement the high-priority strategies identified in this Rail Plan.

Education and Communications

Through conversations with industry stakeholders, public outreach, and discussion with CDOT committees, the need for enhanced education and communications is clear. There is a perception that the traveling public, elected officials, and decision-makers are not fully aware of how critical the state's freight and passenger rail transportation systems are to Colorado's economic competitiveness and quality of life or how rail plays a role in CDOT's multimodal approach to meeting future mobility needs. To inform and educate the public and to build support for future freight and rail transportation investments, this Rail Plan and parallel CFP establish a shared strategy for future education and communications efforts by CDOT and partners. This overarching implementation strategy will make information available on what products move and how, how transportation infrastructure affects business costs and industry competitiveness, how transportation connections support economic development opportunities, how many jobs and businesses rely on freight and passenger rail transport, and how the ability of Colorado's freight systems to move goods and people reliably, efficiently, and safely affects daily lives. Audiences for these messages include members of the traveling public; state, regional, and local agency partners; elected officials and decision-makers at all levels; and industry and advocacy organizations.



APPENDICES

This Rail Plan includes supporting documents, published separately as compilations of relevant information generated during the plan development process. Appendices include:

- A: Colorado Transportation Commission Adoption of State Rail Plan
- B: Public Survey Detailed Results
- C: Glossary of Common Terms and Acronyms
- D: Freight Rail Carrier Profiles



Appendix A: Colorado Transportation Commission Adoption of State Rail Plan

The resolution of support is included on the following page.

Resolution #TC-2024-02-07

Resolution to approve the Colorado State Freight and Passenger Rail Plan.

Approved by the Transportation Commission on February 15, 2024.

Whereas, the Colorado Transportation Commission (Commission) has statutory authority pursuant to 43-1-106, C.R.S. to approve, accept, and amend various planning documents resulting from Section 135 Title 23 of the USC, and 43-1-1101 through 1105 C.R.S.; and

Whereas, Congress passed the 2008 Passenger Rail Investment and Improvement Act (PRIIA) which requires states to have an approved State Rail Plan in order to be eligible for federal funding for freight and passenger rail investments; and

Whereas, the Colorado Department of Transportation (CDOT), acting as the State Rail Transportation Authority for the State of Colorado, has the responsibility to develop the State Rail Plan that establishes priorities and implementation strategies to enhance rail service in the public interest and serve as the basis for Federal and State rail investments within the State; and

Whereas, the mission of CDOT is to provide the best multi-modal transportation system for Colorado that most effectively and safely move people, goods and information; and

Whereas, an eighteen (18) month planning effort incorporating considerable stakeholder involvement, has led to the completion of the Plan; and

Whereas, a draft plan was reviewed by the Governor's Office, Executive Management of CDOT, and was presented to the Commission in their January 2024 Workshop with comments received by CDOT being reviewed and incorporated, as appropriate; and

Now therefore be it resolved, the 2024 Colorado State Freight and Passenger Rail Plan be adopted as the basis for the railroad element of the future CDOT Statewide Long Range Transportation Plan;

Now therefore be it further resolved, upon acceptance of this resolution, CDOT will forward the Plan to the Federal Railroad Administration (FRA) for final review and acceptance.

**Herman
Stockinger**

 Digitally signed by Herman
Stockinger
Date: 2024.02.15 11:11:12 -07'00'

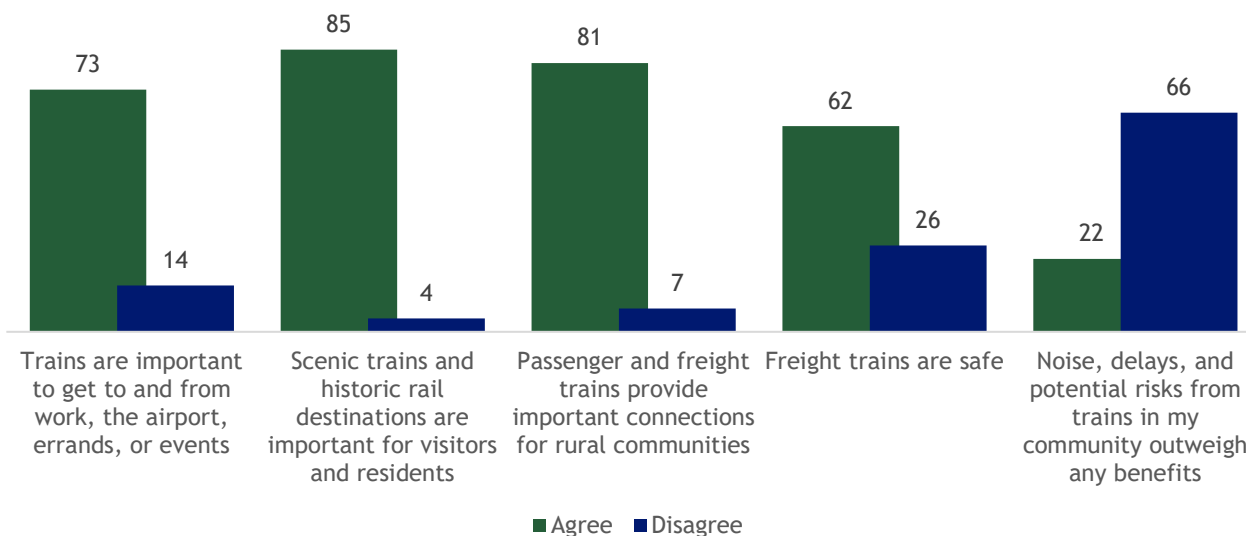
Herman Stockinger, Secretary
Transportation Commission of Colorado



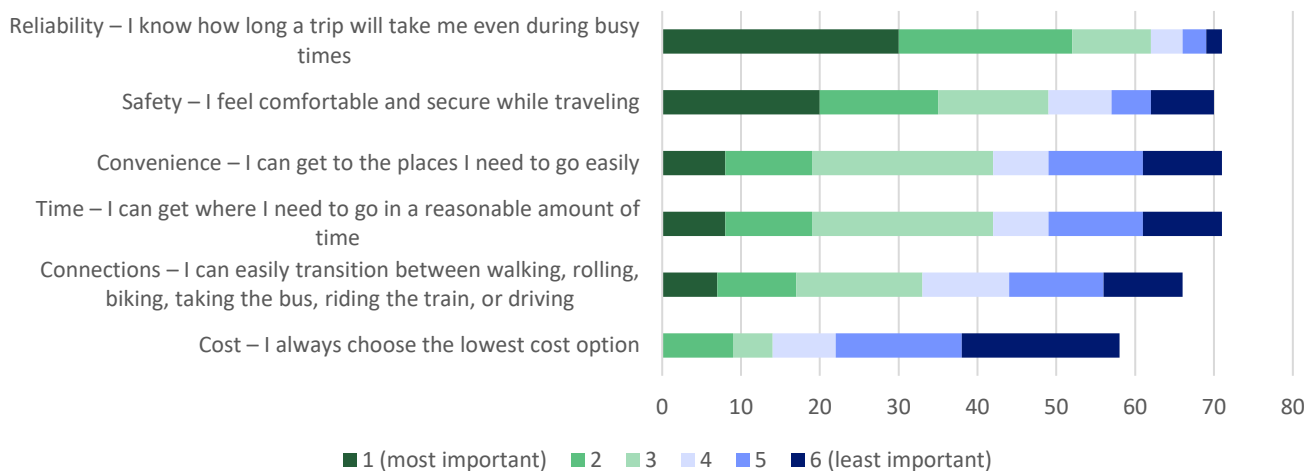
Appendix B: Public Survey Detailed Results

CDOT administered a survey of the general public to gauge perceptions and priorities on freight and passenger rail. A web-based survey was made available through CDOT social media channels in Winter of 2023. A total of 89 responses were received. The following section presents detailed survey responses.

1. When you think about trains in Colorado, what comes to mind? Indicate if you agree or disagree with the following statements.

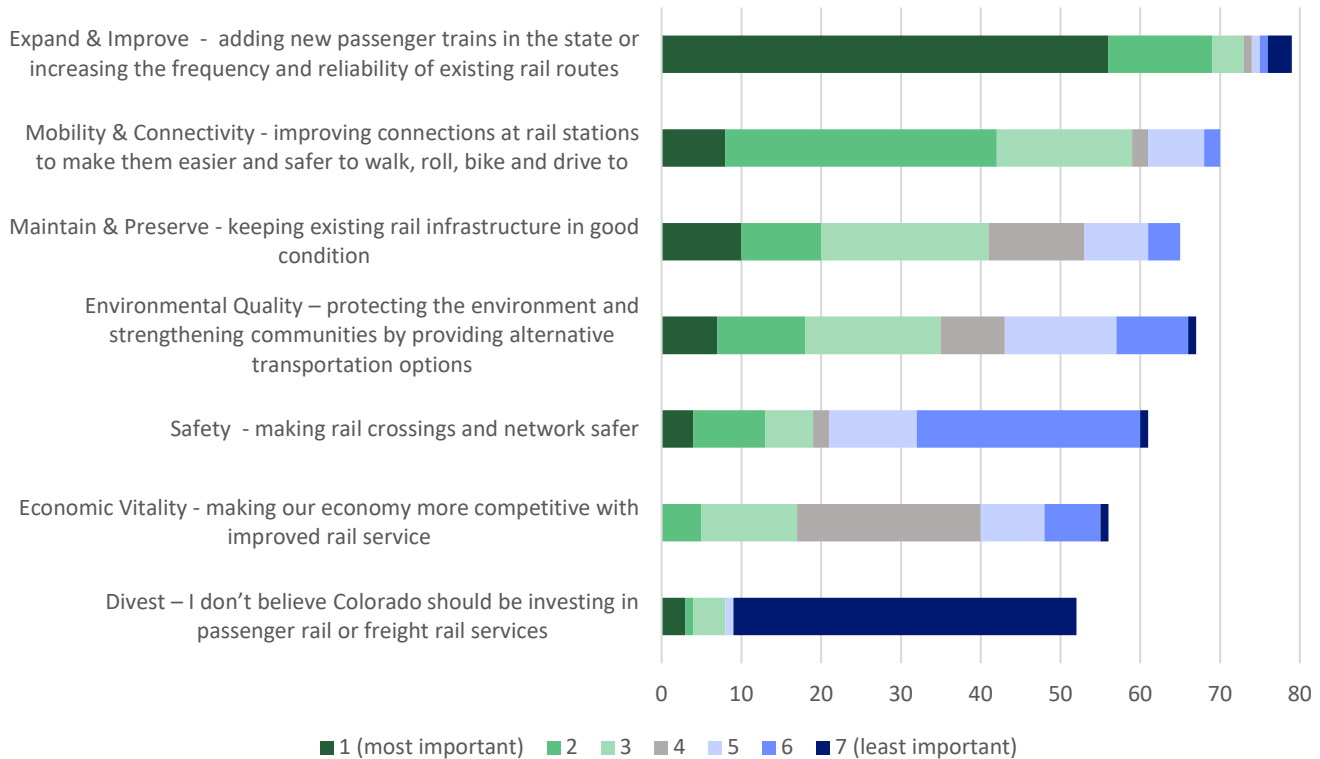


2. Think about what matters to you most when deciding how you choose to get around. Please rank from most important to least important.

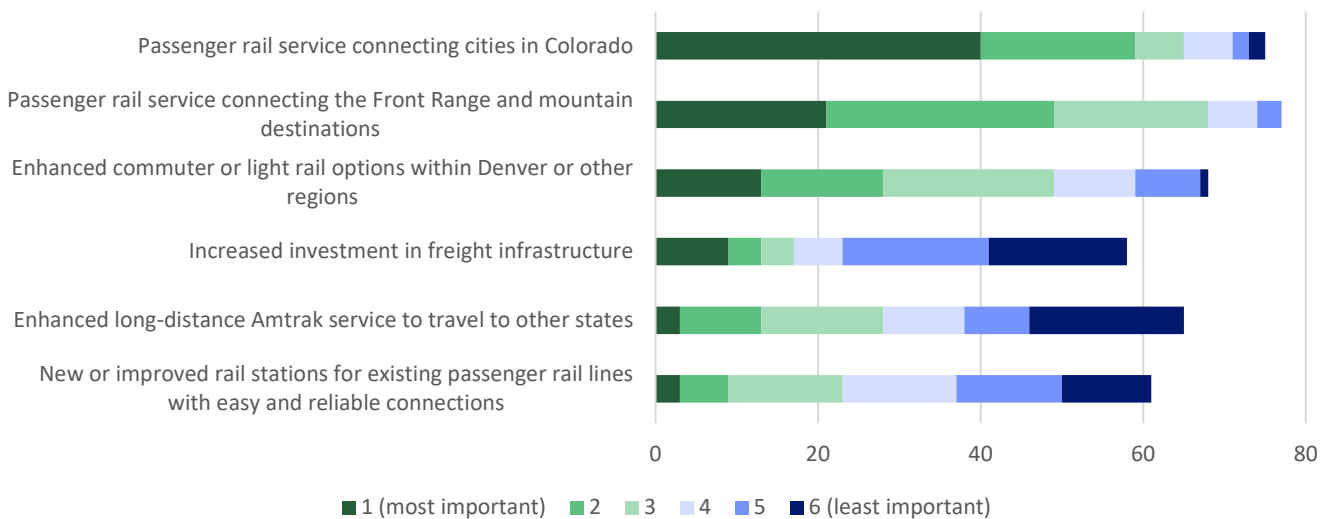




3. How should Colorado prioritize limited transportation funding to make it easier and/or safer for passenger and freight rail trains to move people and goods? Please rank from most important to least important.



4. By 2050, Colorado's population will grow by another 1.7 million residents and our economy will add 1.2 million more jobs. Thinking about the future, what do you think businesses and residents will need most from Colorado's railroad infrastructure? Please rank from most important to least important.





5. Please share any ideas or questions you have about passenger and freight trains in Colorado.

- Denver needs a metro system and frequency of trains needs to increase
- Use existing mountain rail lines to take pressure off I70
- It is & has been critical that there are passenger trains along the front range from Albuquerque, at least to Cheyenne. RIGHT OF WAYS would have been much easier then! A friend of mine proposed this to Colorado State Gov.& Legislation twice - 1960s AND 1970s, narrow-minded they were! He was laughed out of Denver. THE TIME IS HERE! Get it done.
- Cut office people and management before maintenance and people working in field. Maintaining infrastructure more important than paper pushers
- How intercity rail would interconnect with RTD services, particularly at Union where the station is a terminus.
- Do not lump freight and passenger trains together in planning. They are NOT the same.
- Connect population centers with destinations and put more freight on rail.
- I think having a passenger rail network going up and down the front range would be major for the state of Colorado. With I25 traffic as bad as it is, a passenger rail network is very much needed. We can't fall behind.
- Freight trains are necessary but we need to mitigate noise caused by the excessive whistles. Light rail is a waste of taxpayer money.
- Trains are not the answer. Too slow. More. Roads. Wider roads. No extortion lanes
- MORE TRAINS, CDOT needs to take charge and build a passenger rail master plan with a future proof, wholistic view of passenger rail across Colorado so we don't build ourselves out of any future expansions, Union Station; and then actually build it.
- Get more trains going from Denver to Steamboat/Grand Junction.
- If you care about reducing emissions, then we should focus on freight. Currently everywhere else is melting and it'd be a shame if CO's ski and snow industries were impacted by climate change.
- The right of way from Dotsero through Avon to Leadville and Pueblo should be restored and reactivated to provide freight to warehousing in eagle county and passenger traffic from the east (using the Sweetwater bypass through the Moffat tunnel) as well as west on the existing UP tracks. There is still plenty of land to develop in western eagle county for warehousing. From this point, short range electric light delivery trucking could do last mile delivery to retailers. This will be required within a decade as global oil and diesel production enters terminal depletion. A passenger depot in Avon would be simple enough to establish ... and the track could support a commuter service from Dotsero to Avon.
- Passenger rail between Front Range cities should be a priority with stations integrating well with local bus service.
- Front range rail is more important than rail into the mountains. High investment for good service (fast, frequent) is better than cutting costs but getting an inferior product.
- Divert any and all road widening project funding to passenger rail improvements in high population density areas. Link the front range cities. Continue to increase rail options to access mountain destinations.
- Your question about front range or mountain rail should be two questions. Front Range makes great sense, mountain rail is questionable for cost and ridership.



- We need to stop moving dangerous freight through the metro area. It is beyond risky and we have seen the outcome of doing this in spades over the last year.
- "I think we should consider adding more double-track sections along the California Zephyr route. The new track should prioritize passenger rail, allowing Amtrak to make up time from other sections where careless freight companies have delayed them. The new track could also serve new intercity services within the state (e.g., the proposed Craig-Steamboat-Denver line or a new Brighton-Denver commuter line).
- As a Greeley resident who works in Ft. Collins, I also really like the Great Western rail corridor idea identified by NFRMPO and others.
- Finally, freight companies need to be penalized more for their negligence. If they let critical infrastructure and equipment fall apart to save a penny, the state or federal government should claim eminent domain over those assets. "
- Enough w surveys. Just get it built.
- We need a train network for ski resorts.
- We need high speed passenger rail service, starting on the front range, with pricing, capacity, and frequency of service sufficient to make it competitive with automotive travel on I-25. For environmental reasons, we have to out-compete automotive Interstate travel and get _real_ European/Asian quality, long-distance, public transportation in place. To interface with local transit options in our larger cities. There are enough cultural barriers that need to be overcome, and can be with time and encouragement, but the economic barriers have to be removed first.
- I would like to hear about efforts to ensuring current and potential Moffat route customers get a fair deal with the UP after the tunnel negotiation happens.
- Expanding the Winter Park Express enough that it stops selling out, and turning a profit when I-70 doesn't have to turn a profit in spite of being worse for the environment and community? Could ticket prices match CDOT's Snowstang?
- Can we get a train station at the bottom of Coal Creek so people can take trains into the mountains without heading downtown?
- Please add Trinidad to the passenger rail service.
- The Pueblo to Glenwood Springs corridor is as important or more than the proposed NW line.
- Freight derailment in the US is way higher than places I. Europe. We need to understand the root causes and fix this problem, likely under regulated capitalism that sees these safety issues as just costs of doing business rather than paying for better infrastructure. Freight has to own the vast majority of these motives safety costs rather than trying to dump them on the more limited passenger rail.
- Are we always assuming that the residents of Colorado are too cheap to fund independent rail lines and are willing to accept compromised service to get pushed aside by Big Freight?! I question that perspective when being honest & forthright.
- If any new lines are launched, money needs to be invested into making it fast and frequent, or few people will choose it over cars. It may cost more up front, but will be worthwhile in the long run. Existing services in CO also need to have their frequency, safety, and reliability improved.
- All efforts should be made to purchase financially marginal lines from class 1 railroads as well as struggling short lines to begin the process of transitioning rail infrastructure to public ownership



- Speed and frequency will really matter.
- Outside the Denver RTD system, there are really no viable passenger trains to get me where I want to go. Amtrak is more expensive than a plane ticket and takes 18 hours, so there's no reason for me to ever use it. Other historic and scenic railroads are nice, but not functional for me to just get places I need to go. Every other railroad track in the state is just for freight. Moving goods around is important but if you can't move the people around too then nobody is going to be buying those goods.
- I've lived in Boulder County for about 20 years. In that time I've lived and used public transit in Boulder, Louisville, Longmont, and Lyons (where I now own a home). An extremely common refrain among people I know is "we were promised a train, and we're definitely never going to get one". A rail option (with meaningful service levels, including weekends and nights) to other parts of the Front Range urban corridor from Boulder or Longmont feels like it could be a game changer. As it stands, there are patches of reliable and useful service - the light rail's great on the very rare occasion when it makes any sense for me to use it - but public transit around here is mostly an exercise in suffering.
- I said "no" on the "freight trains are safe" bit above because it's hard not to notice in the last few years that freight rail companies are prioritizing profit and cost-cutting over safety and human wellbeing, both for their own workforce and for the people who live along rail lines. It's also hard not to notice, when riding Amtrak long distance routes, that the freight companies absolutely do not live up to their end of the Amtrak bargain, causing constant delays and stoppages. Which is one of many things that relegates passenger rail in most of the US to an impractical novelty niche, used mostly by a handful of weirdos, train nerds, and diehards."
- Having grow up in north west Denver it's been nice how literally my entire life you've promised to connect with lightrail stations to the rest of Denver, imposed several taxes along the way, and literally never succeeded once.
- But regardless, please, actually make something happen here. Denver public transit is a total joke out here.
- Tennessee pass should be reopened.
- Please make NW Rail happen sooner than 2050!!
- Can't it be both/and, instead of either/or?
- We need to leverage the existing freight ROWs to build new dedicated passenger tracks so we can achieve hourly service from 6 am to midnight.



Appendix C: Glossary of Common Terms and Acronyms

Acronyms Used in this Rail Plan

AAR—Association of American Railroads

AGS—Advanced Guideway System

BNSF—BNSF Railway

C&TSRR—Cumbres & Toltec Scenic Railroad

CCVNG—Cripple Creek and Victor Narrow Gauge Railroad

CDOT—Colorado Department of Transportation

CFP—Colorado Freight Plan

COSIB—Colorado State Infrastructure Bank

CTIO—Colorado Transportation Investment Office

CXRG—Colorado Pacific Rio Grande Railroad

District—Front Range Passenger Rail District

DOT—Department of Transportation

DRCOG—Denver Regional Council of Governments

DSSR—Durango and Silverton Narrow Gauge Railroad

DTD—Division of Transportation Development

DTR—Division of Transit and Rail

EIS—Environmental Impact Statement

FAC—Freight Advisory Council

FAF—Freight Analysis Framework

FASTER—Funding Advancements for Surface Transportation and Economic Recovery (2009)

FHWA—Federal Highway Administration

FRA—Federal Railroad Administration

FRPR—Front Range Passenger Rail

FTA—Federal Transit Administration

FY—Fiscal Year

GLR—Georgetown Loop Railroad

HPTE—High-Performance Transportation Enterprise

HRCFS—Highway-Rail Crossing Signalization Fund

ICS—Interconnectivity Study



INFRA—Infrastructure for Rebuilding America
JPAC—Joint Project Advisory Committee
KDOT—Kansas Department of Transportation
LCSSR—Leadville Colorado and Southern Railroad
mph—miles per hour
MPPCR—Manitou and Pike’s Peak Cog Railway
MPO—Metropolitan Planning Organization
NAMS—Northwest Area Mobility Study
NMDOT—New Mexico Department of Transportation
OEDIT—Office of Economic Development and International Trade
OTP—on-time performance
P3—public-private partnership
PHMSA—Pipeline and Hazardous Materials Safety Administration
PRIIA—Passenger Rail Investment and Improvement Act of 2008
PTC—Positive Train Control
PUC—Public Utilities Commission
RGRR—Royal Gorge Route Railroad
RSIP—Rail Service and Investment Program
RTD—Regional Transportation District
SB—Senate Bill
SFPRP—State Freight and Passenger Rail Plan
SLRG—San Luis & Rio Grande
SSO—State Safety Oversight
STAC—Statewide Transportation Advisory Committee
STB—Surface Transportation Board
STRACNET—Strategic Rail Corridor Network
SWP—Colorado Statewide Transportation Plan
TIGER—Transportation Investment Generating Economic Recovery
TPR—Transportation Planning Region
TRAC—Transit and Rail Advisory Committee
TTCI—Transportation Technology Center, Inc.
UP—Union Pacific Railroad



UDOT—Utah Department of Transportation

VMT—Vehicle Miles Traveled

V&S—Victoria & Southern Railway

WYDOT—Wyoming Department of Transportation

Glossary of Common Terms

Advanced Guideway—A term used to describe high-speed fixed transit systems, including passenger rail, monorail, maglev, or other rapid travel technologies.

Association of American Railroads (AAR)—The railroad policy, research, standard setting, and technology organization that focuses on the safety and productivity of the U.S. freight rail industry.

Backhaul—The process of a transportation vehicle (typically a truck) returning from the original destination point to the point of origin. A backhaul can be with a full or a partially loaded trailer or rail car.

Branch Line—A rail line that serves one or more stations beyond the junction of the main line or another branch line. A feeder line that brings freight to main lines.

Boxcar—An enclosed railcar, typically 40 or more feet long, used for packaged freight and some bulk commodities.

Bulk Cargo—Cargo that is unbound as loaded or is without count in a loose unpackaged form. Examples of bulk cargo include coal, grain, ore, or petroleum products.

Capacity—The number of trains that can pass through an area in a certain period of time, depending on the quantity and configuration of tracks.

Carload—Quantity of freight (in tons) required to fill a railcar; the amount normally required to qualify for a carload rate.

Carrier—A firm that transports goods or people via land, sea, or air.

Class I Carrier—A classification of regulated carriers based on annual operating revenues-motor carrier of property greater than or equal to \$5 million. For railroads, carriers with annual carrier operating revenues of \$467 million or more (adjusted for inflation, base year 1991). There are two Class I railroads in Colorado: Union Pacific (UP) and BNSF Railway (BNSF).

Class II Carrier—A classification of regulated carriers based on annual operating revenues-motor carrier of property \$1 to \$5 million. For railroads, carriers with annual carrier operating revenues of less than \$467.0 million but more than \$37.4 million (adjusted for inflation, base year 1991).

Class III Carrier—A classification of regulated carriers based on annual operating revenues-motor carrier of property less than or equal to \$1 million. For railroads, carriers with annual carrier operating revenues of \$37.4 million or less (adjusted for inflation, base year 1991), and all switching and terminal companies regardless of operating revenues. There are 12 Class III railroads operating in Colorado.

Classification Yard—A railroad terminal area where railcars are grouped to form train units.



Colorado Rail Passenger Association (ColoRail)—A statewide non-profit and voluntary organization working to develop passenger rail and transit services in and through the State of Colorado.

Commodity—An item that is traded in commerce. The term usually implies an undifferentiated product competing primarily on price and availability.

Commodity Flows—Data that describes the movement of goods. This information is used for transportation planning and decision-making.

Commuter Rail—Short-haul passenger transportation usually with routes less than 50 miles in metropolitan and suburban areas with morning and evening peak period operations.

Container—A "box," typically 10 to 40 feet long, that is used primarily for ocean freight shipment. For travel to and from ports, containers are loaded onto truck chassis or on railroad flatcars.

Containerized Cargo—Cargo that is transported in shipping containers that can be transferred easily from one transportation mode to another.

Conventional Rail—Traditional intercity passenger rail services of more than 100 miles with as little as one to as many as 7 to 12 daily frequencies; may or may not have a strong potential for future high-speed rail service. Top speeds of up to 79 mph to as high as 90 mph generally on shared track. Intended to provide travel options and to develop the passenger rail market for further development in the future.

Crossdocking—Logistics process involving unloading materials from an incoming truck, a trailer, or a railroad car and loading the material directly into outbound trucks, trailers, or rail cars with little or no storage in between.

Demurrage—A penalty charge assessed by railroads for the detention of cars by shippers or receivers of freight beyond a specified free time.

Distribution Center—A centrally located warehouse where goods shipped long distances by rail are loaded onto trucks for short-haul delivery to regional retail stores or final business destinations. Also called a reload center, it combines the economies of rail with the flexibility of truck pickup and delivery.

Dock—A space used for receiving merchandise at a freight terminal.

Double-stack—A train of specially equipped flat cars on which containers are stacked two-high.

Drayage—Transporting of rail or ocean freight by truck to an intermediate or a final destination; typically, a charge for pickup/delivery of goods moving short distances (e.g., from marine terminal to warehouse).

Export—Goods moving out of a location. Can be domestic export (destination within the United States) or international export (destination outside the United States).

FasTracks—A multibillion-dollar public transportation expansion plan initiated in 2004 for the Denver metropolitan region. Developed by the Regional Transportation District (RTD), the voter approved transit expansion program includes new commuter rail, light rail, and express bus services.

Flatbed—A trailer without sides used for hauling machinery or other bulky items.

Freight Analysis Framework (FAF)—A dataset produced by the U.S. Bureau of Transportation Statistics and Federal Highway Administration that integrates data from various sources to analyze freight movement among



states and major metropolitan areas by all transportation modes. Starting with data from the 2012 Commodity Flow Survey and international trade data from the Census Bureau, FAF incorporates data from agriculture, extraction, utility, construction, service, and other sectors.

Freight Forwarder—A person whose business is to act as an agent on behalf of a shipper. A freight forwarder frequently consolidates shipments from several shippers and coordinates booking reservations.

Freight Rail—The movement of goods and cargo in purpose-built freight rolling stock (e.g., boxcars and flatcars) that is typically, but not necessarily, hauled by diesel-power locomotives.

Free Trade Zone (FTZ)—An area or a zone set aside at or near a port or an airport, under the control of the U.S. Customs Service, for holding goods duty-free pending customs clearance.

Front Range—Colorado’s most populous region, generally extending north-to-south from Fort Collins to Trinidad.

Grade Crossing—Intersections where a highway, a road or a street, including associated sidewalks or pathways, crosses one or more active railroad tracks at grade. Crossings may be public, if the roadway is public, or private, if located exclusively on private lands and roads.

Gross State Product (GSP or GDP)—Measurement of a state’s economic output that is approximately equal to the total value added from all industries in a state.

Gross Weight—The total weight of a rail car, along with the weight of its entire contents. Much of the U.S. Class I rail system is approved for heavy axle rail cars that can handle up to 286k lbs., or in some cases 315k lbs., gross weight. However, some rail lines, or locations along rail lines—in most cases, bridges—are not capable of adequately handling and distributing excess weight and may have restrictions for rail cars greater than 286k lbs. or more based on the length of the rail car.

Hazardous Material (Hazmat)—A substance or material that the U.S. Department of Transportation has determined to be capable of posing a risk to health, safety, and property when stored or transported in commerce.

High-Speed Rail, Express—Frequent express service between major population centers 200 to 600 miles apart, with few intermediate stops. Top speeds of at least 150 mph on completely grade-separated, dedicated rights-of-way (except for some shared track in terminal areas). Intended to relieve air and highway capacity constraints.

High-Speed Rail, Regional—Relatively frequent service between major and moderate population centers 100 to 500 miles apart, with some intermediate stops. Top speeds of 110 to 150 mph, grade-separated, with some dedicated and some shared track (using positive train control technology). Intended to relieve highway and, to some extent, air capacity constraints.

Import—Goods moving into a location. Can be domestic import (origin within the United States) or international import (origin outside the United States).

Intercity Rail—Long-distance passenger rail service generally greater than 125-mile route distances, including Amtrak services.

Industrial Interchange—Interchange of cars from one railroad to another that takes place within the confines of a customer’s plant. Industrial switching track serves industries, such as warehouses, mines, mills, factories, etc.



Interchange—The transfer of cars from one railroad to another railroad at a common junction point.

Intermodal—Describes the transfer of freight between modes, such as rail to truck. Also used to describe intermodal container shipments commonly used in international shipping.

Intermodal Train—A freight train that consists of any combination of roadrailer equipment, double-stack or container flat cars, or flat cars equipped for multi-level auto-rack or auto frames.

Intermodal Terminal—A location where links between transportation modes and networks connect. Using more than one mode of transportation in moving persons and goods. For example, a shipment moved more than 1,000 miles could travel by truck for one portion of the trip and then transfer to rail at a designated terminal.

Interoperability—Technical compatibility of infrastructure, rolling stock, signaling, communications systems, and other operational characteristics across freight and passenger rail systems, regardless of owner or operator.

Last Mile—In the freight context, last mile refers to the final segment of a supply chain, moving goods from a distribution center to the end user. In the passenger context, last mile often refers to infrastructure, services, or systems to connect a passenger to or from a station to a final origin or destination.

Line Haul—The movement of freight over the road/rail network from origin terminal to destination terminal, usually over long distances.

Light Rail—A mode of electrified or diesel-powered rail-based passenger transit, usually in urban areas, which is distinguished by operation in routes of generally exclusive, though not necessarily grade-separated, rights-of-way.

Logistics—All activities involved in the management of product movement; delivering the right product from the right origin to the right destination, with the right quality and quantity, at the right schedule and price.

Manifest Train—Train made up of mixed rail cars (boxcars, tank cars, piggyback cars, etc.).

Milepost—A marker that identifies by number a given track location. It shows the number of miles from one point on the division to another point.

Multimodal—General term for all integrated passenger transportation modes, including transit, rail, car, pedestrian, and bicycle.

Passenger Rail—A broad term describing all rail services that primarily move people.

Passenger Rail Investment and Improvement Act of 2008 (PRIIA)—As enacted by Congress in 2008, this act reauthorizes the National Railroad Passenger Corporation, better known as Amtrak, and strengthens the U.S. passenger rail network by tasking Amtrak, the U.S. Department of Transportation, Federal Railroad Administration, states, and other stakeholders in improving service, operations, and facilities.

Positive Train Control (PTC)—A system of functional requirements for monitoring and controlling train movements. PTC uses communication-based technology that provides a system capable of reliably and functionally preventing train-to-train collisions, overspeed derailments, incursions into established work zone limits, and the movement of a train through a main line switch in the wrong position. As mandated by Congress in the Rail Safety Improvement Act of 2008 (RSIA), Class I railroad main lines transporting hazard materials and



any railroad main lines with regularly scheduled intercity and commuter rail passenger service are required to fully implement PTC.

Quiet Zone—The FRA Train Horn Rule (49 CFR Part 222) provides the opportunity for localities to mitigate the effects of train horn noise by establishing specified areas where railroads are directed to cease the routine sounding of their horns when approaching public highway-rail grade crossings. Train horns may still be used in emergency situations or to comply with other Federal regulations or railroad operating rules. Localities desiring to establish a quiet zone are first required to mitigate the increased risk caused by the absence of a horn.

Rail Siding—A short branch off a main railway line with only one point leading onto it. Sidings are used to allow faster trains to pass slower ones or to conduct maintenance.

Rail Spur—A short, usually dead-end, section of track used to access a facility or a loading/unloading ramp. It also can be used to temporarily store equipment.

Regional Railroad—Railroad defined as line-haul railroad operating at least 350 miles of track and/or earns revenue between \$40 million and \$467 million.

Reliability—Refers to the degree of certainty and predictability in travel times on the transportation system. Reliable transportation systems offer some assurance of attaining a given destination within a reasonable range of an expected time. An unreliable transportation system is subject to unexpected delays, increasing costs for system users.

Right-of-Way—In the strictest sense, land or water rights necessary for the roadbed and its accessories. However, it is commonly used to describe property owned and/or operated by a railroad.

Scenic Railroads—Passenger transportation services primarily for recreation and not travel to and from a destination. Scenic and historic railroads include steam locomotive operations, cog railways, and narrow-gauge track railcars.

Section 130—The Railway-Highway Crossings (Section 130) Program provides funds from the Federal Highway Administration to eliminate hazards at railway-highway crossings. CDOT administers funds to improve and upgrade railway-highway crossing infrastructure and equipment.

Short Line Railroad—Freight railroads that are not Class I or regional railroads that operate less than 350 miles of track and earn less than \$40 million.

Southwest Chief and Front Range Passenger Rail Commission (SWC&FRPRC)—A group established by the Colorado General Assembly in 2017 as the convening organization responsible for facilitating future passenger rail services in key corridors and developing legislation to facilitate the development of a Front Range passenger rail system that provides passenger rail service in and along the Interstate 25 corridor.

Switching and Terminal Railroad—Railroad that provides pickup and delivery services to line-haul carriers.

Supply Chain—Starting with unprocessed raw materials and ending with final customer using the finished goods.

Tank Car—A rail car designed to carry liquids, compressed gases, or granular solids. All railroad tank cars are built to specifications, standards, and requirements established, implemented, and published by the U.S. Department of Transportation, Transport Canada (TC), and/or Association of American Railroads.



Terminal—A facility owned by a railroad on its line for handling freight and for breaking up, making up, forwarding, and servicing trains. Also refers to a designated area within a metropolitan area where one or more rail yards exist.

Ton-Mile—A measure of output for freight transportation; reflects the weight of shipment and the distance it is hauled; a multiplication of tons hauled by the distance traveled.

Trackage Rights—The purchase, for a fee, of the right for one railroad to run on tracks owned by another.

Transloading—Transferring bulk shipments from the vehicle/container of one mode to that of another at a terminal interchange point.

Twenty-foot Equivalent Unit (TEU)—The 8-foot by 8-foot by 20-foot intermodal container used as a basic measure in many statistics and as the standard measure used for containerized cargo.

Unit Train—A train of a specified number of railcars handling a single commodity type that remain together until a designated destination or until a change in routing is made.

Vehicle Miles Traveled (VMT)—A unit to measure vehicle travel made by a private vehicle, such as an automobile, a van, a pickup truck, or a motorcycle.

Warehouse—Storage place for products. Principal warehouse activities include receipt of product, storage, shipment, and order picking.

Waybill Data—A dataset compiled by the Surface Transportation Board used to analyze rail movements at the national, state, and regional levels. The Carload Waybill Sample is a stratified sample of carload waybills for all U.S. rail traffic submitted by those rail carriers terminating 4,500 or more revenue carloads annually. A waybill is a shipping document prepared by a carrier at the point of origin showing the point of origin, destination, route, shipper, consignee, description of shipment, weight, charges, and other data necessary to rate, ship, and settle.



Appendix D: Freight Railroad Carrier Profiles

BNSF Railway

BNSF, a subsidiary of Berkshire Hathaway Inc., is headquartered in Fort Worth, Texas. BNSF directly owns and operates more than 32,500 route miles of track in 28 U.S. states and three Canadian provinces serving the western two-thirds of the United States. When second, third, and fourth main line trackage, yard trackage, and siding trackage are included, the length of track that the railway directly controls rises to more than 50,000 route miles across the country. For administrative purposes, BNSF is divided into 10 operating divisions, including a Colorado Division headquartered in Denver. BNSF operates several transfer facilities throughout the western United States, facilitating the transfer of intermodal containers, highway trailers, motor vehicles, and other freight traffic.

Ownership and History

BNSF is the product of nearly 400 railroad lines that merged or were acquired over time. BNSF's initial operation in Colorado began in 1870 by the Colorado Central Railway between Denver and Golden. The youngest predecessor of BNSF is the Burlington Northern Railroad, created in 1970 with the merger of five railroads. The Burlington Northern and Santa Fe Railway was created in 1996, when the Atchison, Topeka and Santa Fe Railway was merged into the Burlington Northern Railroad. Also in 1996, with the merger of the Southern Pacific Railroad (SP) into Union Pacific, BNSF gained merger-conditioned access to new customers located on the former SP main line between Denver and the Utah border west of Grand Junction as part of more than 4,300 route miles of expanded access in the western United States. On February 12, 2010, BNSF joined Berkshire Hathaway.

Infrastructure and Connections

In Colorado, BNSF delivers automobiles for sale throughout the Mountain and High Plains states. In 2015, BNSF invested approximately \$141 million in Colorado for capacity expansion and maintenance. In 2016, BNSF invested approximately \$100 million in its network in Colorado. It plans to invest approximately \$4 billion in capital expansion and maintenance across its system in 2023. In addition to maintaining and expanding its core network and related assets, BNSF acquired new locomotives, freight cars, and other equipment, continued implementation of PTC, and invested in expansion and efficiency projects to enhance productivity and velocity.

Commodities and Markets

As a national leader in intermodal transportation (truck trailers and containers moved by rail), BNSF delivers a variety of consumer products, packaged goods, paper products, clothes, appliances, electronics, and automobiles to Colorado retailers and businesses. Rail services also support development of the Denver/Julesburg Basin/Niobrara shale deposits in northern Colorado by moving fracking sand, pipe, and other oilfield inputs and equipment to logistics facilities and to ship Colorado-origin crude oil to markets throughout the United States. BNSF also hauls more beer than any other railroad. BNSF hauls lumber and building materials from around the country to meet construction demand in Colorado and hauls fertilizer and farm inputs to Colorado to support agricultural industries. BNSF hauls Powder River Basin coal, Colorado's largest commodity by weight, from Wyoming and Montana to and through Colorado to locations across the country. BNSF's 2016 top originating commodities by unit volume from Colorado included industrial products, consumer products, agricultural products, and coal. Since 2014, BNSF has been instrumental in locating 12 new or expanded facilities in Colorado, creating more than 100 jobs, and creating more than \$30 million in investments. Projects include CHS, Inc. in



Holyoke, the Plains Marketing, LP crude oil facility in Tampa (in Weld County), and GP Aggregates in Lamar. BNSF employs 1,575 workers in Colorado and 41,000 employees nationwide. BNSF had intrastate gross operating revenues of \$24.5 million in Colorado in 2016.

Union Pacific Railroad

Union Pacific (UP) is a Class I railroad operating in Colorado for more than a century, dating back to initial connections to the Transcontinental Railroad. Today, UP's network covers 23 states in the western two-thirds of the country and serves many of the fastest growing U.S. population centers. UP employs 653 individuals in Colorado and nearly 33,000 nationwide. UP is headquartered in Omaha, Nebraska, and serves more than 7,000 communities across the United States.

Ownership and History

UP was incorporated under the Pacific Railroad Act of 1862. UP's presence in Colorado dates back to 1867, when track was laid across the northeastern tip of the state as the transcontinental railroad progressed across the country. The Denver Pacific rail spur, connecting Denver to the transcontinental rail line at Cheyenne, Wyoming, in 1870, became part of the UP shortly thereafter. UP achieved its size by purchasing several other railroads, notably the Missouri Pacific, Chicago and North Western, Western Pacific, Missouri-Kansas-Texas, and the Southern Pacific (including Colorado-based Denver & Rio Grande Western). These acquisitions more than doubled UP's route miles, provided connections to the ports of San Francisco and Oakland, and provided UP access to Texas, Oklahoma, Minnesota, Colorado, and other major markets.

Infrastructure and Connections

UP operates a major network of east-west and north-south lines on 1,504 route miles of track in Colorado. Amtrak provides passenger service over the UP line west of Denver, connecting Denver with California on the California Zephyr route. UP owns 26 percent of Ferrocarril Mexicano, a Mexican railroad with a track network of more than 5,000 miles, covering more than 70 percent of Mexico. UP currently owns more than 32,500 route miles of track and has more than 50,000 miles of track when passing track, switching lines, yards lines, and other main lines are included. In Colorado, UP operates one intermodal and seven transload facilities located in the Denver metropolitan area. UP has rail yards in Denver, Grand Junction, and Pueblo; an intermodal hub in Denver; and equipment maintenance shops in Denver, Pueblo, and Grand Junction. UP owns the Tennessee Pass Line between Pueblo and Dotsero, which remains out-of-service on most of the line, except for operations by the Rock and Rail Railroad short line and the Royal Gorge Route Railroad. UP has 7,338 locomotives across its network.

Commodities and Markets

In the State of Colorado, primary commodities handled by UP include coal, grain, automobiles and trucks, Intermodal wholesale goods, and energy development products. UP also serves a major automobile distribution center just north of Denver, where new automobiles are delivered for sale throughout the Mountain and High Plains states. From 2018 to 2022, UP's capital investment was more than \$253 million in Colorado. Between 2013 and 2022 UP invested approximately \$34 billion in its network and operations across the country. In 2022, UP originated 149,030 carloads and terminated 151,133 carloads in Colorado. UP's 2022 top originating commodities by volume in Colorado included coal, intermodal-wholesale, Cement and miscellaneous minerals, wheat, and gravel stone. UP's top 2022 terminating commodities by volume in Colorado included coal, intermodal-wholesale, assembled automobiles, sand, stone and gravel. Overall, in the United States in 2022, UP had gross operating



revenues of \$24.9 billion, an increase of 14 percent since 2021. UP's business mix over its entire network includes agricultural products, automotive, chemicals, coal, industrial products, and intermodal. UP serves many of the fastest-growing U.S. population centers, operates from all major West Coast and Gulf Coast ports to eastern gateways, connects with Canada's rail systems, and is the only railroad serving all six major Mexico gateways.

Cimarron Valley Railroad

The Cimarron Valley Railroad (CVR) is a Class III railroad with a line operating between Springfield, Colorado, and Satanta, Kansas. CVR runs over the former Cimarron Valley and Manter Subdivisions of the former Atchison, Topeka and Santa Fe Railroad (now BNSF) tracks in Oklahoma, Colorado, and Kansas. CVR runs southwest from Dodge City, Kansas, to Satanta, Kansas. The line divides into two routes at Satanta, with a southern route that runs to Boise City, Oklahoma, and a western route that extends to Springfield, Colorado.

Ownership and History

CVR, originally constructed in 1912, began operating after the line was purchased from Burlington Northern Santa Fe Railroad in February 1996. CVR was a subsidiary of the Western Group until 2020. It was then bought by the Jaguar Transportation Holdings located in Joplin, Montana in November 2020. The Jaguar Transportations Group owns three other railroads, and a rail logistics center in Houston. The line previously extended southwest of Springfield to Pritchett, Colorado, though BNSF abandoned this section of the line and removed the switch to connect to the BNSF Boise City Subdivision and the rail. Between 2006 and 2009, the CVR was at risk of abandonment but was saved by establishing a P3 among KDOT, local counties, and economic development interests. In late 2009, KDOT and partners began planning to renovate and upgrade the line. In 2011 brush fires in Haskell County, Kansas, damaged the CVR line. CVR completed repairs to the affected structures in 2012. In 2023 the railroad won a \$10.9 million Federal CRISI grant to replace some of its aging track infrastructure. The total investment is \$15 million including state and private funding sources.

Infrastructure and Connections

CVR operates on a total of 256 route miles of track through Kansas, Colorado, and Oklahoma. In Colorado, the CVR operates on approximately 32 miles of track, or around 13 percent of the railroad's 242 total route miles. The line in Colorado runs from the Kansas border to Vilas, Colorado, in Baca County. CVR operates seven locomotives with additional trains deployed during grain season to accommodate the harvest. There are 17 public and 18 private at-grade crossings on the CVR in Colorado. There are five grain elevators along the CVR, with three in the Town of Walsh and two in the Town of Vilas. The CVR interchanges with BNSF at Springfield, Colorado.

Commodities and Markets

CVR hauls primarily agricultural commodities (such as wheat, corn, and milo), along with sand, cement, poles, pipe, and fertilizers. CVR in Colorado hauls primarily agricultural products.

Colorado & Wyoming Railway

The Colorado & Wyoming Railway Company (CW) is in Pueblo, Colorado, and operates a five-mile-long switching line. The CW has approximately 100 employees who service several companies in the Minnequa Industrial area of



Pueblo. The CW is a wholly owned subsidiary of the Rocky Mountain Steel Mills Division, which is a unit of EVRAZ Oregon Steel Mills.

Ownership and History

Founded in 1899, CW served as a subsidiary company of the Colorado Fuel and Iron Company (CF&I). Its primary function was to haul loads of minerals, and for a short time as a passenger line, from the mining districts to the Pueblo steelworks. It also serviced the mill yard by moving heavy loads of steel products from one area to another. Historically, CW served three non-contiguous divisions: the Northern Division near Sunrise, Wyoming, where the company operated its large iron ore mine; the Middle Division at the Pueblo steel mill site; and the Southern Division, mainly servicing Las Animas and Huerfano counties. At its peak, the three divisions totaled 116 route miles of track. At Sunrise, Wyoming, the iron ore was hauled from the mine five miles away to Hartville, Wyoming, and later to Guernsey, Wyoming, where the rail line connected with other railroads, mainly the Colorado & Southern and Chicago, Burlington & Quincy, later both part of Burlington Northern. Iron was then brought to the steelworks at Pueblo on these lines. The Middle Division, which was by far the largest, operated within CF&I's Pueblo plant. This division handled raw materials, scrap, and other shipments coming into the plant and hauled finished products to the connecting railroads for shipment to customers. The Southern Division, built from 1900 to 1908, originated mainly coal and coke for delivery on connecting railroads to the steelworks.

Infrastructure and Connections

CW operates 10 locomotives, three of which are load haul and seven of which are switchers. CW's Middle Division connects with BNSF's Spanish Peaks Subdivision and UP's Walsenburg Subdivision.

Commodities and Markets

Clients served locally include EVRAZ Rocky Mountain Steel Mills, Xcel Energy, Nortrak, and Progress Rail Services. EVRAZ Pueblo produces steel products, including rail, seamless pipe, rod, and coiled reinforcing bar hauled by CW. CW supports Xcel Energy's operations at the Comanche Generating Station, the largest power plant in Colorado. Nortrak designs and manufactures trackwork and associated products for Class I railroads, mass transit systems, streetcar lines, and industrial applications. Progress Rail performs mobile rail welding services.

Denver Rock Island Railroad

The Denver Rock Island Railroad (DRIR), a privately owned and operated Class III railroad in Denver and Commerce City, operates three terminal switching yards at the Silver Yard, North Washington Industrial Yard, and Stock Yard Lead. DRIR provides first and last mile connections between industries and the national railroad network. The UP and BNSF deliver cars to interchanges where the DRIR takes possession of the rail cars and delivers them to customers. DRIR employs approximately 23 people in Colorado.

Ownership and History

In 1993, the Denver Terminal Railroad Company began operating the line as the DRIR. In 2005, DRIR agreed to an exchange of rail lines with UP. Under the exchange agreement, UP acquired the Sandown-Belt Junction line from DRIR in exchange for lines at the Stock Yard Lead and North Washington Industrial Yard. DRIR operates two lines at the National Western Complex: the River Spur, which runs along the South Platte River, and the Center Spur, which runs along the west side of the stockyards, both of which date back to the early 1900s. The two lines



currently carry two trains per day in each direction and switching movements for local businesses. The National Western Stock Show owns the ground under the tracks along the River Spur and along Center Spur adjacent to National Western Drive. The DRIR has exclusive rights to use the land for railroad purposes. The City and County of Denver applied for but was not awarded a FASTLANE grant for 2017 to fund a portion of the redevelopment that would include relocation of DRIR's River Spur in the same corridor as the existing Center Spur, rehabilitation of the Center Spur track, relocation of the DRIR storage facility, and construction of a rail bridge/pedestrian underpass along the newly consolidated corridor.

Infrastructure and Connections

DRIR owns 6.2 miles of switching track in Denver and operates on 27 miles of industry track. This includes 4 miles of former Chicago, Rock Island and Pacific Railroad, of which UP owns 3.2 miles and DRIR has operating rights to serve the shippers. In 2019 the railroad gave up 2.7 miles of its tracks in a lawsuit settlement for \$16.75 million with the city of Denver. The tracks along the South Platte River went to the city for construction of the National Western Center. DRIR owns and operates two former UP industrial switch areas known as the Stock Yard Lead and North Washington Industrial Yard. DRIR has a third yard, Silver Yard, located west of Quebec Street in Commerce City and Denver. While DRIR has connections with both UP and BNSF, its only freight interchange point with BNSF is at the north end of the Globeville yards just north of I-70 in the National Western Complex. DRIR also has a maintenance facility located along the River Spur just south of Race Court, also in the National Western Complex area. DRIR's track and structures are all 286k lb. weight capable.

Commodities and Markets

DRIR hauls a wide array of commodities, including barley, salt, roofing tar, building materials, and steel, and has several transload facilities. Mars Steel Corporation, which is also owned by the Mars family who also owns the DRIR, is one of the operators that transloads on the 30-acre Silver Yard site. Additional customers include Boise-Cascade, EVRAZ Rocky Mountain Steel, CMC, and Banner Rebar. DRIR has been unaffected by the fluctuations in coal and petroleum traffic in Colorado and has seen a steady increase in freight traffic over the last five years. DRIR is surrounded by urban development on all sides, limiting their future growth potential unless they can acquire additional properties.

Great Western Railway of Colorado

The Great Western Railway of Colorado (GWR) operates 80 route miles of track in the northern Colorado Front Range, including interchanges with BNSF and UP. GWR routes consist of a line from Loveland to Johnstown, where it splits to Milliken and Longmont. South of Windsor, the line splits to go to the Great Western Industrial Park, Greeley, and Fort Collins. The Great Western Industrial Park, serviced by the GWR, is a 3,000-acre master planned development that is also Colorado's largest Foreign-Trade Zone and is located within the Weld County Enterprise Zone.

Ownership and History

GWR was founded in 1901 to serve the Great Western Sugar Company and other sugar, beet, and molasses companies in Colorado. It also operated passenger services from 1917 to 1926. GWR served the Great Western Sugar Company out of Longmont until 1977 when trucks took over this service and sugar beets were phased out in favor of corn-based sweeteners. In 1999, GWR purchased/leased the Ft. Collins North Yard operations from BNSF, which includes the Anheuser Busch Brewery. All GWR's track remains in place, except the Windsor to Eaton



line that was abandoned in 2004 and is being converted to a rail trail. The company, acquired from Great Western Sugar by BROE Group in June 1986, has been managed by OmniTRAX of Denver since 1991.

Infrastructure and Connections

GWR has three interchanges with BNSF (Fort Collins, Longmont, and Loveland) and four with UP (Fort Collins, Kelim, Greeley, and Milliken). Since BROE's purchase of GWR in 1986, capacity has grown from approximately 500 carloads annually to more than 36,000 loads as of 2016. GWR has five locomotives, one caboose, one passenger car, and six freight cars.

Currently, none of the former Great Western Sugar Company tracks have 286k lb. capable track, which includes all lines south of the Fort Collins to Greeley segment. In 2015, GWR invested \$14 million in track, signal and crossings improvements to their Windsor to Greeley line, which runs from State Highway 257 to 8th Street in Greeley. These improvements were an effort to mitigate increased train traffic through the Town of Windsor from the Great Western Industrial Park. Previously, three to six trains traveled through Windsor daily. GWR's improvements rerouted train traffic to the east of the Town of Windsor and included the replacement of 8,700 railroad ties on 10.2 miles of track, new ballast, and the addition of three new sidings for storage to help prevent congestion. The project also included 136-pound welded-rail track, replacement of 13 public grade crossings, and the addition of lights and gates at several grade crossings. Improvements to the line were coupled with the creation of a quiet zone through the Town of Windsor, funded by a \$3.3 million TIGER V grant that included improvements to 13 at-grade crossings and was completed in December 2016.

Commodities and Markets

GWR has expanded service to include customers in the Great Western Industrial Park, including Vestas, Carestream, Front Range Energy, Halliburton, Hexcel, Eastman Kodak, Cargill, Owens-Illinois, Universal Forest Products, Wedron Silica, Anheuser-Busch, and Schlumberger. Commodities transported include agricultural products, paper, plastics, sand, forest products, brewing grains, beer, wind generator blades, medical equipment, oil and gas commodities, industrial equipment, and other miscellaneous products. GWR offers rail-to-truck and truck-to-rail transloading services, including dry bulk, lumber, steel plate, coil, pipes, plastics, and construction products.

Kansas and Oklahoma Railroad

The Kansas and Oklahoma Railroad (KO) is one of the single largest short line railroads by mileage in the industry. Though KO owns only three route miles of track in Colorado, it owns 904 route miles of track overall. In Colorado, the KO interchanges with the Colorado Pacific Railroad's Towner Line. The line runs on the KO's Hoisington Subdivision between Healy, Kansas, in the east to Towner, Colorado, at the westernmost edge of KO's owned lines.

Ownership and History

KO began operations in July 2001 after acquiring approximately 678 route miles of rail lines from the Central Kansas Railway (CKR). KO also acquired by assignment from CKR the lease of approximately 225 miles of rail lines and incidental trackage rights over segments of rail lines owned by UP and BNSF. KO, headquartered in Wichita, Kansas, is owned by Watco, a transportation company based in Pittsburg, Kansas.



Infrastructure and Connections

KO has interchanges with both BNSF and UP in Kansas and interchanges with the Colorado Pacific Railroad in Towner, Colorado. The KO has a rail-to-truck transload facility in Brighton, Colorado. Bartlett Grain serves as a transload facility and grain elevator along the Towner Line in Colorado. KO lines in Colorado between milepost 746.6 and milepost 743.6 consist of 136 lb. bolted rail, which is capable of 286k lb. loads. In February 2023, the railroad won a \$243,000 grant as part of KDOT's Short Line Rail Improvement Fund. The state plans to provide this fund for five years, for major rehabilitation work.

In 2018, KCVN LLC, and its wholly owned subsidiary Colorado Pacific Railroad, purchased the Towner Line in Colorado from Victoria & Southern Railway. Colorado Pacific intends to lease the Towner Line and its related track and facilities to KO to operate. KO intends to haul wheat and other agricultural commodities on the Towner Line in the future.

Commodities and Markets

KO carries more than 50,000 carloads annually across their lines in Kansas. KO carries diverse agricultural commodities, such as grain, grain products, and industrial products, including chemicals, fertilizers, and paper. KO traffic volumes have grown over each of the past three years and employment continues to trend upward. KO is looking to expand operations onto the Towner Line.

Kyle Railroad Company

The Kyle Railroad Company (KYLE) is a short line railroad line based in Phillipsburg, Kansas, which operates 556 route miles of track, 84 of which are in Colorado. The KYLE runs from northcentral Kansas into eastern Colorado, terminating at Limon. A portion of the KYLE in Colorado consists of former Chicago Rock Island & Pacific Railroad main line from Chicago to Denver.

Ownership and History

KYLE began operations in February 1982 for the Mid-States Port Authority by the Willis B. Kyle Organization to service the northern Kansas harvest season. During its first year of operation, KYLE yielded nearly 8,000 carloads. Ten years later, the line was generating more than 20,000 carloads per year. The initial KYLE railroad holding company consisted of several railroad properties, including the San Diego and Arizona Eastern Railway; the Oregon, Pacific and Eastern Railway; the C&TSRR; and the Pend Oreille Valley Railroad. In 1997, StatesRail of Dallas, Texas, acquired the KYLE. StatesRail operations were sold to RailAmerica in January 2002. Genesee & Wyoming took over ownership of KYLE when it acquired RailAmerica in 2012.

Infrastructure and Connections

KYLE owns 84 route miles of line in Colorado. KYLE has interchanges with BNSF in Courtland and Concordia, Kansas, and interchanges with UP in Limon, Colorado. On its overall trackage, KYLE hauled more than 500,000 tons in 2015, consisting of 360,000 ton-miles. The weight of rail from milepost 441 to milepost 530 is 100 lbs. Currently, more than 15 percent of the line in Colorado has 10 mph speed restrictions, and none of the track and bridge structures in Colorado are 286k lb. load capable. The Stratton Equity Coop serves as a transload facility and grain elevator for KYLE in Stratton, Colorado.



Commodities and Markets

KYLE serves as an important link between the U.S. Wheat Belt and national markets. The railroad hauls agricultural commodities, including milo, corn, and sunflower seeds, as well as fertilizer, sunflower oil, roofing products, and construction materials. In Colorado, KYLE hauls predominantly agricultural commodities, mostly wheat and corn. Major customers include ADM, Frontier AG, Scoular Grain, and AgMark. KYLE has experienced growth in grain traffic each year for the past five years and now runs grain shuttle loader operations. In 2015, KYLE hauled 506,000 tons and 43.7 million ton-miles on their tracks.

Nebraska Kansas & Colorado Railway

The Nebraska, Kansas & Colorado Railway (NKCR) owns and operates approximately 559 route miles of track in southwestern Nebraska, northwestern Kansas, and northeastern Colorado. In Colorado, NKCR's tracks extend from Sterling, Colorado, east to the Nebraska border near Venango, Nebraska.

Ownership and History

What is now the NKCR was built as the Colorado & Wyoming Railroad (not to be confused with the current short line of the same name) from the Nebraska-Colorado state line through Sterling to the Colorado-Wyoming state line southeast of Cheyenne and opened in 1887. From the beginning, it was operated as part of the Chicago, Burlington & Quincy Railroad, which became the Burlington Northern (BN) in 1970 and BNSF in 1996. NKCR, formerly the Nebraska Kansas and Colorado RailNet, is managed by OmniTRAX and began operations in December 1996. NKCR is headquartered in Grant, Nebraska. NKCR operations were spun off from BNSF in 1996 as part of a major line restructuring and outsourcing effort by BNSF. NKCR was formerly a Class II railroad, hauling 40,000 carloads per year, but only generated 16,000 carloads in 2016, now making it a Class III railroad. NKCR has 23 employees in Grant, Nebraska, and 10 in Colorado.

Infrastructure and Connections

NKCR owns 68 route miles of track in Colorado between milepost 165 to milepost 225 on the Wallace Subdivision and interchanges with BNSF in Sterling, Colorado. NKCR also interchanges with BNSF in Holdrege, McCook, and Oxford Junction, Nebraska. NKCR recently made considerable track improvements in conjunction with upgrade investments by the owners of grain elevators at Venango, Nebraska; Loomis, Nebraska; and Holyoke, Colorado, each of which now loads 110-car shuttle trains. NKCR track was re-laid with welded rail in the 1980s between Sterling, Colorado, to Sutherland, Nebraska, to better handle the Nebraska Public Power District's coal trains to and from the Gerald Gentleman Power Plant near Sutherland, Nebraska. Grain elevators operating along the NKCR in Colorado include the Grainland Cooperatives in Holyoke, Haxtun, and Fleming, Colorado, and the Paoli Farmers Cooperative in Paoli, Colorado. In 2015, NKCR filed abandonment applications for 57 route miles of track near Orleans, Nebraska, and filed to discontinue overhead trackage rights over 17.7-miles of railroad owned by KYLE between Almena, Nebraska, and Oronoque Junction, Kansas. The STB made and approved the abandonment decision on November 17, 2016. In 2020 the railroad won a \$4.5 million CRISI grant to install approximately 42,000 ties and nearly 16,000 tons of ballast and resurface 562,848 track feet on the NKCR between Holdrege, Nebraska and Sterling, Colorado.



Commodities and Markets

NKCR carries a diverse mix of traffic and has attracted high throughput grain elevators to its lines. Top commodities by volume include grains, chemicals, farm and food, waste and scrap, and coal. In addition to grain, NKCR ships liquid fertilizer to shuttle loaders at Maywood, Nebraska; Imperial, Nebraska; and Holyoke, Colorado. Over the last 20 years, incentives have been provided to NKCR to truck grain to central elevators for shuttle loaders.

Rock and Rail Railroad

Rock and Rail Railroad (RRRR) operates on tracks purchased from the BNSF and UP railroads as well as trackage rights. RRRR operates freight service on the former UP Tennessee Pass route between Parkdale, Colorado, and a connection with UP at Cañon City, Colorado. Overall, RRRR operates on 14.75 miles of owned track and 40 miles of trackage rights from the UP, from Parkdale Quarry into the Drennan Industrial Park in Pueblo, Colorado. RRRR connects with both BNSF and UP in Pueblo.

Ownership and History

RRRR is a wholly owned subsidiary of Martin Marietta Materials, Inc., a North Carolina company with its regional headquarters in Colorado. RRRR has been operating for over a decade as the primary common carrier between Parkdale, Cañon City, and Pueblo, Colorado. RRRR holds a 50 percent share in the rail line through the Royal Gorge through Royal Gorge Express (RGX), which purchased track running through the Royal Gorge from Cañon City west to Parkdale, Colorado, from UP in 1998. RGX's other owner, the Cañon City Royal Gorge Railroad (CCRG), operates a tourist passenger train running on the same track through the Royal Gorge. RRRR also owns the three-mile loop track in Parkdale Quarry that connects to the main line RGX track at Parkdale.

Infrastructure and Connections

RRRR provides services under an interchange agreement with the BNSF and UP. Under the interchange agreement, RRRR is paid a fixed price per railcar interchanged between the BNSF and UP at Pueblo, Colorado, and the end customer. All the track operated by RRRR is 286k lb. load capable. Between Parkdale and Pueblo, track speeds are set at a maximum of 40 mph along 10 miles of the line.

Commodities and Markets

RRRR currently uses UP to distribute aggregates, while all non-aggregate business is distributed through BNSF. In 2008, business for car storage increased and has been increasing ever since, primarily the result of decreasing operations in the coal, oil, and gas industries that require surplus cars to be stored for potential future use. RRRR saw the demand for cement hauling decrease, dropping 30 percent in the past year. Martin Marietta Materials' purchase of RRRR in 2015 resulted in an increase in aggregate rock hauling demand and expanded RRRR's business regionally. RRRR currently employs five workers.

San Luis Central Railroad

The San Luis Central Railroad (SLC) owns and operates 12.2 route miles of freight rail trackage from a connection with the San Luis & Rio Grande Railroad (SLRG) at Sugar Junction in Monte Vista north to Center, Colorado. The



SLC's shops and yard are located just north of U.S. 160 near Sugar Junction. SLC is an agricultural line that serves growers throughout the San Luis Valley of Colorado.

Ownership and History

SLC was incorporated in 1913 and was initially founded to haul sugar beets from growers to an online processing mill. Sugar beet growing did not prove popular with local farmers, and the facility soon closed. SLC ran passenger service for a period that ended in 1937. Pea Vine Corp acquired the entire capital stock from the estate of the railroad's founder in 1969. Rail World, Inc. currently owns a controlling interest in SLC and is headquartered in Rosemont, Illinois. SLC has consistently employed a staff of seven employees over the past five years.

Infrastructure and Connections

SLC operated freight traffic through a connection with SLRG. SLC also has trackage rights on one mile of SLRG near Sugar Junction. SLC owns two locomotives and has 54 leased refrigerated boxcars. SLC's rail is over 104 years old and is 56-lb. rail. SLC's track area is not 286k lb. capable. SLC has two bridge structures, though the track, not the structures, is the factor limiting the speeds to five mph. Between 2007 and 2010, SLC replaced one mile of 56 lb. rail with 90 lb. rail, capable of somewhat heavier loads, but is still not 286k lb. capable.

Commodities and Markets

Primary customers include Smoke & Spuds, Schoenmann Produce, and Proximity Malt. Wheat, feed barley, and potatoes are outbound commodities, while inbound commodities include chemicals and fertilizers. Most raw potatoes originating on SLC are hauled on the Class I network to Texas, while dry potatoes are hauled east to Pennsylvania for dog food production. Cereal grains hauled by SLC are typically destined for Duluth, Minnesota, while feed grains are destined for California. Malt barley grown in the San Luis Valley and hauled by SLC is typically destined for Wisconsin. Overall rail traffic volume on SLC has decreased over the past decade, though the overall mix of commodities transported has remained mostly the same.

Colorado Pacific Rio Grande Railroad (formerly San Luis & Rio Grande Railroad)

Colorado Pacific Rio Grande Railroad (CXRG) runs west from a connection with UP at Walsenburg, Colorado, over the Sangre de Cristo Mountains at La Veta Pass, and into the San Luis Valley. At Alamosa, the railroad splits with a branch extending south to Antonito, Colorado, just north of the New Mexico border, and northwest to South Fork. CXRG owns approximately 150 miles of track.

Ownership and History

Until late 2022, CXRG was known as the San Luis & Rio Grande Railroad (SLRG). The SLRG evolved from a complex history of early Colorado narrow gauge track development in southern Colorado. The oldest predecessor of SLRG was the Denver and Rio Grande Railroad (D&RG), which was chartered in 1870. Over the years, there were a series of mergers and acquisitions and eventually, in 2003 the SLRG began operations using lines radiating from Alamosa, when the UP sold the Walsenburg-to-Alamosa, Alamosa-to-Antonito, and Alamosa-to-Derrick (South Fork) lines to RailAmerica (RA). RA then sold the SLRG to Permian Basin Railways (PBR), a company formed by Iowa Pacific Holdings (IPH), in 2005. IPH was formed in March 2001 to acquire railroads and create rail-related businesses. The SLRG directly employed around 100 full-time and seasonal workers combined and estimates there was roughly 400 jobs that also rely on the SLRG in the San Luis Valley. SLRG also operated passenger scenic



service from May through October over La Veta Pass, through the San Luis Valley. In 2020 the railroad filed for bankruptcy and was under a U.S. court appointed trustee. During this time, the trustee spent \$1.3 million to rehabilitate, maintain and operate the line. In November 2022, SLRG was acquired by KCVN LLC and then transferred to Colorado Pacific Rio Grande in February 2023.

Infrastructure and Connections

The railroad connected with UP at Walsenburg, which BNSF also serves. By agreement SLRG was obligated to interchange its traffic with UP, although under certain conditions and with UP concurrence interchange with BNSF was available. This occurs most often with unit trains of storage cars. In addition to the UP connection, the SLRG connected with the San Luis Central Railroad (SLC) at Monte Vista. All its bridge structures are 286k lb. capable. The SLRG at La Veta Pass is 9,242-feet above sea level, the highest freight rail line in North America.

Commodities and Markets

The primary commodities hauled by the SLRG were grain, minerals, specialty rock products, and produce. SLRG also handled substantial bridge traffic to and from the SLC. The 2008 recession hit the SLRG significantly; most of the SLRG's client base was the same as that before 2008, but their customers simply shipped less. The SLRG has benefitted from the decrease in coal, oil, and gas demand, where empty cars from the Class I railroads were stored in SLRG's yard in Alamosa. The SLRG hauled 765,000 tons over 81.4 miles in 2016.

Colorado Pacific Railroad

The KCVN LLC (KCVN) and its wholly owned subsidiary Colorado Pacific Railroad LLC (CPRR) is the current owner of the Towner Line, named after the Colorado town at the eastern terminus of the line. KCVN owns and oversees the operation of farmland in several western states. The company's assets include approximately 58,000 acres of land within Cheyenne, Kiowa, and Powers counties, Colorado. This acreage is all within 25 miles of the Towner Line and is primarily dedicated to the cultivation of dryland wheat. CPRR was formed in 2015 to acquire and oversee the resumption of freight operations over the Towner Line.

The Towner Line, built as the Pueblo & State Line in 1887, served as the western end of Missouri Pacific Railway's main line from St. Louis and Kansas City. Missouri Pacific was merged into UP in 1982. Following UP's merger with Southern Pacific in 1996, the Towner Line was threatened with abandonment as traffic was diverted to other lines. The Towner Line consists of approximately 122 route miles between milepost 747.5 near Towner, Colorado, on its eastern terminus, where it connects to track operated by the Kansas & Oklahoma Railroad (KO), and milepost 869.4 near NA Junction, Colorado and an interchange with track owned by the BNSF, on its western terminus.

Ownership and History

In 1998, the Towner Line was purchased by the State of Colorado and operated under lease by several short line operators until its sale to Victoria & Southern Railway (V&S) in 2011. The V&S is affiliated with A&K Railroad Materials, a scrap dealer whose primary business is buying rail lines and selling assets. The Towner Line was the subject of an administrative case before the STB beginning in 2014. Following the resolution of that case in 2017 and pending final sale of the Towner Line in 2018, the KCVN and the Colorado Pacific Railroad are seeking to restore the line for grain hauling operations.



In October 2014, KCVN, the Colorado Wheat Administrative Committee, the Colorado Association of Wheat Growers, and the Colorado Wheat Research Foundation filed a complaint with the STB, alleging that the V&S violated Federal law by removing a portion of track and related assets from the western segment of the Towner Line without first seeking abandonment authority. In March 2016, KCVN and Colorado Pacific filed a feeder line application with the STB to acquire the Towner Line and 12 miles of related track and facilities from the V&S. KCVN & Colorado Pacific alleged that the V&S engaged in a systemic plan to drive traffic off the Towner Line with the aim of abandoning it and selling the line's rail assets. KCVN and Colorado Pacific Railroad asserted that V&S raised rates to a prohibitive level around 2011 and engaged in other behavior forcing traffic off the line rather than meeting its common carrier obligation and maintaining the line. KCVN and Colorado Pacific sought to acquire the Towner Line and its related track and facilities and to lease them to a connecting carrier, the KO, to operate. KCVN and Colorado Pacific Railroad assert that rehabilitating the Towner Line would cost an additional \$3.5 million, and the total cost to restore service would be \$6 million. KCVN owns 58,000 acres of farmland primarily dedicated to dryland wheat within 25 miles of the Towner Line, which collectively are valued at approximately \$50 million.

In July 2017, the STB found that KCVN's application to purchase the Towner Line from V&S met the statutory criteria for a forced sale and that KCVN and Colorado Pacific are financially responsible and eligible to purchase the line. The STB requested that the parties engage in mediation to resolve the net liquidation value of the line to complete the sale. In December 2017, mediation was completed and an agreement for KCVN to purchase the line for \$10 million was approved by the STB.

In November 2022 KCVN successfully bid on the asset acquisition of the SLRG railway, as part of SLGR's bankruptcy proceedings. This meant, that by the end of 2022 KCVN had purchased all 150 miles of SLGR's tracks and other assets.

Infrastructure and Connections

The line interchanges with BNSF and UP at NA Junction, Colorado, just east of Pueblo, and with the KO at Towner, Colorado. Most of the track making up the line is 112 lb. and 115 lb. jointed rail manufactured in the 1940s. Approximately 40 percent of track miles are 136 lb. continuous weld rail track manufactured in the 1970s. Several of the sidings contain much older 90 lb. and 85 lb. jointed rail, some of which may be up to 100 years old. Several grain elevator operations exist along the Towner Line, including Tallman Grain in Brandon, Colorado, and Bartlett Grain in Eads, Haswell, and Towner, Colorado.

Commodities and Markets

Commodities historically transported on the Towner Line consisted primarily of wheat and barley shipped from the Bartlett Grain Company and the Tempel Grain Company. With the addition of SLRG its commodities such as minerals, and forest products could also add to KCVN's markets.

UTAH Railway

Ownership and History

The Utah Railway Company (UTAH) was incorporated in 1912. The railroad was founded to haul coal from company's mines to Provo, Utah. The Denver & Rio Grande operated the line until 1917 when UTAH began



independent service. UTAH operated as a subsidiary of Mueller Industries, Inc. until it was sold to Genesee & Wyoming, Inc. in 2002.

Infrastructure and Connections

Today, the UTAH line extends 47 route miles, and with trackage rights over UP, spans 378 route miles from Ogden, Utah, to Grand Junction, Colorado. Just 32 miles of those trackage rights are in Colorado, between the Colorado/Utah state line and Grand Junction. UTAH connects with BNSF and UP at Grand Junction, Colorado, as well as Utah Railway Junction and Provo, Utah, and hauls coal, as well as brick and cement, building materials, chemicals and petroleum products. The railroad also operates as a switching agent for BNSF in the Salt Lake City, Provo, and Ogden areas. UTAH is included among Colorado's 12 short line railroads, but activities and impact in Colorado are limited.

Deseret Power Railroad

Ownership and History

The Deseret Power (DPRW) is an electrified private railroad operating in northeastern Utah and northwestern Colorado. DPRW exists only to transport coal from the Deserado Coal Mine located northeast of Rangely, Colorado, to the Bonanza Power Plant located northwest of Bonanza, Utah. The railroad began operation in 1984 as Deseret Western Railway owned by Western Fuels Utah (WFU). This joint company was owned by the Deseret Generation & Transmission Cooperative, which operated the Bonanza Power Plant, and by the Western Fuels Association. WFU operated the Deserado Mine and transported the produced coal to the power plant. In 2001, Deseret Generation & Transmission Cooperative bought out the Western Fuels Association and changed the name of WFU into Blue Mountain Energy and changed the name of the railroad to its current designation.

Infrastructure and Connections

DPRW does not have any connection to the national rail network and does not have any signaling system. DPRW's total track is 35 route miles with 17 miles located in Utah and 18 miles in Colorado. Each end of the line has a balloon loop, and a siding is located halfway between the power plant and the mine. There are no grade crossings on the line. All roads use over- or underpasses at track crossings. As of 2015, operations were typically a 44-car train with three locomotives running twice a day.



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