



# Short Line Rail Improvement Plan

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# Executive Summary

In 2019 the California State Assembly enacted Senate Bill 87, the Short Line Infrastructure Improvement Act of 2019. This act created the Short Line Railroad Improvement Program and provided for a one-time appropriation of seven million and two hundred thousand dollars (\$7,200,000) for short line railroad infrastructure projects intended to improve freight mobility, volume thresholds, and support modern rail freight traffic and the communities and industries they serve throughout California.

In connection with this program Caltrans was directed to analyze the needs of short line railroad operators and connected stakeholders in the State of California. The study would analyze short line needs, benchmark short line railroad support programs of other states, and describe scenarios for funding projects that support State of Good Repair, improved industrial access, or make short line rail operations more efficient.

Caltrans embarked on an extensive stakeholder engagement plan where Caltrans engaged with a broad and diverse range of stakeholders connected with the California short line railroad

industry. These stakeholders included the short line railroads themselves, the large national railroad operators serving California, industry trade associations, port associations, and railroad shipper groups. Additionally, Caltrans conducted interviews with multiple state's Department of Transportation with their own programs for providing support to the short line railroad industry within their states.

Collectively, these interviews provide a rich understanding of the needs of the short line railroad industry within California and best practices for implementing a sustaining program of support to meet those needs.

The information collected from this outreach effort provides a clear comprehension of the infrastructure needs of every short line railroad in California and provides context for macro issues affecting short line operators in the state. Interviews with short line railroad operators provide insight into boarder issues affecting the industry and how California can support ongoing success in safety, infrastructure, land use planning, economic development, environmental impacts, and technology.

**Railroads are the most fuel efficient way to move freight over land.**

It would have taken approximately 9.3 million additional trucks to handle the 167.4 million tons of freight that moved by rail in California in 2019.

# Introduction to Short Line Railroads

As old as the American railroad industry, short line railroads operate relatively short-distance rail lines throughout the country that exist to move goods and products between origin points, processing points, and markets for final sale. Unlike larger railroads such as Union Pacific and BNSF Railway that operate on thousands of miles of track spanning across the country, short lines generally exist to provide rail access to smaller markets and individual industries. Some short line railroads provide passenger service on dedicated excursion trains, but most short line railroads focus on moving freight. Within this core market area, short lines generally focus on moving raw goods from where they originate to where they are processed or refined (such as moving produce from a farm to a distribution plant, moving harvested logs from a forest to a sawmill, or moving iron ore from a mine to a steel mill). Short line railroads also provide

valuable transit services for industry through interchanging, where a short line railroad may move containerized traffic between a port and a long-distance railroad, or where a short line railroad may serve as the “last mile” provider for a factory receiving or shipping products via a long-distance railroad.

The Surface Transportation Board (STB) has economic regulatory jurisdiction over the railroad industry and defines Class I, II, and III railroads based on the revenue earned in a year and adjusted for inflation annually. Most short line railroads qualify as Class III railroads. As of 2019, the STB’s revenue thresholds for the three railroad classes are as follows:

- Class III: Less than \$40,384,263
- Class II: \$40,384,263 - \$504,803,294
- Class I: More than \$504,803,294

While short lines individually focus on serving a select few markets and industries, the network of short lines nationally is an integral part of the larger American freight railroad network. Collectively, short line railroads operate nearly 40 percent of the national railroad network: over 50,000 miles of track. According to the 2018 California State Rail Plan (CSRP), California’s short line railroads operate 1,296 route miles, or nearly 33 percent of the California railroad network. American short lines operate in 49 of the 50 states and in five of those states, they operate 100 percent of the freight rail. One in every four rail cars moving throughout the American railroad network is at some point moved, handled, or otherwise processed through a short line railroad at some point of the journey.



**Short line railroads are a critical part of the U.S. freight network.**

The nation’s 603 short lines provide service for one in five cars moving each year.

*Pacific Harbor Line (PHL) locomotive 40 pulls a train with double-stacked shipping containers.*

## The “Last Mile” Shipping Solution

Short lines handle the “first mile” and “last mile” of the freight rail network, serving as a distribution and feeder system for the overall freight rail network. The short line is integral to a shipper’s operations that have a facility that is close to a short line and couldn’t get freight rail service without it, so they’re crucial to the shippers that use them. Short lines are also crucial to many smaller markets that may have been otherwise left without rail service following previous rounds of abandonments and/or consolidations by larger railroads. Short lines help maintain freight rail service in places that might not otherwise have it, which is good for customers, the environment, the economy, and safety.

Because short lines connect to Class I Railroads, these companies often work hand in hand to provide rail service to customers located in areas that aren’t directly served by the larger railroads. Most short lines connect to at least one, if not multiple Class I railroads and essentially every item that ships on a short line ends up on a Class I. By working with Class I railroads, short lines also have potential growth opportunity for transloading, where goods are moved between shipping modes (e.g.,

truck to train) as part of the overall journey of the goods. While transloading is similar to intermodal trips – where goods remain in the same container and the container itself is moved between conveyance modes – transloading allows railroads to unload and reload goods into different containers, trailers, or train cars to make the overall load more efficient to transport. Transloading can also significantly expand the reach of a short line railroad, as customers without a dedicated spur track can still utilize the short line’s services for shipping and/or receiving goods and products.

Short line railroads, by their nature, are customer-focused by necessity. To a far greater extent than their Class I railroad partners, short lines need to continually market themselves and maintain close relationships with their local customers to thrive considering operations are limited to wherever their tracks are. This also means short line railroads need to continuously innovate while monitoring and minimizing overhead expenses, which often means relying on older equipment, outdated infrastructure, and smaller workforces that require employees to take on a wider variety of duties compared to many Class I railroad workers.

### What is transloading?



Transloading works like this:

- Products are loaded onto a truck.
- The truck transports the container to a transload facility
- At the transload facility, products are transferred to a rail car.
- The product type determines how it is transferred (e.g., pump, crane or forklift) and to which type of rail car (e.g., tank car, flat car or box car).
- If needed, products are transferred back to trucks for final delivery.

**Combining rail and truck transportation using a transload facility gives industries the cost-saving benefits of multi modal shipping.**

When comparing costs per ton mile by truck and rail, rail has the potential to cut costs in half. This means minimizing transportation by truck can dramatically reduce costs.

## Benefits of Short Line Railroads

Within the state of California and throughout North America as a whole, short line railroads have significant benefits not only to industry and commerce but also to the public more generally. Short line railroads play an important part in supply chains, providing shippers a critical “last mile” connection to the nation’s rail network and allowing them to ship by rail. By providing this critical last mile, it allows

local producers including agriculture and crops access to markets. It also reduces transportation costs on bulk commodities, like timber, aggregate, and fertilizer. Short lines can be a more economical shipping solution than truck as well as a net benefit to the public through less highway congestion and fewer transportation emissions. Many short lines continue to take steps to shrink their environmental

footprint while maintaining the cost-competitiveness they need to continue serving their customers. Some short lines are modifying or retrofitting locomotives to reduce emissions, using or testing alternative fuels to generate fewer pollutants, or trying to cut energy usage in their facilities by incorporating “green” features. Examples of these are:

- One short line converted a soon-to-be-scraped locomotive into a “slug” or “mate” unit, which improves traction and acceleration for an attached locomotive, to help cut emissions and reduce fuel usage. Because of the mate they expect to save \$250,000 in fuel costs annually.
- One short line began testing B10 and B20 biodiesel blends supplied by the Renewable Energy Group which did not show any additional wear and tear on parts, and the engine ran about the same. Biodiesel may cost a bit more but provides cleaner emissions.
- One short line installed ZTR Railway Solutions’ SmartStart™ units on locomotives to automatically shut down idling engines, which are designed to reduce fuel burned hourly while idling from 15 to 20 gallons to one or two gallons.
- One short line has started discussions about building electric powered locomotives that run on batteries and appreciates that California needs to work with the industry with conversion of existing locos to meet new Tier standards and stay lucrative.
- One short line received a \$4 million grant from the California Energy Commission to build and test a hydrogen fuel cell switching locomotive. The new switcher will replace an old Tier 0 diesel locomotive with a zero-emission locomotive, since hydrogen fuel cells emit only heat and water as waste products.

Rail has inherent environmental benefits compared to shipping by truck, even when using more traditional diesel locomotives. Moving cargo by train is similar to the idea of carpooling where the transportation is shared by others and allows more to be moved for less fuel, cost, and congestion on the road, with additional fuel economy benefits from lower-friction steel wheel on steel rail propulsion compared to rubber tire on asphalt or concrete for

trucks. According to the Association of American Railroads (AAR), railroads are four times more fuel efficient than trucks with one ton of freight on a train moving an average of 470 miles on one gallon of diesel fuel, which translates to a 75 percent decrease in greenhouse gas emissions.

Like many other small businesses, short line railroads also pride themselves on providing a high level of customer

service. The short line will be eager to partner with a customer and make rail service work for them. With smaller staffs and employees accustomed to working on a wider variety of tasks as well as more flexible and nimble scheduling and service options, short lines are often willing to tailor the service to move customer goods and products in a way that helps their business.

## Ownership and Organizational Structures of Short Line Railroads

While most short line railroads have similar operations, there is a fair amount of variation between each railroad's ownership and organizational structure. Many older, traditional short line railroads were conceived and constructed as such, with a clear intent to construct a third-party railroad that would link a particular industry or market to a larger railroad to allow goods and products to be transported longer distances. In other cases, short line railroads were formed to take over track that would have otherwise been abandoned by a larger railroad, either purchased from the previous railroad outright or by entering into a lease agreement whereby the short line takes over operations and maintenance duties while the larger railroad maintains ownership of the right-of-way.

### Each of California's Class III railroads are generally owned in one of four different ways:

#### Independent

The short line railroad is a privately-owned third-party business (or a unit of local government, such as a port district or a regional transportation agency).

#### Integrated

An industrial company owns their own short line railroad to transport raw materials and/or finished products between facilities or to interchange locations with Class I railroads.

#### Class I Owned

In some cases, the short line railroad is a wholly owned subsidiary of one or more of the Class I railroads that it interchanges with.

#### Holding company

While the short line railroad is locally operated, the railroad is owned by a larger multi-state short line corporation. These include Genesee and Wyoming, OmniTRAX, Progressive Rail, Patriot Rail, and others.

These corporate ownership structures do not necessarily affect how the short line railroad's right-of-way is owned; Class III railroads may still rely on trackage rights or lease agreements from other railroads to operate on the full extent of their respective networks.

Independent short line railroads often face greater challenges compared to short line railroads organized in different ways. Independent short lines often resemble other small businesses, where growth and leveraging economies of scale to enhance profitability can be challenging. Independent short lines are typically geographically constrained with limited growth opportunities considering the

potential number of customers along the route. While operating with fewer employees does allow for a certain degree of flexibility in terms of assigned duties and tasks, employees may also lack the training or resources for more specialized tasks, such as marketing and grant development. Likewise, these short lines often have less access to capital for significant investments in infrastructure: relatively low returns on investment for state-of-good-repair needs like bridge improvements or modernized rolling stock may be seen as a higher-risk investment for outside investors. A lack of initial capital also detrimentally impacts attracting additional capital, such as trying to

receive grant funding if a local/private match is required.

While integrated short lines – where the railroad is owned and/or operated by the major industry it serves – can experience similar challenges to independent short lines, these companies also generally have larger, more diverse staffs that may be better suited to perform tasks such as seeking out grant funding. Likewise, the additional resources of the corporation's full reach may also provide better access to capital for infrastructure investments, more liquid collateral for loans, and matching funds for grants. Integrated short lines also have the benefit of being

less reliant on a variety of customers, which means the railroads do not need to expend as much effort and resources into marketing and customer retention while also leveraging the natural economies of scale of only transporting limited types of freight. From a local standpoint, however, this may be a double-edged sword as some integrated short line railroads could be less willing to serve non-affiliated industries along the line.

Many older, traditional short line railroads were conceived and constructed as independent operators, with a clear intent to construct a third-party railroad that would link a particular industry or market to a larger railroad to allow goods and products to be transported longer distances. In

other cases, short line railroads were formed to take over track that would have otherwise been abandoned by a larger railroad, either purchased from the previous railroad outright or by entering into a lease agreement whereby the short line takes over operations and maintenance duties while the larger railroad maintains ownership of the right-of-way.

Following the significant deregulation of the national railroad network with the passing of the Staggers Rail Act of 1980, railroads throughout the country began reassessing their operations and looked to sell or abandon hundreds of unprofitable segments of track throughout the country. While this expanded the potential market for short line railroads in general, it also

led to the development of holding companies, with several companies emerging and expanding to oversee dozens of short line railroads throughout the country. These holding company networks themselves do not rival Class I railroads in terms of the overall reach of each company's network, but owning numerous short lines does create strong economies of scale that these companies can use to lower overhead costs and leverage investments in infrastructure and rolling stock, as well as being able to have more specialized workforces. This also positions these holding companies to be more competitive with seeking out and winning grant funding, as well as helping with marketing and outreach for new customers.

## Within California, there are several short line holding companies in operation:



### Genesee and Wyoming

Headquartered in Connecticut, currently operates six short line railroads in California. Genesee and Wyoming is one of the largest short line rail holding companies in North America, owning or leasing 113 railroads spanning 42 states and four Canadian provinces.



### Nexxt Rail LLC

Headquartered in Oregon, operates the Goose Lake Railroad. While Goose Lake Railroad is the only short line operated by Nexxt Rail, the company (through its subsidiary Nexxt Logistics) also operates a transload facility in Nevada and provides contracted railcar switching services for a variety of clients.



### OmniTRAX

Headquartered in Colorado, operates the Stockton Terminal and Eastern Railroad. OmniTRAX operates 22 short line railroads throughout the United States and Canada.



### Patriot Rail

Headquartered in Florida, operates the Sacramento Valley Railroad. Patriot Rail operates 13 short line railroads throughout the central and western United States.



### Progressive Rail

Headquartered in Minnesota, operates the St. Paul and Pacific Railroad. Progressive Rail operates 13 short line railroads throughout the United States.



### Railmark

Headquartered in Kentucky, operates the Yreka Western Railroad. Railmark owns three short lines in the United States and provides contract railcar switching services in dozens of American cities.



### Watco

Headquartered in Kansas, leased and operated the Pacific Sun Railroad until September of 2020. The lease was not renewed, and the line is now operated by BNSF Railway.



In some cases, short line railroads are organized and operate as separate business units but are owned (either with a majority stake or owned entirely) by Class I railroads. Some of these lines in California, such as the Central California Traction Company, are jointly owned by Union Pacific and BNSF Railway and connects with both. In CCT's case, the arrangement dates back nearly a century to 1928, when the line was sold by its original owners and jointly purchased by the Atchinson, Topeka, and Santa Fe Railroad (which

is now part of BNSF Railway), and the Southern Pacific and Western Pacific Railroads (which both are now part of Union Pacific).

An additional short line ownership and operational model is also possible, although not yet utilized in California: public operation. In this type of arrangement, a government entity would assume the role of operating and maintaining a short line railroad as a public service. While public ownership of a freight rail line is not entirely unprecedented – many state and local

governments throughout the United States have purchased portions of rail lines that would have otherwise been abandoned to maintain passenger or rail service, or to protect a rail corridor for future service – public-sector operation of rail services has generally been limited exclusively to passenger service. Currently in California, the Sonoma-Marín Area Rail Transit (SMART) agency is exploring expanding existing commuter rail service to also include publicly-operated freight short line services.

## Short Line Infrastructure

Like other American railroads, infrastructure and locomotives are a short line's most important assets. Reliable equipment and suitable track for service are crucial components to a short line railroad's ability to provide fast, convenient, cost-effective service to their customers.

As maximum weights on Class I main lines have increased over the last 40 years or so from 263,000 pounds per car (263K) to 286,000 pounds per car (286K), more recently some Class I railroads have begun to increase maximum car capacities to 315,000 pounds per car (315K). In some cases, short line railroads increasingly face challenges being able to handle maximum-weight cars on aging infrastructure. This requires short lines to either partake in expensive track upgrades, or to operate less efficiently with more cars required for the same amount of freight. In terms of rail weight, heavier (but more expensive) rail can handle larger loads and higher speeds, while tracks with lighter-weight rail are restricted to low-speed operations. Overloading track by operating railcars too heavy or too fast on underrated tracks leads to excessive wear and tear on the track itself and

eventually could cause rails to break or trains to derail.

In the United States, rail weight is reported as the weight of one yard (three feet) of rail, typically expressed as pounds per yard (lb/yd). Outside the U.S., a similar metric measure (kilograms per meter) is used. Rail weights used in North America range from 75 lb/yd (37.2 kg/m) to 155 lb/yd (76.9 kg/m), although light weight (< 100 lb/yd) rail is generally only used for light-duty freight or low-use tracks. Most modern main line track is built with 130 lb/yd or heavier rail to sustain heavier loads and higher speeds.

While rail weight is a significant consideration in how short line railroads operate, operating speed classifications are also important. In the United States, the Federal Railroad Administration (FRA) has developed a system of classification for track quality, which includes not only rail weight but other considerations such as railroad tie condition, track signaling, curve radius, and the presence (or lack) of grade crossings. The class of a section of track determines the maximum possible running speed limits and the ability to run passenger trains.

### The FRA categorizes all track in six classes, which dictates maximum speed limits.

Class 1: 10 mph for freight, 15 mph for passenger. Yard, branch line, short line, and industrial spur trackage falls into category.

For track that does not meet Class 1 standards, FRA track standards also provide for "excepted" track, which carries a 10 mph speed limit for freight but cannot be used by revenue passenger trains. FRA permits excepted track under very narrowly defined conditions.

Class 2: 25 mph for freight, 30 mph for passenger. Branch lines, secondary main lines, many regional railroads, and some tourist operations frequently fall into this class.

Class 3: 40 mph for freight, 60 mph for passenger. This commonly includes regional railroads and Class I secondary main lines.

Class 4: 60 mph for freight, 80 mph for passenger. This is the dominant class for main-line track used in passenger and long-haul freight service.

Class 5: 80 mph for freight, 90 mph for passenger. This is the standard for most higher-speed track in the U.S.

Class 6: 110 mph for freight, 110 mph for passenger. This is found in the U.S. exclusively on Amtrak's Northeast Corridor between New York and Washington, D.C.

Short line operations can also be limited by other track constraints such as bridge weight limits and tunnel clearance issues. While natural disasters can affect all railroad infrastructure, bridges and tunnels are particularly susceptible to damage, even by relatively minor incidents such as cave-ins or landslides. Bridges and tunnels are expensive infrastructure assets, and many short lines may have significant challenges in funding repairs or replacements without assistance from grants or other outside funding. For instance, the Central Oregon &

Pacific experienced issues with tunnels in the Oregon side of their main line (which then has ripple effects on their California operations), with a tunnel that experienced a cave-in in 2013 and is still undergoing repairs as of this writing.

While short line railroads often do not have enough traffic to justify wayside signaling systems along their lines, short lines are still responsible for warning signals at grade crossings as well as installing and maintaining Positive Train Control (PTC) safety

systems where trains interface with Class I and passenger railroads.

Short line railroads are responsible for maintaining rights-of-way under their control, including routine operations such as mowing to maintain acceptable sight distances to ensure safe operations. Trespassing incidents also must be addressed by the short line railroad, which requires additional expenses and operational downtime in the event of an incident.

## Locomotives

Locomotives are one of a short line railroad's most valuable and important assets, as service cannot be operated without them. Since locomotives also require significant investments to procure and maintain, short line railroads often purchase second-hand used locomotives when looking to replace their current fleet or expand, but the larger priority is generally keeping existing locomotives in a

state of good repair for as long as possible. While the fix-it-first mentality is important to maintain a short line railroad's financial position, it also increases the difficulties for short line railroads to meet stricter emission standards without costly upgrades or replacements.

The Environmental Protection Agency (EPA) has established locomotive

emission standards for oxides of nitrogen (NOx), hydrocarbons (HC), carbon monoxide (CO), particulate matter (PM) and smoke for newly manufactured and remanufactured locomotives. The standards include several sets of emission standards with applicability dependent on the date a locomotive is first manufactured, which are codified at 40 CFR Part 1033:

### Tier 0

These first set of standards (effective 2000) apply to locomotives and locomotive engines originally manufactured from 1973 through 2001, any time and they are remanufactured. Remanufactured Tier 0 locomotives are often referred to as Tier 0+ and have slightly more stringent emissions standards than original Tier 0 locomotives.

### Tier 1

Apply to locomotives and locomotive engines originally manufactured from 2002 through 2004. These locomotives and locomotive engines are required to meet the Tier 1 standards at the time of the manufacture and each subsequent remanufacture. Remanufactured Tier 1 locomotives are referred to as Tier 1+ and have slightly more stringent emissions standards than original Tier 1 locomotives.

### Tier 2

Apply to locomotives and locomotive engines originally manufactured in 2005 and later. Tier 2 locomotives and locomotive engines are required to meet the applicable standards at the time of original manufacture and each subsequent remanufacture. Remanufactured Tier 2 locomotives are referred to as Tier 2+ and have slightly more stringent emissions standards than original Tier 2 locomotives.

### Tier 3

Apply to newly-built (2012 - 2014) and remanufactured locomotives and reflect the application of currently available engine technologies to reduce PM and NOx emissions. The rule also creates new idle reduction requirements for new and remanufactured locomotives and establishes a new generation of clean switch locomotives, based on clean nonroad diesel engine standards.

### Tier 4

Apply to locomotives manufactured in 2015 and later. These longer-term standards for newly-built and remanufactured locomotives are expected to require the use of exhaust gas aftertreatment technologies, such as particulate filters for PM control, and urea-SCR for NOx emission control. Tier 4 locomotives achieve NOx emission reductions of 93% and PM reductions of 95% compared to pre-Tier 0 locomotives.

Recently, the California Air Resources Board (CARB) has been considering new regulations that would require per-locomotive annual fees, mandatory locomotive replacements for outdated locomotives, and more rigid future locomotive replacement schedules for short line railroads in an effort to reduce emissions. According to CARB, as of 2020 the average age of short line locomotives in California was 43 years old, with two-thirds of locomotives on short line railroads operating as pre-Tier 0 units, responsible for a combined estimated 1.4 tons of NOx emissions annually.

With a Tier 4 locomotive costing up to \$5 million and new zero-emission “Tier 5” battery-hydrogen prototype locomotives costing at least \$7 million each, these new regulations would

significantly impact the financial health and sustainability of California’s short line railroads. Combined with necessary infrastructure upgrades needed for things like hydrogen fueling or battery recharging, other regulations from local air districts in some parts of the state mandating additional improvements such as exhaust scrubbers in shop facilities, and new indirect emission source rules, these new regulations could risk significantly destabilizing the state’s short line railroad industry, which already operates on relatively small profit margins.

It is important to note that, even with pre-Tier 0 locomotives in use, shifting additional freight transportation from long-distance trucking to freight railroads will still have significant benefits in terms of emissions

reductions, both directly (fewer trucks on the road transporting the load) and indirectly (less congestion and less idling for other road users). According to the California Short Line Railroad Association, existing short line locomotives throughout the state only contribute a combined 2% of total PM2.5 and NOx emissions in California, compared to 8.9% from the aviation industry and 23.5% from the trucking industry. While environmental stewardship and sustainability is justifiably a top priority for the state of California, it is essential to ensure that short line railroads have access to the resources needed to not only survive but to be an active partner in reducing the emissions of the larger transportation sector as a whole.

## Rolling Stock

While some California short line railroads own some rolling stock, the majority do not. Customers may be expected to supply their own rolling stock to be transported by the short line’s locomotives; as such, weight constraints on the short line may have direct impact on the cost of doing business for the customer, if they need to lease more rail cars to comply with lower per-car weight limits.

### California Northern Railroad’s Tier 4 Locomotives

Tier 4 refers to a U.S. Environmental Protection Agency (EPA) emission level standard that went into effect for new locomotives Jan. 1, 2015. California Northern Railroad took on these particular locomotives,

manufactured by the Knoxville Locomotive Works (KLW), which were delivered in July 2019 and were immediately put to work. The two 2,400 horsepower diesel locomotives use selective catalytic reduction technology to meet the most stringent emissions requirements set by the Environmental Protection Agency and verification by the Air Resources Board of California. Their high efficiency, 12 cylinder MTU engines are expected to provide fuel savings of 25% and reduce diesel emissions – carbon dioxide and oxides of nitrogen – by 93% compared to the two circa 1976 locomotives being replaced.



# Short Line Railroads of California

California’s 20 local railroads and seven switching and terminal railroads are a diverse group, varying widely in terms of mileage, ownership, traffic volumes, and markets served. Although some, such as the Santa Maria Valley Railroad, the Trona Railway, and the Modesto & Empire Traction Company, have been

longstanding fixtures in California’s rail map, many more came into existence during the industry restructuring of the 1980s and 1990s, when the Class I railroads streamlined their networks by selling off or abandoning light-density lines. Since then, the short-line sector has consolidated, with most carriers

coming under the control of a handful of holding companies. These short line railroads serve every corner of California, with numerous interchange locations with Union Pacific, the BNSF Railway, and other short lines to provide a wide-ranging network of freight rail infrastructure.

## Short Line Railroads of California

Name	Mileage	Areas Served	Map	Parent	Website
Arizona and California Railroad (ARZC)	297 (83 in CA)	Phoenix (AZ), Mattheie (AZ), Cadiz	<a href="https://gwrr.com/image.axd/566676e38441446a8e8d5128c16ee887@2x.jpg">https://gwrr.com/image.axd/566676e38441446a8e8d5128c16ee887@2x.jpg</a>	Genesee & Wyoming	<a href="https://gwrr.com/railroads/north_america/arizona_california_railroad">https://gwrr.com/railroads/north_america/arizona_california_railroad</a>
California Northern Railroad Company (CFNR)	250	Tehama, Brazos Jct., Tracy, Davis, Suisun-Fairfield	<a href="https://www.gwrr.com/image.axd/b943a97290dc48d484017dba4cfc4b3@2x.jpg">https://www.gwrr.com/image.axd/b943a97290dc48d484017dba4cfc4b3@2x.jpg</a>	Genesee & Wyoming	<a href="https://www.gwrr.com/railroads/north_america/california_northern_railroad">https://www.gwrr.com/railroads/north_america/california_northern_railroad</a>
Central California Traction Company (CCT)	16	Stockton, Lodi		UP/BNSF joint ownership	<a href="https://www.cctrailroad.com/">https://www.cctrailroad.com/</a>
Central Oregon and Pacific Railroad	362 (65 in CA)	Eugene (OR), White City (OR), Montague, Black Butte	<a href="https://www.gwrr.com/image.axd/c013854015274b18bdd32656c810445c@2x.jpg">https://www.gwrr.com/image.axd/c013854015274b18bdd32656c810445c@2x.jpg</a>	Genesee & Wyoming	<a href="https://www.gwrr.com/railroads/north_america/central_oregon_pacific_railroad">https://www.gwrr.com/railroads/north_america/central_oregon_pacific_railroad</a>
Goose Lake Railway (GOOS)	105 (90 in CA)	Lakeview (OR), Alturas, Perez		Nextt Logistics	<a href="http://www.nexttlogistics.com/goose.html">http://www.nexttlogistics.com/goose.html</a>
Los Angeles Junction Railway Company (LAJ)	64	Los Angeles (Vernon)		BNSF	
Modesto and Empire Traction Company (M&ET)	50	Modesto, Empire	<a href="https://metrr.com/railroad">https://metrr.com/railroad</a>	Independent	<a href="https://metrr.com/">https://metrr.com/</a>
Napa Valley Railroad Company (NVR)	21	Napa	<a href="https://www.winetrain.com/the-wine-train/our-route/">https://www.winetrain.com/the-wine-train/our-route/</a>	Independent	<a href="https://www.winetrain.com/">https://www.winetrain.com/</a>
Northwestern Pacific Railroad Company (NWP)	61	Brazos Jct., Windsor	<a href="https://www.nwprailroad.com/maps">https://www.nwprailroad.com/maps</a>	North Coast Railroad Authority	<a href="https://www.nwprailroad.com/">https://www.nwprailroad.com/</a>
Oakland Global Rail Enterprise (OGRE)	15	Port of Oakland		California Capital and Investment Group	<a href="http://ogrejv.com/">http://ogrejv.com/</a>
Pacific Harbor Line (PHL)	59	Port of Los Angeles, Port of Long Beach	<a href="https://www.anacostia.com/sites/www.anacostia.com/files/railroad_static_map_pdfs/PHL-LAMap0613.pdf">https://www.anacostia.com/sites/www.anacostia.com/files/railroad_static_map_pdfs/PHL-LAMap0613.pdf</a>	Anacostia Rail Holdings	<a href="https://www.anacostia.com/railroads/phl">https://www.anacostia.com/railroads/phl</a>
Quincy Railroad Company (QRR)	3	Quincy		Sierra Pacific Industries	
Richmond Pacific Railroad Corporation (RPRC)	12	Richmond		Levin-Richmond Terminal Corporation	
Sacramento Valley Railroad (SAV)	7	McClellan		Patriot Rail	<a href="https://patriotrailandports.com/rail/sacramento-valley-railroad-sav/">https://patriotrailandports.com/rail/sacramento-valley-railroad-sav/</a>

Name	Mileage	Areas Served	Map	Parent	Website
St. Paul and Pacific Railroad Company (SPP)	31	Davenport, Santa Cruz, Watsonville*	<a href="https://www.progressiverail.com/maps/california/SPP.pdf">https://www.progressiverail.com/maps/california/SPP.pdf</a>	Progressive Rail	<a href="https://www.progressiverail.com/rrsp/spp.html">https://www.progressiverail.com/rrsp/spp.html</a>
San Diego and Imperial Valley Railroad Company (SDIY)	33	El Cajon, San Diego, San Ysidro	<a href="https://gwrr.com/image.axd/eee10f373c3c4fa5b9ea66a3b0b92a23@2x.jpg">https://gwrr.com/image.axd/eee10f373c3c4fa5b9ea66a3b0b92a23@2x.jpg</a>	Genesee & Wyoming	<a href="https://gwrr.com/railroads/north_america/san_diego__imperial_valley_railroad">https://gwrr.com/railroads/north_america/san_diego__imperial_valley_railroad</a>
San Francisco Bay Railroad Company (SFB)	5	San Francisco		Republic Services	<a href="https://www.republicservices.com/waste-solutions-group-sf-bay-rail">https://www.republicservices.com/waste-solutions-group-sf-bay-rail</a>
San Joaquin Valley Railroad (SJVR)	371	Fresno, Goshen Jct., Bakersfield	<a href="https://gwrr.com/image.axd/a00351d95adb4558a7d7daf6f7acb20f@2x.jpg">https://gwrr.com/image.axd/a00351d95adb4558a7d7daf6f7acb20f@2x.jpg</a>	Genesee & Wyoming	<a href="https://gwrr.com/railroads/north_america/san_joaquin_valley_railroad">https://gwrr.com/railroads/north_america/san_joaquin_valley_railroad</a>
Santa Cruz, Big Trees and Pacific Railway (SCBG)	9	Santa Cruz, Olympia, Watsonville*		Roaring Camp Railroads	<a href="https://www.roaringcamp.com/">https://www.roaringcamp.com/</a>
Santa Maria Valley Railroad Company (SMV)	14	Guadalupe, Santa Maria	<a href="http://www.smvrr.com/map.html">http://www.smvrr.com/map.html</a>	Independent	<a href="http://www.smvrr.com/">http://www.smvrr.com/</a>
Sierra Northern Railway (SERA)	120	West Sacramento, Oakdale, Riverbank		Independent	<a href="http://www.sierranorthern.com/">http://www.sierranorthern.com/</a>
Stockton Terminal and Eastern Railroad (STE)	23	Stockton	<a href="https://www.google.com/maps/d/">https://www.google.com/maps/d/</a>	OmniTrax	<a href="https://omnitrax.com/our-company/our-railroads/stockton-terminal-and-eastern-railroad/">https://omnitrax.com/our-company/our-railroads/stockton-terminal-and-eastern-railroad/</a>
Trona Railway Company (TRC)	31	Trona, Searles		Searles Valley Minerals	
Ventura County Railroad Company (VCRR)	13	Oxnard, Port Hueneme	<a href="https://www.gwrr.com/image.axd/f5d84d8368a44f13b983698a31261402@2x.jpg">https://www.gwrr.com/image.axd/f5d84d8368a44f13b983698a31261402@2x.jpg</a>	Genesee & Wyoming	<a href="https://www.gwrr.com/railroads/north_america/ventura_county_railroad">https://www.gwrr.com/railroads/north_america/ventura_county_railroad</a>
West Isle Line (WFS)	5	Alpaugh		Nutrien	
Yreka Western Railroad Company (YW)	9	Montague		Railmark	<a href="http://www.yrekawestern.com/">http://www.yrekawestern.com/</a>

\* A May 2021 agreement between SPP, SCBG, and the Santa Cruz County Regional Transportation Commission (SCCRTC) allows SCBG to assume day-to-day operations on the Watsonville Branch on behalf of SPP.

### Class III Railroad Interchange Locations in California

BNSF Railway (BNSF)	Cadiz	Arizona and California Railroad (ARZC)
	Empire	Modesto and Empire Traction Company (M&ET)
	Riverbank	Sierra Northern Railway (SERA)
	San Diego	San Diego and Imperial Valley Railroad (SDIY)
	Stoil	West Isle Line (WFS)
Union Pacific (UP)	Black Butte	Central Oregon and Pacific Railroad (CORP)
	Davis	California Northern Railroad (CFNR)
	Goshen Junction	San Joaquin Valley Railroad (SJVR)
	Guadalupe	Santa Maria Valley Railroad (SMV)
	Modesto	Modesto and Empire Traction Company (M&ET)
	Oakdale	Sierra Northern Railway (SERA)
	Oxnard	Ventura County Railroad (VCRR)
	Perez	Goose Lake Railway (GOOS)
	Port of San Francisco	San Francisco Bay Railroad Company (SFBR)
	Port of Oakland	Oakland Global Rail Enterprise (OGRE)
	Quincy Junction	Quincy Railroad Company (QRR)
	Searles	Trona Railway Company (TRC)
	Suisun-Fairfield	California Northern Railroad (CFNR)
	Tracy	California Northern Railroad (CFNR)
	Watsonville	St. Paul and Pacific Railroad (SPP)

Class I Railroad	Interchange Location	Class III Railroad(s)
BNSF + UP	Bakersfield	San Joaquin Valley Railroad (SJVR)
	Fresno	San Joaquin Valley Railroad (SJVR)
	Los Angeles	Los Angeles Junction Railway (LAJ)
	McClellan Park	Sacramento Valley Railroad (SAV)
	Ports of Los Angeles and Long Beach	Pacific Harbor Line (PHL)
	Port of Stockton	Central California Traction Railroad (CCT)
	Richmond	Richmond Pacific Railroad Corporation (RPRC)
	Stockton	Central California Traction Railroad (CCT) Stockton Terminal and Eastern Railroad (STE)
	West Sacramento	Sierra Northern Railway (SERA)
n/a	Brazos Junction	California Northern Railroad (CFNR) Northwestern Pacific Railroad Company (NWP)
	Montague	Central Oregon and Pacific Railroad (CORP) Yreka Western Railroad Company (YW)
	San Ysidro	San Diego and Imperial Valley Railroad (SDIY) Baja California Railroad (BJRR) (Mexico)
	Santa Cruz	St. Paul and Pacific Railroad (SPP) Santa Cruz, Big Trees and Pacific Railway (SCBG)
	Streblo	California Northern Railroad (CFNR) Napa Valley Railroad Company (NVR)

## Assets and Commodities Served

### Arizona and California Railroad (ARZC)

Top Commodities: Agricultural Products, Petroleum Products

Fleet Size: 6 locomotives

Capacity: 286K

### California Northern Railroad Company (CFNR)

Top Commodities: Agricultural Products, Chemicals and Plastics, Food Products, Lumber and Forestry Products

Fleet Size: 10 locomotives

Capacity: 286K

### Central California Traction Company (CCT)

Top Commodities: Agricultural Products, Chemicals and Plastics, Food Products, Petroleum Products, Waste and Refuse

Fleet Size: 7 locomotives

Capacity: Unknown

### Central Oregon and Pacific Railroad (CORP)

Top Commodities: Chemicals and Plastics, Lumber and Forestry Products, Minerals and Stone, Petroleum Products

Fleet Size: 4 locomotives

Capacity: 286K

### Goose Lake Railway (GOOS)

Top Commodities: Agricultural Products, Food Products, Lumber and Forestry Products

Fleet Size: 3 locomotives

Capacity: 263K

**Los Angeles Junction Railway Company (LAJ)**

Top Commodities: Unknown

Fleet Size: Unknown

Capacity: Unknown

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**Modesto and Empire Traction Company (M&ET)**

Top Commodities: Agricultural Products, Food Products, Lumber and Forestry Products

Fleet Size: 11 locomotives, 67 boxcars

Capacity: 286K

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**Napa Valley Railroad Company (NVR)**

Top Commodities: Passenger Service

Fleet Size: Unknown

Capacity: Unknown

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**Northwestern Pacific Railroad (NWP)**

Top Commodities: Agricultural Products, Food Products, Lumber and Forestry Products

Fleet Size: Unknown

Capacity: 286K

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**Oakland Global Rail Enterprise (OGRE)**

Top Commodities: Unknown

Fleet Size: Unknown

Capacity: Unknown

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**Pacific Harbor Line (PHL)**

Top Commodities: Agricultural Products, Chemicals and Plastics, Containerized Cargo, Food Products, Lumber and Forestry Products, Minerals and Stone, Petroleum Products, Vehicles

Fleet Size: Unknown

Capacity: Unknown

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**Quincy Railroad Company (QRR)**

Top Commodities: Lumber and Forestry Products

Fleet Size: 2 locomotives

Capacity: 286K

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**Richmond Pacific Railroad Company (RPRC)**

Top Commodities: Food Products, Lumber and Forestry Products, Minerals and Stone, Petroleum Products

Fleet Size: 4 locomotives, 6 non-revenue/MOW cars

Capacity: 286K

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**Sacramento Valley Railroad (SAV)**

Top Commodities: Agricultural Products, Chemicals and Plastics, Food Products, Lumber and Forestry Products, Minerals and Stone, Paper Products, Petroleum Products

Fleet Size: Unknown

Capacity: Unknown

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**St. Paul and Pacific Railroad (SPP)**

Top Commodities: Food Products, Lumber and Forestry Products

Fleet Size: 1 locomotive

Capacity: 286K

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**San Diego and Imperial Valley Railroad Company (SDIY)**

Top Commodities: Agricultural Products, Chemicals and Plastics, Paper Products, Petroleum Products

Fleet Size: 3 locomotives

Capacity: 286k

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**San Francisco Bay Railroad Company (SFB)**

Top Commodities: Containerized Cargo, Minerals and Stone, Waste and Refuse

Fleet Size: 2 locomotives, 361 gondolas

Capacity: 286K

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**San Joaquin Valley Railroad (SJVR)**

Top Commodities: Agricultural Products, Chemicals and Plastics, Food Products, Petroleum Products

Fleet Size: 23 locomotives

Capacity: 286k (Clovis Branch: 263k)

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**Santa Cruz, Big Trees and Pacific Railway (SCBG)**

Top Commodities: Passenger Service

Fleet Size: 4 locomotives

Capacity: Unknown

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**Santa Maria Valley Railroad (SMV)**

Top Commodities: Agricultural Products, Chemicals and Plastics, Containerized Cargo, Food Products, Lumber and Forestry Products, Petroleum Products

Fleet Size: 4 locomotives

Capacity: 286k

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**Sierra Northern Railway (SERA)**

Top Commodities: Agricultural Products, Chemicals and Plastics, Food Products, Lumber and Forestry Products, Minerals and Stone, Petroleum Products

Fleet Size: 31 locomotives, 50 center beams, 6 rock hoppers

Capacity: 286K (1 bridge is 263K)

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**Stockton Terminal and Eastern Railroad (STE)**

Top Commodities: Agricultural Products, Chemicals and Plastics, Containerized Cargo, Food Products, Lumber and Forestry Products

Fleet Size: 2 locomotives

Capacity: 286K

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### Trona Railway Company (TRC)

Top Commodities: Minerals and Stone

Fleet Size: 7 locomotives

Capacity: 286K

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### Ventura County Railroad Company (VCRR)

Top Commodities: Food Products, Lumber and Forestry Products, Paper Products, Vehicles

Fleet Size: 3 locomotives

Capacity: 286k

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### West Isle Line (WFS)

Top Commodities: Agricultural Products

Fleet Size: 1 locomotive

Capacity: Unknown

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### Yreka Western Railroad Company (YW)

Top Commodities: Lumber and Forestry Products, Petroleum Products

Fleet Size: 1 locomotive

Capacity: Unknown

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## Case Study: The Santa Maria Valley Railroad



The Santa Maria Valley Railroad (reporting mark SMV) is a 14.8 miles (23.8 km) short line railroad that interchanges with the Union Pacific Railroad's (former Southern Pacific) Coast Line at Guadalupe, California. Source: Wikipedia

The Santa Maria Valley Railroad was constructed in 1911 by an English oil syndicate to haul oil and asphalt from Roadamite to Guadalupe. The SMVRR took over switching operations for Union Sugar Plant and was initially successful but in the 1920s the sugar plant closed and the railroad drifted into bankruptcy in 1925.

Captain G. Allan Hancock purchased the railroad in 1925 and developed agriculture in the Santa Maria Valley, introducing new irrigation methods. Hancock also invested heavily in packing sheds, an ice plant, and Rosemary Farms. By the mid 1930s the SMVRR was hauling many carloads of sugar beets to the Union Sugar Plant in Betteravia, and crude oil and vegetables out of the valley. The SMVRR was one of the busiest short line railroads on the west, hauling over 20,000 carloads per year.

Roadamite ceased operations in the late 1940s and the line was abandoned from Sisquoc to Roadamite in 1949. The last major track construction was in 1950 when the Battles Branch was built to service a refinery.

In October 2006 the SMVRR was purchased by the Coast Belle Rail Corporation from the descendants of the Hancock family, ending more than 80 years of control by the Hancock Family. New ownership embarked on a daunting task of rebuilding the line and rebuilding the customer base.

## Survey Response Summary

The various short line railroads operating in California were invited to complete surveys and interviews as part of the creation of this report. These surveys were instrumental in better understanding the current operations of each railroad, and helped to identify and

prioritize important needs that this plan attempts to address. Respondents were asked to assign a point value to each of the 18 issues listed below, based on that issue’s importance to the railroad. The following table aggregates the responses received.

### Survey Responses, Rail Freight Issues by Importance and Frequency of Response (n=15)

Issue	Average Rating	High Importance	Moderate Importance	Low Importance	Rank
Supply of Railcars	2.47	3	7	5	17
Trespassers	3.73	9	4	2	4
Track Conditions	4.07	10	4	1	1
Bridge Conditions	3.33	5	8	2	9
Equipment and Support Facility Conditions	2.73	4	8	3	14
Funding to properly maintain rail lines	3.73	10	3	2	5
Funding for emergency repairs	3.53	8	5	2	6
Ability to handle 286k or higher weight railcars	2.80	6	3	6	13
Rail/highway crossing consolidation	2.47	5	3	7	16
Rail/highway crossing surface conditions	3.27	7	5	3	10
Un-/Under-protected rail/highway crossings	2.93	6	6	3	12
Rail/highway crossing sight obstructions	2.53	4	6	5	15
Funding to maintain rail/highway crossings	3.47	9	3	3	8
Funding for state/federal programs for construction or rail line rehabilitation	3.87	10	3	2	3
Adequacy of service from inter-change carriers	3.13	8	4	3	11
Customers holding cars	1.47		7	8	18
Existing traffic levels	3.47	7	5	3	7
New business opportunities	3.93	13	0	2	2
<i>Other</i>					
Municipalities rezoning land adjacent to railroad ROW not conducive to railroad operations		1			

Based on average ranking by survey respondents, track conditions were the top priority issue; two-thirds (10 of 15) of respondents naming track conditions as a high-importance issue, with an additional four railroads identifying track conditions as a moderate-importance issue. While track conditions and state-of-good-repair issues are critical issues for all railroads, short lines are uniquely impacted considering more limited resources to address these issues: a trio of funding issues in the survey – funding to properly maintain rail lines,

funding for state/federal programs for construction or rail line rehabilitation, and funding to maintain rail/highway crossings – were similarly ranked highly by survey respondents. (Funding for emergency repairs was also rated as a high-importance issue by a majority of respondents.) In addition, several railroads that were interviewed for this report mentioned track condition on privately-owned spurs for current and potential customers as another significant issue, considering customer-side track conditions can affect a client’s

## Respondents

Sixteen short line railroads provided information regarding operations, assets, infrastructure needs, and priority issues and topics:

- Arizona and California Railroad (ARZC)
- California Northern Railroad Company (CFNR)
- Central Oregon and Pacific Railroad (CORP)
- Goose Lake Railway (GOOS)
- Modesto and Empire Traction Company (M&ET)
- Quincy Railroad (QRR)
- Richmond Pacific Railroad (RPRC)
- San Diego and Imperial Valley (SDIY)
- San Francisco Bay Railway (SFB)
- San Joaquin Valley Railroad (SJVR)
- Santa Maria Valley Railroad (SMV)
- Sierra Northern Railway (SERA)
- St. Paul and Pacific Railroad (SPP)
- Stockton Terminal and Eastern Railroad (STE)
- Trona Railway Company (TRC)
- Ventura County Railroad (VCRR)

Survey respondents were asked to rate each issue’s importance on a five-point scale. “High importance” issues were rated either a 5 or 4; “moderate importance” issues were rated either a 3 or 2; and “low importance” issues were rated either 1, 0, or left blank. For weighting purposes, fields left blank were counted as a zero. One survey that had no responses to this section was not included in the final tally.

A summary of each railroad’s response is included in the appendix of this document.

mode choice decision for moving freight and whether to choose rail or trucking. However, the issue that received the most highest-importance responses was identification of new business opportunities for each railroad. The only two railroads that did not name new business opportunities as a high-importance issue are wholly owned subsidiaries of the primary industry they respectively serve. In subsequent interviews, numerous short line railroads expanded on this topic, noting the environmental efficiency of moving more freight traffic from trucking to rail, which includes the increasing importance of intermodal and transload shipping as part of California's overall freight network. Increasing transload shipments is also seen as a business growth opportunity for short line railroads to more readily expand to customers where building or rebuilding spurs are cost-prohibitive.

Trespassing was also identified as a priority issue, with nine respondents naming trespassers as a high-important issue and an additional

four identifying them as a moderate-importance issue. Grade crossing issues were also generally considered high- or moderate-importance issues for short line railroads, but to a slightly lesser extent: rail/highway crossing consolidation, rail/highway crossing surface conditions, unprotected/under protected rail/highway crossings, and rail/highway crossing sight obstructions were all identified as at least of moderate importance by a majority of respondents, but most respondents did not identify all four issues as high importance.

Given that short lines are heavily reliant on connections with Class I railroads, "adequacy of service" from interchange carriers was also identified as a high-importance issue by most respondents. Existing traffic levels was also identified as a high- or moderate-importance issue by a majority of respondents, highlighting the need to ensure sufficient capacities not only on the short lines themselves but also with their partners elsewhere in California's freight network.

Respondents were also asked to rank the importance of the ability to handle 286,000-pound (286K) cars; however, 12 of the 15 respondents reported that their railroads were already fully equipped with 286K capacities. Of the three railroads that were not fully 286K compliant, one railroad listed the issue as high-importance, while the other two identified the issue as moderate-importance.

While some railroads also identified other infrastructure topics such as bridge conditions and equipment/support facility conditions as high-importance issues, a majority of respondents ranked these as moderately important. Rolling stock issues – which in this survey does not include locomotives – were considered to be of lower importance, with a plurality of respondents naming railcar supply as only a moderate-importance issue and a majority of respondents identifying customers holding cars as a low-importance issue.

## Additional Issues

Beyond the formal survey, additional issues were raised by short line railroads operating in California, including the following:

### Development encroachment into rail corridors

New real estate developments "not conducive to railroad operations" continue to be constructed adjacent to existing short line rights-of-way, abetted by local municipalities making changes to local zoning laws and ordinances.

### Employee training

Given the relatively small size of short line railroads, short line employees are often expected to serve in a wider variety of roles compared to employees at larger railroads. This lack of specialization for employees can create challenges with employee training, ranging from hazardous materials (hazmat) training for operational staff to more formal communications and marketing skills for office staff. Grant programs that may otherwise cover the cost of procuring new locomotives, for instance, may not also cover training costs for maintenance and repairs.

### Positive Train Control (PTC)

While the American railroad industry as a whole had challenges successfully deploying the unfunded mandate of Positive Train Control (PTC), the economies of scale (or lack thereof) for some short line railroads to deploy and maintain PTC is an ongoing challenge.

### **Changes to Class I Operational Models**

With the ongoing rollout and expansion of Precision Schedule Railroading (PSR) by Union Pacific and most other Class I railroads, short line railroads are adapting to the operational changes required. Some short lines are reporting decreased transit times for goods with PSR. (BNSF Railway has notably not shifted to a more PSR-oriented operational model.) Increased typical train length also has some impact on yard capacities and being able to build longer trains on existing track for some short line railroads.

### **Information Technology**

Several short line railroads noted challenges with procuring and deploying new technologies due to the economies of scale required to financially justify major investments such as asset management systems, modernized radio equipment, crew management software, automated car readers, GPS deployments, and data analytics. Additionally, some short lines operating in more rural parts of California noted a lack of broadband internet infrastructure for more remote facilities.

### **Tariffs, Taxes, and Regulations**

Being able to adapt to increased tariffs and taxes were highlighted by several short line railroads as challenges for them, as well as complying with some regulations such as hazmat requirements. Many railroads also noted difficulties with grant application and administration procedures that would better help them comply with some of these regulations, such as grants for more lower-emission locomotives. Some short line railroads that have worked with other states also highlighted programs that are not available in California. Furthermore, several short line railroad public-sector partners noted that California law prohibits using gasoline tax revenues to help fund private railroads.

# California Short Line Railroad Needs

As part of the survey process, short line railroads were asked about pressing and upcoming infrastructure, equipment, and facility needs. Of the 16 railroads surveyed, the short lines identified over \$130 million in infrastructure needs, over \$15 million in equipment needs, and over \$23 million in facility needs.

## Infrastructure

### California Class III Railroad Infrastructure Needs

Railroad	Infrastructure Need	Description and Location	Estimated Cost	Priority	Timing
ARZC	Upgrade 57.4 miles of 90-lb. rail	Cadiz Subdivision	\$30 million	4	Medium-term
ARZC	4,700-foot extension to Parker Pass	Cadiz Subdivision	\$3.8 million	4	Long-term
GOOS	Sustain excepted track	Crossings and bridges	\$752,000	1	Immediate
GOOS	Class 1 upgrade	Ties, surfacing, and curves	\$13.7 million	1	Immediate
GOOS	286k upgrade	Replace 75-lb rail	\$10.5 million	2	Medium-term
GOOS	Class 2 upgrade	Replace 90-lb rail	\$33 million	4	Long-term
M&ET	Congestion relief	2,500 feet of new track	\$500,000	3	
QRR	General rehabilitation and rail upgrade	Quincy Yard (3 miles)	\$500,000	2	Medium-term
RPRC	Upgrading older, lighter rail to 136-lb rail	Various locations	\$1.2 million	2	Medium-term
RPRC	Additional crossing safety upgrades	Various locations	\$850,000	2	Medium-term
SFB	Maintenance of track to main line			2	Long-term
SFB	Maintenance	Pier 96		3	Long-term
SFB	Jennings Crossing	Pier 96		2	Long-term
SJVR	New switching yard	West Side Sub			
SMV	Replace high-priority worn out rail and ties	MP 0.43 to MP 2.19	\$1 million	1	Immediate
SMV	Replace medium-priority worn out rail and ties	MP 2.19 to MP 4.41	\$2.22 million	2	Immediate
SMV	Replace 75-lb rail with 90-lb+	MP 4.41 to MP 8.60	\$3.352 million	4	Medium-term
SMV	Resolve capacity constraints	Osburn Rail Yard – 6,000 feet of additional spurs for transload	\$3 million	3	Medium-term
SMV	Replace light rail and ties	Airbase Branch (2.5 miles)	\$2 million	3	Medium-term
SMV	New siding	Hayward Lumber (600 feet)	\$500,000	3	Immediate
SMV	Capacity expansion	Double-track main, MP 0.43 to MP 1.32	\$1.1 million	2	Immediate
SERA	Longer interchange tracks with Class I railroads	4 interchange tracks, each 3,000-5,500 feet long west of Oakdale	\$4 million	3	Immediate
SERA	New classification yard	4-track yard to be built 4 miles east of Oakdale	\$6 million	4	Medium-term
STE	Replace existing 90-lb track	MP 1.4 to MP 5.4	\$3.8 million	3	Medium-term
STE	East Yard rehab	Rehabilitation of 10 yard tracks	\$5 million	2	Medium-term
STE	Roosevelt Street	Tie, surfacing, and surface renewal over 2,600 feet of street running trackage	\$4 million	1	Immediate

## Equipment

### California Class III Railroad Equipment Needs

Railroad	Equipment Need	Description and Location	Estimated Cost	Priority	Timing
CFNR	Low Emission Locomotives		\$2-4 million	2.5	
GOOS	Ballast railcars	Railcars to spread ballast	\$200,000	2	Medium-term
QRR	Tie tamper	Resurface Quincy Yard	\$100,000	2	Medium-term
SFB	High-Rail Vehicle	Pier 96			Long-term
SMV	Additional MOW equipment	Ballast regulator, tie inserter, tie crane	\$900,000	3	Immediate
SERA	Rock hoppers	Based at Oakdale	\$200,000	2	Medium-term
TRC	Tier 4 Locomotives		\$6-10 million	4	Long-term

## Facilities

### California Class III Railroad Facility Needs

Railroad	Facility Need	Description and Location	Estimated Cost	Priority	Timing
M&ET	Transload Facility		\$2,000,000	3	
SDIY	Expand transload facility	Land acquisition	Unknown	4	Medium-term
SMV	Osburn Rail Yard pit	Service pit for locomotives and railcars	\$25,000	2	Immediate
SMV	Covered locomotive shops	Osburn Rail Yard	\$3 million	2	Medium-term
SMV	Boxcar dock	Osburn Rail Yard	\$75,000	3	Immediate
SMV	Warehouse facility	Osburn Rail Yard	\$2 million	4	Long-term
SERA	New office and shop facility	24,000-square-foot building, east of Oakdale	\$4 million	2	Immediate
SERA	New office and shop facility	5,000-square-foot building, West Sacramento	\$1 million	3	Medium-term
STE	Fire suppression upgrade	East Yard	\$500,000	3	Medium-term
STE	Warehousing and storage facility	Stockton industrial park	\$5 million	4	Medium-term
STE	New serving yard	Budiselich Yard, 5 tracks	\$6 million	4	Medium-term
VCRR	Expand transload facility	Land acquisition, San Ysidro	Unknown	4	Medium-term

# Current Financial Assistance Programs in California

## Federal short line tax credit (Section 45G)

Since its enactment in 2004, the railroad track maintenance tax credit (Internal Revenue Code section 45G) has provided an important financial incentive to maintain and improve short line infrastructure. The result has been a marked increase in industry investment, as evidenced, for example, by industry purchases of railway ties, which have grown at an annual rate of 6.3 percent since enactment of the credit, compared to 0.1 percent before the credit. In addition, safety on short line railroads has improved since enactment of the credit. For example, train derailments on short line railroads have declined by 50 percent, from a rate

of 4.72 per million train miles in 2004 to 2.37 in 2017.

The Section 45G credit is a business tax credit that allows for 50 percent of qualified railroad track maintenance expenditures paid or incurred in a taxable year by an eligible short line railroad. Qualified railroad track maintenance expenditures are gross expenditures for maintaining railroad track (including rail, ties, bridges, signals, crossings, tunnels, roadbed, etc.) owned or leased as of January 1, 2015 by a Class II or Class III railroad. The credit is limited to the product of \$3,500 times the number of miles

of railroad track owned, leased, or assigned to the eligible taxpayer as of the close of its taxable year. The credit is assignable to any eligible taxpayer who makes qualified expenditures. An eligible taxpayer is (1) any Class II or Class III railroad and (2) any person that transports property using the rail facilities of a Class II or Class III railroad or that furnishes railroad-related property or services to such person. The Section 45G credit was reauthorized in 2019 (retroactive to 2018) and will remain in effect through 2022 barring any additional extensions of the program.

## Federal RAISE grants

Beginning under the Obama administration in 2009 as the Transportation Investments Generating Economic Recovery (TIGER) program, continuing in the Trump administration as the Better Utilizing Investments to Leverage Development (BUILD) program, and now in the Biden administration as the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program, this federal grant program has distributed over \$8.9 billion throughout

the country to transportation projects through a discretionary grant program. RAISE grant applications are extremely competitive, with over 9,700 total applicants since 2009 seeking over \$175 billion in funds.

While RAISE grants can fund private railroad improvements, all applications need a public sponsor, which includes state and local governments, metropolitan planning organizations, tribal governments, public transit agencies, and other public-sector

entities. Additionally, each state is capped at \$100 million in RAISE grants per year, with a national 50/50 split on funds geared towards urban and rural areas. Since RAISE encompasses all modes of transportation, it is often challenging for Class III railroads to successfully win RAISE grants.

## Federal INFRA grants

Beginning in 2016 as the Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) grant program and now known as the Infrastructure for Rebuilding America (INFRA) grant program, this discretionary grant program administered by the U.S. Department of Transportation helps fund transportation infrastructure projects that create jobs, improve safety, apply new and “transformative”

technologies. In 2021, the scope of the INFRA program was expanded to also include addressing climate change and racial equity. This enhanced scope also includes relevant issues for short line railroads, including encouraging modal shifts away from trucking; reducing highway vehicle miles traveled (VMT), and deploying zero-emission vehicle infrastructure. INFRA awards grant projects to two project tiers: small projects with a minimum cost of \$5 million, and large projects with a

minimum cost of \$25 million. The program is required to allocate at least 10% of funds to small projects and at least 25% of funds to rural projects.

Private railroads are not eligible to apply for or receive INFRA grants directly; however, a private railroad can partner with a public agency to submit a grant application, with the public agency funding the railroad’s project with a successful grant application. In FY 2021, approximately \$889 million was available in INFRA grant funding.

## Federal CRISI grants

Since 2017, the Federal Railroad Administration has administered the Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program, which focuses on “projects that improve the safety, efficiency, and reliability of intercity passenger and freight rail”, according to the FRA. Projects eligible

for CRISI funding include railroad safety technology deployments; capital projects to improve or expand rail infrastructure, including short lines; grade crossing improvements; improving multimodal connections and service integration between rail and other modes of transportation; and

workforce development and training. Unlike some other state and federal grant programs, Class III railroads are eligible to apply for and receive CRISI funds without a local partner agency. In Fiscal Year 2020, 50 projects in 29 states were selected to receive over \$320 million in funding.

## California Short-Line Rail Improvement Program

The Short-Line Infrastructure Improvement Act of 2019, (Senate Bill [SB] 87, Statutes of 2019) created the Short-Line Railroad Improvement Program (SLRIP) and provides a one-time appropriation of \$7,200,000 for the purposes of this program. Program funds are to be allocated by the California Transportation Commission (Commission) to short-line railroad infrastructure projects intended to improve freight mobility, volume thresholds, and support modern rail freight traffic and the

communities and industries they serve throughout California. The Short-Line Railroad Improvement Program is a reimbursement program for eligible costs incurred. Projects funded from the Short-Line Railroad Improvement Program require at least a 30% match of private funds.

The primary objective of the Short-Line Railroad Improvement Program is to fund infrastructure improvement projects designed to enable Class III/short-line railroads to improve

freight mobility, efficiency, reliability, sustainability, safety, and load capacity. The projects to be funded under this program are intended to allow for Class III Rail to become more compatible in supporting modern rail freight traffic and the communities and industries they serve throughout California. All projects nominated for the Short-Line Railroad Improvement Program must be consistent with the goals and objectives of the 2018 California State Rail Plan regarding short-line railroad infrastructure investment.



## California Short-Line Rail Improvement Program (continued)

The Short-Line Railroad Improvement Program guidelines were developed in cooperation with the California State Transportation Agency, California Department of Transportation (Caltrans), Regional Transportation Planning Agencies, Class III rail industry representatives, and other transportation stakeholders. Class III Rail infrastructure projects for Transload Facilities, Rail Terminals, Rail Yards, Sea Port, and Rail Lines, or any combination thereof, were eligible for funding under the program, and included, but was not limited to the following:

- **Reconstruction, maintenance, or replacement** of existing railroad

right-of-way infrastructure, such as track, roadbed, bridges, and industrial leads.

- **New construction** of industrial leads, switches, spurs and sidings, and extensions of existing sidings.
- **Advanced Technology** projects that support infrastructure sustainability such as fuel management systems, anti-idling technology, enhanced railcar components (ex. smart sensors), Automatic equipment identification tag readers, switching operations optimization systems, and automated inspection equipment.

- **Safety projects** such as Positive Train Control or other active control/warning devices, at-grade crossing gates and/or signals, new or improvements to train dispatching systems, upgraded crossing surfaces (concrete/rubber crossing panels), or installation of a STOP sign at low-volume crossings.

Applications for the Short-Line Railroad Improvement Program were due on December 1, 2020. Seven SLRIP applications were received, and all seven projects were submitted for recommendation for funding.

### Short Line Railroad Improvement Program Applications

County	Applicant Agency	Implementing Agency	Project Title	Project Description	Total Project Cost	Total Request Amount
Modoc	Modoc County Transportation Commission	Lake Rail/Goose Lake Rail	Pit River Curves Track Rehabilitation in Modoc County	Rehabilitate 1.25 miles of curve worn rail	\$865,925	\$432,962
Sacramento	Sacramento Area Council of Governments	Sacramento Area Council of Governments	Sacramento Valley Railroad Capacity Expansion Project at McClellan Business Park	Construction of two new tracks, 1,311 feet in length	\$1,394,069	\$563,842
San Bernardino	Caltrans	Caltrans	Arizona & California Railroad (ARZC) Desert Rail Replacement Project	Replace 3.8 miles of rail	\$2,825,560	\$1,412,780
San Joaquin	San Joaquin Council of Governments	San Joaquin Council of Governments	Stockton Intermodal Transload and Alternative Fuel (SITAF) Project	Replace 17,136 linear feet of rail and repair 3.61 miles of rail	\$3,599,981	\$1,799,990
Santa Barbara	Caltrans	Caltrans	Santa Maria Valley Railroad (SMVRR) Track Rehabilitation Project	Replace 1.6 miles of rail track with modern heavier rail	\$799,120	\$399,560
Santa Cruz	Santa Cruz County Regional Transportation Commission	Santa Cruz County Regional Transportation Commission	Pajaro River Bridge Rehabilitation Project	Rehabilitate Pajaro River Bridge which carries Santa Cruz Branch Rail Line	\$670,000	\$285,000
Sonoma	Caltrans	Caltrans	Sonoma-Marin Area Rail Transit (SMART) Rail Freight Improvements Project	Repair Black Point Bridge over Petaluma River; Rehabilitate two existing freight spurs; and construct one new modern freight spur	\$2,911,700	\$1,455,850

## California Short-Line Rail Improvement Program (continued)

Applications for the Short-Line Railroad Improvement Program grants were evaluated on eight criteria:

- **Freight Mobility** – Projects would need to demonstrate how said project would improve the freight volume, capacity, and speed of freight moved throughout the state, and how projects would improve connections between short lines and Class I railroads.
- **Cost Effectiveness** – Projects would be recommended based on the greatest benefit provided by the project relative to the project costs. The existing California Benefit/Cost Analysis Intermodal Freight Tool was used unless an applicant proposed a suitable alternative.
- **Deliverability** – Projects that had already completed design and right-of-way certification were

preferred.

- **Leveraged Funding** – Projects that could secure more than the required matching funds would be prioritized.
- **Air Quality and Greenhouse Gases** – Projects would need to demonstrate how said project would reduce greenhouse gas emissions and criteria pollutants, as well as how the project would help advance California’s air quality and climate goals.
- **Regional and Industry Project Support** – Projects would need to demonstrate meaningful public outreach and engagement for the proposed project, such as consistency with the California State Rail Plan or a Regional Transportation Plan that includes similar projects and public outreach. Letters of support from

industry and community leaders were also recommended.

- **Safety** – Applications would need to identify and discuss safety measures the project would address, including health impacts.
- **System Preservation** – Applications would need to demonstrate that the project would have a useful life of no less than 15 years and detail how the project would improve current conditions. Projects were also expected to identify and discuss other performance measures the project would affect.

One challenge experienced with the SLRIP is the requirement of limiting applicants to local government units, which may create additional hurdles for short line railroads in leveraging the program as well as restricting the types of projects funds can be used on.

## CPUC Section 130 Funding Program

To assist California railroads in leveraging federal Section 130 funds to develop railroad/highway at-grade crossing improvement projects, Caltrans and the California Public Utility Commission (CPUC) have the Grade Crossing Hazard Elimination Program to cover local matching funds required by the federal program provided the affected grade crossings have already been identified as priority sites by CPUC. The Federal program covers 90% of eligible costs for these projects, with the state funding the 10% required local match. The state’s estimated program funding level for the Railroad/Highway Grade Crossing Program is

approximately \$16 million per year.

Section 130 projects include, but are not limited to, the following safety enhancements at at-grade crossings:

- Approach improvements (channelization, traffic signals, guardrails, pedestrian/bicycle path improvements, illumination)
- Signage and pavement marking improvements
- Active warning equipment installation/upgrades (flashing lights and gates, track circuitry, signal interconnection and preemption, wayside horns)

- Visibility improvements (sight distance improvements, vegetation clearance)
- Roadway geometry improvements (horizontal and vertical alignment such as humped crossings)
- Grade crossing elimination (through roadway closure)

These projects must also be included in a Transportation Improvement Plan (TIP) developed by the local metropolitan planning organization (MPO) and the Statewide Transportation Improvement Program (STIP) approved by the Federal Highway Association (FHWA). Section 130 funds are also

targeted exclusively to freight railroads and cannot be used for improving crossings on existing or planned commuter or intercity passenger rail lines.

Each year, CPUC identifies and prioritizes project locations in coordination with local agencies, railroads, and Caltrans. The local agency, the railroad, and Caltrans (if the project is on a state route) provide concurrence and agree to the project and scope of work and sign an agreement in regards to scope of work and commitment to proceeding with the project once funding has been approved. The CPUC then submits the

Section 130 Priority List to the Division of Rail and Mass Transportation (DRMT) by the first week of August each year, with the DRMT submitting project estimates, ROW, and environmental certifications for Federal funding approval by the first week of December. Once Federal funding is approved, DRMT will submit contracts for execution by local agencies, railroads, and Caltrans, after which Notice to Proceed will be given.

Caltrans is responsible for conducting and documenting the necessary environmental reviews to ascertain any adverse environmental impacts, but most Section 130 projects by

their nature generally do not involve significant environmental impacts and qualify as Categorical Exclusions (CEs).

Following the Notice to Proceed, local agencies and railroad companies are required to provide written quarterly (every three months) updates to project schedules and costs. CPUC and Caltrans also provide before-and-after safety evaluations three years following the completion of each project, which is included in the state's annual Highway Safety Improvement Plan (HSIP) report submitted to FHWA.

## Proposition 1B (2006)

In 2006, California voters approved Proposition 1B, the “Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006,” to authorize the State of California to issue up to \$19.925 billion in bonds for transportation projects “aimed at relieving congestion, improving movement of goods, improving air quality, and enhancing safety and security of the transportation system”. Of the Proposition 1B funds, \$3.2 billion was specifically budgeted for projects to improve the movement of goods through ports, state highways and rail systems, and between California and Mexico and to improve air quality by reducing emissions from transporting goods.

As part of Proposition 1B, the California Air Resources Board (CARB) organized the Goods Movement Emissions Reduction Program, which has utilized \$1 billion in Proposition 1B funding to date to provide dollar-for-dollar matching funds to local agencies, which can then

be used to assist freight operators to buy cleaner, more modernized vehicles to reduce overall emissions. Of the larger \$1 billion project budget, \$85.4 million was used to help upgrade or replace 67 locomotives for California railroads, which reduced emissions by an estimated 680,000 pounds (340 tons) of PM 2.5 and 12,578,000 pounds (6,289 tons) of NOx.

Proposition 1B also established a \$250-million Highway-Railroad Crossing Safety Account (HRCSA), which was to be used on improving safety at grade crossings identified on CPUC's priority list. The account was split into two sections: Part 1 included \$150 million to be matched dollar-for-dollar with non-state funds for improvements to grade crossings on CPUC's priority list; Part 2 included the remaining \$100 million, which would be used for “high-priority” railroad crossing improvements (or grade separations) at other crossings that satisfy at least one of the following five criteria:

- Crossings where freight and passenger rail share the affected line;
- Crossings with a high incidence of motor vehicle-rail or pedestrian-rail collisions;
- Crossings with a high potential for savings in rail and roadway traffic delay;
- Crossings where an improvement will result in quantifiable emission benefits; or
- Crossings where the improvement will improve the flow of rail freight to or from a port facility.

Part 2 funds had no required match, although the amount of declared matching funds would be considered as part of the project selection process.

As of June 30, 2019, the California Transportation Commission reported that it had allocated \$242 million from the HRCSA to 38 projects throughout the state.

# Short Line State-Level Partners

## Caltrans

The California Department of Transportation (Caltrans) is an important partner for short line railroads throughout the state. Within the agency, two divisions have outsized importance for short lines: the Division of Rail and Mass Transportation (DRMT), and the Division of Transportation Planning.

The **Division of Rail and Mass Transportation (DRMT)** has four primary functions: statewide transit and passenger rail network management; grant administration of federal and state funds; procurement support; and technical services. Within the DRMT, the Rail Planning Branch has a major role in working with freight railroads throughout the state as part of their mission to undertake statewide passenger rail and freight rail systems responding to state and federal requirements. The California State Rail Plan (most recently updated in 2018) helps guide these efforts by establishing a long-range vision for prioritizing California's investment in rail infrastructure. The Rail Planning Branch also works in cooperation with other transportation agencies to develop network integration plans for high-speed and conventional rail systems, taking into consideration freight issues. The Rail Planning Branch also coordinates with the California Transportation Plan (CTP) and its policy framework for the state transportation system; the Interregional Transportation Strategic Plan (ITSP)

that defines the state's interregional travel corridors; the California Freight Mobility Plan that prioritizes freight projects for funding; the Sustainable Freight Action Plan that coordinates state agency actions to improve the freight network; and regional plans that include rail improvements.

The **Division of Transportation Planning** articulates a long-term vision for California's transportation system and implements statewide transportation policy through partnerships with state, regional, and local agencies. Within this division is the Office of Freight Planning, which is responsible for conducting analyses of freight transportation system performance and future trends; developing freight mobility plans and modal studies; and recommending improvements to goods movement systems and operations through system planning, regional planning, intergovernmental review, participation on multi-state goods movement advisory committees, and other activities. The Freight Planning Program is focused on the following activities:

- Ensuring public safety and security;
- Improving freight mobility;
- Developing long-term strategic plans and policies to improve the State's goods movement system while protecting the environment and affected communities;

- Advocating for dedicated funding for goods movement programs and projects;
- Building partnerships with public and private officials and goods movement stakeholders; and
- Developing analytical tools and supporting data collection to better inform goods movement planning and decision-making.

As the agency responsible for state highways in California, Caltrans also takes an active role in approving and assisting to fund grade crossing improvements or grade separations where state highways intersect with railroads. Furthermore, to leverage certain funding sources at the state and federal level, only Caltrans or a Regional Transportation Planning Agency may nominate projects for funding. Project proposals from port authorities or private entities are encouraged but must be submitted by Caltrans or a Regional Transportation Planning Agency. A nomination may identify an entity other than the applicant to be the project implementing agency. The implementing agency will assume responsibility and accountability for the use and expenditure of program funds. For jointly nominated projects, the implementing agency assumes the responsibility and accountability for the project as well as the use and expenditure of program funds. Applicants and implementing agencies must comply with all relevant federal

## California Freight Advisory Committee (CFAC)

In 2013, the State Assembly passed Assembly Bill 14 (AB 14), which tasked Caltrans with creating a state freight plan. In addition, AB 14 created the California Freight Advisory Committee, tasked with focusing on the following topic areas:

- Advising Caltrans on freight-related priorities, issues, projects, and funding needs;
- Serving as a forum for discussion for state transportation decisions affecting freight mobility;
- Communicating and coordinating regional priorities with other organizations;
- Promoting the sharing of information between the private and public

sectors on freight issues; and

- Participating in the development of the state freight plan.

The CFAC is a chartered member advisory body representing public and private stakeholders, including representatives of ports, shippers, carriers, freight-related associations, the freight industry workforce, Caltrans, and local governments. The CFAC meets quarterly at various locations across California to participate in the development of the California Freight Mobility Plan (CFMP) and to advise the State on freight-related priorities, issues, projects, and funding needs.

## California Short Line Railroad Association

The California Short Line Railroad Association (CSLRA) is an industry group that represents the owners and operators of short line railroads throughout the state. As of 2021, 17 short line railroads in California are members of the CSLRA, with an additional 27 entities listed as

associates of the CSLRA. These associate groups include the two Class I railroads, port districts, railroad suppliers, and engineering consultants. The CSLRA provides resources to member railroads and advocates and lobbies in the interests of short line railroads.

### CSLRA Members

As of June 2021, the California Short Line Railroad Association (CSLRA) has 17 member railroads, which also includes some passenger rail operators:

- Central California Traction Company (CCT)
- Fillmore and Western Railway Company (FWRY)
- Los Angeles Junction Railway (LAJ)
- Modesto and Empire Traction Company (M&ET)
- Napa Valley Railroad (NVR)
- Northwestern Pacific Railroad (NWP)
- Oakland Global Rail Enterprises, LLC (OGRE)
- Pacific Harbor Line (PHL)
- Richmond Pacific Railroad (RPRC)
- San Francisco Bay Railroad (SFB)
- San Joaquin Valley Railroad (SJVR)
- Santa Maria Valley Railroad (SMV)
- Sierra Northern Railroad (SERA)
- Stockton Terminal and Eastern Railroad (STE)
- St. Paul and Pacific Railroad (SPP)
- Trona Railway Company (TRC)
- Ventura County Railroad (VCRR)

# Incentive Strategies

While no two short line railroads are exactly alike, many short lines inherited track with decades of deferred maintenance, and therefore have had to devote significant portions of revenue (average of 25% annually) to rehabilitating this infrastructure to accommodate today’s 286k-pound rail needs. There are several strategies that can be utilized to incentivize shared investments that improve the performance and utility of freight operations through strategic identification of infrastructure projects that provide benefits to all participants. This includes tax credits, grant funding programs, exemptions, special tax treatment and other relief mechanisms.

Most financial assistance programs target one of five general programmatic

strategies. These five topics are not exclusive; individual projects or programs may have scopes that encompass several of these focus areas.

- **State of Good Repair** - Ensuring infrastructure and rolling stock remain in a reliable condition that does not impede regular service.
- **Industrial Access** - Constructing rail tracks required to serve a new business or additional track needed to expand business as part of a statewide effort to attract new industry. The purpose of an industrial access program is to provide an incentive for companies to locate or expand in a specific state. Funds should be applied for

early, prior to making a location decision.

- **Capacity Expansion** - Removing existing constraints to operating additional service, either in terms of weight per car or train frequency.
- **Rail Corridor Preservation** - Preserving rail service to local communities and expanding rail connectivity to sites along existing rail corridors.
- **Environment and Innovation** - Lowering overall emissions in the transportation sector, either by inducing more freight to shift from truck travel to rail travel, or by lowering emissions within the rail sector through investment and innovation.

Programmatic Strategy	Typical Applicant Eligibility	Typical Project Eligibility	Evaluation Criteria	Example Programs
State of Good Repair	Local governments (especially for grade crossings), railroad companies	Track and structure (bridges, tunnels, etc.) improvements and/or rehabilitation, locomotive upgrades and/or procurement	Ability to improve existing operations efficiency; reduced service interruptions (e.g., derailments)	Federal: Section 45G; California: CPUC Section 130; Oklahoma: Railroad Modernization Tax Credit
Industrial Access	Local governments, port authorities, community development organizations, railroad companies, and industries.	Construction or rehabilitation of railroad spur or siding tracks	Job creation	Virginia DRPT: Rail Industrial Access (RIA)
Capacity Expansion	Local governments, port authorities, community development organizations, railroad companies, industries	Track upgrades to higher FRA track class or additional track infrastructure (sidings, yard expansion, main line double tracking, etc.)	Higher speed and/or weight operations	Federal: Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program; Wisconsin: FRIP loans
Rail Corridor Preservation	Local governments, port authorities, community development organizations, railroad companies	Right-of-way maintenance and/or lease or purchase agreements	Maintaining contiguous right-of-way, either in a serviceable condition or able to reconstruct track when feasible	Virginia DRPT: Rail Preservation Fund (RPF); Wisconsin: Freight Rail Preservation Program (FRPP)
Environment and Innovation	Local governments, port authorities, community development organizations, railroad companies, industries	Transload/intermodal improvements; locomotive upgrades and/or procurement	Lower transportation-sector emissions	Federal EPA: Diesel Emissions Reduction Act (DERA) grants; California: Carl Moyer Program, Proposition 1B

Throughout the nation, states generally use a mix of tax credits, grant programs, loan programs, and other programs that otherwise lower tax liabilities of short line railroads. While California has

used several of these strategies in the past, better understanding how these techniques are used in other states can help to create best practices and lessons learned from elsewhere in the

country, which will better guide future financial incentives in California to be used more efficiently and effectively.

## Strategy 1: Tax Credits

In order to assist the railroads with maintaining their infrastructure, many states use tax credit programs that allow short line railroads to lower their overall state tax burden by encouraging private-sector reinvestment in infrastructure, rolling stock, or other enhancements. It may also be a credit granted in recognition of taxes already paid or a form of state support. Typically, these programs are set up to provide a credit at a maximum dollar amount per mile for short line infrastructure projects. These programs are currently used in states such as Alabama, Georgia, Kentucky, Oklahoma, and Oregon.

A tax credit claim is typically filed with or following a company's corporate tax return, at the end of the fiscal year in which the eligible activity took place. This means most tax credits are applied once a year after the project or eligible work has been completed with its respective eligible expenditures. Depending on how quickly a company files its tax claims, it may take months to years for it to receive its tax credits, depending on the size of the company. Since tax credit programs cover costs incurred before the credit is received, it incentivizes railroads to perform ongoing maintenance activities.

Tax credit is also considered an entitlement program, meaning any company that meets the criteria of, completes the eligible work, and follows the application procedures correctly, must be approved for funding. This removes competition for funding amongst applicants, allowing more parties to take advantage of the program.

A tax credit program would likely be

primarily administered by the California Tax Service Center. Caltrans would provide verification of eligibility of an eligible taxpayer's expenditures for the purpose of claiming the credit. As part of this process, taxpayers complete an application package, which is submitted to Caltrans for approval. Qualified railroad reconstruction or replacement expenditures would be approved prior to commencement of a project. Caltrans would provide verification upon completion of a qualified project, which is then provided to the California Tax Service Center as proof of eligibility to claim the credits. Eligible taxpayers claim the credits on their corporate income tax returns.

A statewide short line tax credit program must go through the legislative process in order to be enacted as law. This would require forming a partnership with a member of the Senate or Assembly to author a bill. A tax credit incentive strategy was introduced in 2019 by Assemblywoman Autumn Burke in the California State Assembly through AB-1397: Income taxes: credit: railroad in reconstruction or replacement. The bill proposed a credit against California Income Tax equal to 50% of an eligible taxpayer's qualified railroad reconstruction or replacement expenditures. The credit was proposed to be capped by the product of miles owned or leased within the state of California by the eligible taxpayer and \$3,500 per railroad mile. This bill received the support from Genesee & Wyoming. The bill died after not surpassing the constitutional deadline to be passed by the House prior to January 31 of the second calendar year.

Caltrans and its state partners should collect high-quality data related to

### Case Study: San Joaquin Valley Railroad



Because of the track upgrade the San Joaquin Valley Railroad (SJVR) was able to undertake due to the short line tax credit, Delta Trading Company was able to invest in upgrading its facility, including construction of a new \$800,000 4,600-foot spur to connect to the Sunset Branch of the SJVR. With the increase in business because of the new rail connection, Delta Trading has increased from five employees to 14 and Delta projects growth within a year to 20 full time jobs with full health benefits. This customer expansion could not have been justified by Delta Trading without upgrades made to the SJVR track made possible by the short line tax credit.

incentive usage in order to anticipate costs and long-term fiscal impacts and, if necessary, give policymakers time to prepare or change the design of their incentives.

Currently, there are several tax credit programs that were developed in response to short line rail needs, including the federal "45G" tax credit program, Oklahoma's Railroad Modernization Income Tax Credit, and the Oregon Short Line Railroad Rehabilitation Tax Credit.

## Strategy 1: Tax Credits

State	Percent of Expenditures	Credit per Track Mile Cap	Annual Program Cap	Start Date	Sunset Date	Carry Forward	Transferrable	Refundable
California (proposed: AB1397)	50%	\$3,500	None	January 1, 2020	December 31, 2024	5 Years	No	No
Alabama	50%	\$3,500	\$5 million – if full amount is not used, it may be rolled over to future years but can not exceed \$15 million	January 1, 2020	December 31, 2022	None	Yes	Yes
Georgia	50%	\$3,500	None	January 1, 2019	December 31, 2023	None	Yes	No
Kentucky	50%	\$3,500	None	January 1, 2010	None	None	No	No
Oklahoma	50%	\$5,000	\$2 million	January 1, 2006	None	5 Years	Yes	No
Oregon	50%	\$1,000 for tracks >=200 miles; \$3,500 under 200 miles	\$4 million (per biennium)	January 1, 2020	December 31, 2025	5 Years	Yes	No
Federal	50%, 40% starting in 2023	\$3,500	None	January 1, 2005	None	None	Yes	No

### Case Study: Oklahoma Railroad Modernization Income Tax Credit

The American Society of Civil Engineers (ASCE), through its Report Card for Oklahoma’s Infrastructure, found that segments of the short line network could not accommodate the high capacity freight cars common to Class I railroads, and while the short line industry generally had the resources to maintain basic operations, increasingly higher funding would be required to maintain operations in accordance with escalating industry standards.

In response to these needs, the State of Oklahoma developed an offer in 2006 for a Railroad Modernization Tax Credit to incent Class II or Class III railroad track reconstruction or replacement. Eligible taxpayers may qualify for a tax credit equal to 50 percent of qualified track improvement expenditures up to a cap of \$1,500 multiplied by the miles of railroad track owned or leased by that taxpayer within the State.

According to a 2019 evaluation of the program, an independent consultant recommended the State continue the program and found that derailments on short line railroads have noticeably decreased since the program took effect, from an average of 10.4 derailments per year before 2006 to an average 7.8 derailments per year since. The audit also recommended changing the structure of the tax credits from transferable tax credits (which could be sold by the railroad to other companies) to refundable tax credits that would only benefit the railroad itself, as well as improving and enhancing reporting requirements to better measure the program’s effectiveness in future funding years.



## Strategy 2: Grant Programs

Many state DOTs have rail grant programs designed to help fund local rail improvement projects needed to maintain or grow rail freight. These programs provide support for railroad maintenance, construction and rehabilitation, with some allowing for purchase and/or preservation for future use. Certain states have developed evaluation methods, with different levels of complexity, to identify the public and transportation benefits of rail projects.

Benefits may include support for large multi-year projects, lower interest rates, longer loan terms and, in some instances, the opportunity to combine grants with matching funds as a loan down payment. Funds are typically competitively awarded, and many states require applications to quantify the benefits stemming from potential projects for which funding is requested, including job creation, environmental improvements, and truck diversion. Large grant programs would require technical assistance tracking and evaluating proposals, as well as ongoing monitoring and post-evaluation of grant funds.

Converse to tax credits, grant applications must be filed and approved before the eligible activities

begin and before expenses are incurred. They cannot be applied retroactively or cover any costs incurred before the grant is approved. To capture multiple small projects, a program could be designed to allow applications to apply for the same grant more than once per year. Applicants must be mindful of grant program deadlines and processing times and allow itself plenty of lead time to complete and submit the application, which can be a particular challenge for smaller short line entities that may not have the technical resources. Grant funding programs can also potentially delay the start of rail projects until application assessment is completed. Additionally, many grant programs require the participation of local agencies or units of government, which can add additional hurdles and bureaucracy to the application process.

There is no single methodology universally used to administer the programs; therefore, several state DOT programs were reviewed to provide diverse insight.

- Many states utilize loans to further extend limited funding and negotiate loan terms and matching requirements based on the ability of the applicant or funding situation.

- Claw back provisions are used by many programs, several of which are in conjunction with mandatory post-evaluation.
- Post-evaluation requires data collection for several years following construction completion to ensure projected carloads, job creation/preservation, and the critical components of cost-benefit analysis are not unrealistically inflated. The projections must be realized (usually to a certain minimum level) or some or all of the grant money must be returned. While a cost-benefit analysis is required by all states, the details for each analysis vary, with some states (Oregon and Virginia) outsourcing their economic analysis to third parties.
- A consistent and systematic evaluation approach for each grant application (benefit/cost and/or internal or independent Economic Analysis).

Grant programs can either be designed to be offered on a consistent basis for specific project types, or created on an as-needed basis. As-needed grant programs are more heavily shaped by the political and policy climate.

State	Program(s)
Florida	Grant only program with an annual allocation that varies, recently exceeding \$100 million. Short line rehabilitation projects are required to have a 25% match from the applicant. FDOT evaluates the project proposals using Florida Strategic Intermodal System (SIS) goals and uses the Florida Rail Investment Calculator (FRIC) to carry out a cost-benefit analysis.
Idaho	Grant & Loan program with a low interest rate (<4%). Grants are also provided at a \$100,000 maximum and require a 100% match. The typical loan amount is \$5 million, and repayment periods may not exceed 15 years. Applicants are required to match loans with 10% of the project costs, although greater matches can be negotiated.
Illinois	Grant & Loan program with low interest loans, and in some cases grants, on a project-by-project basis. There is no formal application process. Applicants requesting funds from the state send in letters that detail the project's potential costs and benefits.
Iowa	Grant & Loan program for projects that include job creation which are eligible for grants with a 50% matching contribution, or loans with a 20% matching contribution. A minimum of \$200,000 or 10% is set aside annually for rail network improvement projects that lack immediate job creation. Projects for rail network improvements with no anticipated job creation are eligible for a 10-year term with 0% interest and a 20% matching contribution.
Kansas	Grant & Loan program that provides approximately \$5 million low-interest revolving loans and selected grants annually for both rehabilitation and to deter railroad abandonment. A 30% local match is required.
Maine	Grant-only program that provides \$1 million in state funds to cover a maximum of 50% of estimated project costs.
Maryland	Grant & Loan program to private operators of state-owned lines, with terms on a case-by-case basis.

State	Program(s)
Minnesota	Grant & Loan program which provides 10-year capital improvement loans which are granted at a maximum of \$200,000. The loan fee is equivalent to 10% of the loan unless the applicant has demonstrated an investment of \$10,000 or more, in which case the loan is interest-free.
New Jersey	Grant-only program that awards approximately \$10 million annually to freight rail operators for construction and improvement projects.
New York	Grant & Loan program that provides 60% grant funding and 40% loan funding for several types of infrastructure improvements via an application basis.
North Carolina	Grant-only program – highlighted below.
Ohio	Grant & Loan program for the construction or rehabilitation of industrial lead tracks, rail spurs or other rail infrastructure, and passenger rail facilities. Grants are used for cases that exhibit the most need or that lack a direct revenue stream, but are generally limited to less than 50 percent of project costs and up to \$1,000 per each job created or retained.
Pennsylvania	Grant-only program – highlighted below.
Virginia	Grant-only program through three programs, including the Rail Enhancement Fund (provides a 70% funding match for all types of passenger or freight rail projects), Rail Industrial Access Grants, and Rail Preservation Fund grants. 90% of funds are reserved for capital improvements (limiting planning and engineering to 10%). RPF is highlighted below.
Washington	Grant & Loan program with two programs: Washington Rail Bank (\$5 million every two years) and the Freight Rail Assistance Program (\$2.75 million per year). Applicants for freight rail funding assistance are municipalities and other public agencies or port and other special districts since WSDOT cannot provide funds directly to railroads.
Wisconsin	Grant & Loan program with two programs – highlighted below.

## Case Study: North Carolina

The 1988 Rail Corridor Preservation Act gave North Carolina DOT the authority to purchase railroads and preserve rail corridors for future rail use and interim compatible uses. NCDOT's Industrial Access program, developed to provide businesses with an incentive to locate or expand their facilities in North Carolina, provides funding to local governments, community development agencies, railroad companies and industries to improve rail access.

North Carolina's Short Line Railroad Improvement program supports short line rail infrastructure health and performance throughout the state by providing matching grants to short line rail companies. Grants do not exceed 50 percent of the non-federal share and must be matched by equal or greater funding from the applicant. Total grants do not exceed \$5 million per fiscal year.

## Case Study: Wisconsin Freight Rail Infrastructure Improvement Program (FRIIP)

In addition to the aforementioned Freight Rail Preservation Program (FRPP) grants, the Wisconsin Department of Transportation (WisDOT) administers Freight Rail Infrastructure Program (FRIIP) loans. Wisconsin created the FRIIP program in 1992, which provides dedicated loans to expand the reach of the state's original Freight Rail Preservation Program by also helping finance privately owned lines as well as helping to fund other rail-related projects such as loading and transloading facilities. Since 1992, FRIIP has awarded \$137 million in loans, which also created a self-sustaining ongoing funding source as new funding is financed by older loans as they are repaid.

The FRIIP provides up to 100% loans for rail projects that:

- Connect an industry to the national railroad system;
- Make improvements to enhance transportation efficiency, safety, and intermodal freight movement;
- Accomplish line rehabilitation; and
- Develop the state economy.

## Strategy 3: Loan Programs

Loan programs allow governments to support private-sector investment through low- or no-interest loan programs by leveraging the public sector's ability to utilize higher collateral and lower interest rates than what may be available to individual short line railroads. At the federal level, there are two primary loan programs to assist freight railroads: Transportation Infrastructure Finance and Innovation Act (TIFIA) and Railroad Rehabilitation

and Improvement Financing (RRIF). TIFIA provides credit assistance for qualifying projects of regional and national significance regardless of transportation mode, which means short line railroads may have to compete against a wide variety of other transportation providers (highway departments, transit agencies, port districts, etc.) whereas RRIF has a dedicated \$35 billion budget to be used only by railroads, and of that \$7 billion

is reserved exclusively for non-Class I railroads. RRIF loans can fund up to 100% of an eligible project's cost, with repayment methods of up to 35 years and interest rates equal to the cost of borrowing to the government. However, receiving loans in a timely manner can be an issue with some loan programs, with processes that can stretch out of the course of months or years.

## Strategy 4: Other Programs

In addition to the tax credits discussed in the preceding sections, several states provide other tax-based incentives for railroad infrastructure improvements, including exemptions, special tax treatment and other relief mechanisms. While some of these tax preferences do not directly support the funding of railroad infrastructure improvements, they do "free up" financial resources through reduced tax burden. Examples include:

- **Exemptions:** Massachusetts and New Jersey, for the most part,

exempt railroads from property tax, and New York allows an exemption from income and franchise tax for railroad redevelopment corporations.

- **Special tax treatment:** Connecticut, North Carolina and Pennsylvania impose statewide gross earnings or receipt taxes on railroads (rather than property taxes).
- **Other relief mechanisms:** New York and Virginia provide railroads

property tax relief by using an individual classification rule, which inventories each item of taxable property and values it separately regardless of the cooperative effect it may have on the railroad's other properties. New York provides additional relief by combining the individual classification rule with an established railroad property value ceiling that is adjusted upward based on railroad profitability.

# Arizona and California Railroad

## Track Milage

Owned	83.4	Earp, CA to Cadiz, CA
Leased	0	

## Top inbound and outbound commodities

1.	Agriculture
2.	Petroleum

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	0	
Class 2	70	Cadiz
Class 3 and above	13	Cadiz

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					
2016					
2017			No data		
2018					
2019					

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Rail upgrade	57.4 miles of 90-lb. rail; Cadiz Subdivision, MP 120-MP 179	\$30 million	Low	Medium-Term	unknown
Parker Pass extension	4,700 foot extension from MP 190 (8,500 feet total)	\$3.8million	Medium	Long-Term	unknown

# California Northern Railroad Company

## Track Milage

Leased	210
Trackage Rights	40

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	20	
Class 2	200	
Class 3 and above	0	

## Top inbound and outbound commodities

1.	Tomato Paste
2.	Wine

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					
2016					
2017			No data		
2018					
2019					

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Low emission locomotives		\$2-4 million	Medium	unknown	unknown

# Central Oregon and Pacific Railroad

## Track Milage

Leased	65
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## Top inbound and outbound commodities

No data
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## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	0	
Class 2	65	
Class 3 and above	0	

No data

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					
2016					
2017			No data		
2018					
2019					

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)

# Goose Lake Railway

## Track Milage

Ownership	Miles of Track Operated in CA	Locations of Trackage Rights, Haulage Rights, Leased, or Out of Service Lines
Leased	42	Owned by Lake County, Oregon

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	56	Lake
Class 1	0	
Class 2	0	
Class 3 and above	0	

## Top inbound and outbound commodities

	Inbound	Outbound
1.		Perlite
2.		Lumber
3.		Woodchips
4.		Fertilizer

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015			No data		
2016					
2017	269	0	0	N/A	269
2018	1,072	0	0	N/A	1,072
2019	895	2	0	N/A	897

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Sustain excepted	Crossings and bridges - received CRISI funding	\$752k	High	Immediate	Yes
Class 1 upgrade	Ties, surfacing, curves (\$10.6M funded through CRISI)	\$13.7 million	High	Immediate	Yes
286k upgrade	Replace 75-lb. rail	\$10.5 million	Medum/High	Medium-term	Yes
Class 2 upgrade	Replace 90-lb. rail	\$33 million	Medium	Long-term	Yes
Ballast railcars	Railcars to spread ballast	\$200k	Medium/High	Medium-term	No

# Modesto and Empire Traction Company

## Track Milage

Owned	50	50 miles industry/switching/storage
Leased	14	Various locations, leased by customers for their operations

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	36	
Class 2	14	
Class 3 and above	0	

## Top inbound and outbound commodities

1.	Grain	Food and Kindred
2.	Pulpboard/Paper	Pulpboard/Paper
3.	Grain Mill	Grain
4.	Chemicals	Chemicals
5.	Lumber	

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015	17,202	18,366	0	N/A	35,568
2016	16,894	16,869	0	N/A	33,763
2017	17,627	17,010	0	N/A	34,637
2018	16,996	17,422	0	N/A	34,418
2019	16,567	16,443	0	N/A	33,010

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Congestion - Need more rail	Various locations, 2,500 track feet	\$500k	Medium	unknown	unknown
Transload facility	Codoni Covered, etc.	\$2 million	Medium	unknown	unknown



# Quincy Railroad

## Track Milage

Owned	3
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## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	3	
Class 2	0	
Class 3 and above	0	0

## Top inbound and outbound commodities

1.	Lumber
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## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015	757	0	0	N/A	757
2016	797	0	0	N/A	797
2017	660	0	0	N/A	660
2018	675	0	0	N/A	675
2019	773	0	0	N/A	773

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
General rehabilitation and rail upgrade	Entire Quincy Yard (3 miles)	\$500k	Medium/High	Medium-term	No
Tie Tamper	Entire Quincy Yard is in need of surfacing	\$100k	Medium/High	Medium-term	No

# Richmond Pacific Railroad Corporation

## Track Milage

Owned	1	Richmond
Leased	5	Richmond
Trackage Rights	6	Richmond

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	12	
Class 2	0	
Class 3 and above	0	

## Top inbound and outbound commodities

1.	Coal	Petroleum Gases
2.	Cement	Nut Oil
3.	Ethanol	Carbon Dioxide
4.	Lumber	Petroleum Coke
5.	Shortening	Diesel Esters

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					17,669
2016					12,718
2017		No data			21,621
2018					19,230
2019					18,071

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Upgrading older, lighter rail to 136-lb. rail	Various tracks and yards in Richmond, CA	\$1.2 million	Medium/High	Medium-term	Yes
Additional crossing safety upgrades	Multiple crossings in Richmond, CA	\$850k	Medium/High	Medium-term	Yes

# San Diego and Imperial Valley Railroad

## Track Milage

[Redacted]		
Trackage Rights	33	San Diego

## Top inbound and outbound commodities

[Redacted]		
1.	Petroleum	Berries
2.	Paper	
3.	Grain	
4.	Steel	

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	3	Blue and Orange Line, MTS owner
Class 2	0	
Class 3 and above	33	Blue and Orange Line, MTS owner

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					
2016					
2017			No data		
2018					
2019					

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Land purchase	Expand transload	unknown	Low	Medium-term	unknown

# San Francisco Bay Railway

## Track Milage

Leased	5	Pier 96
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## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	1.5	Pier 96
Class 1	0	
Class 2	0	
Class 3 and above	5	Pier 96

## Top inbound and outbound commodities

1.	Soil
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## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015	1,826	1,826	0	N/A	3,652
2016	2,198	2,198	0	N/A	4,232
2017	3,633	3,633	0	N/A	7,266
2018	1,849	1,849	0	N/A	3,698
2019	1,848	1,848	0	N/A	3,696

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Maintenance of track to main line		N/A	Medium/High	Long-term	Yes
Maintenance	Pier 96	N/A	Medium	Long-term	Yes
Jennings Crossing	Pier 96	N/A	Medium/High	Long-term	Yes
High Rail Vehicle	Pier 96	N/A	unknown	Long-term	Yes

# San Joaquin Valley Railroad

## Track Milage

Owned	220
Leased	151

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track		
Class 1		No data
Class 2		
Class 3 and above		

## Top inbound and outbound commodities

- Petroleum
- Food and Kindred
- Agriculture
- Chemicals

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					
2016					
2017			No data		
2018					
2019					

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Creation of a new switching yard	West Side Sub	unknown	unknown	unknown	unknown

# Santa Maria Valley Railroad

## Track Milage

Ownership	Miles of Track Operated in CA	Locations of Trackage Rights, Haulage Rights, Leased, or Out of Service Lines
Owned	10	
Leased	4	Betteravia Branch from Union Pacific Railroad

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	6.4	Main Line, Betteravia Branch, Airbase Branch, North S/M
Class 2	7.4	Main Line, Airbase Branch
Class 3 and above	0	

## Top inbound and outbound commodities

	Inbound	Outbound
1.	Petroleum	Petroleum
2.	Lumber	Frozen Vegetables
3.	Chemicals	Chemicals
4.	Building Products	Industrial Products
5.	Industrial Products	

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015	1,090	1,382	0	N/A	2,472
2016	1,104	1,231	0	N/A	2,335
2017	1,183	1,296	0	N/A	2,479
2018	1,161	1,389	0	N/A	2,550
2019	1,247	1,575	0	N/A	2,822

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Worn out rail and ties	MP 0.43-MP 2.19	\$1 million	High	Immediate	Yes
Worn out rail and ties	MP 2.19-MP 4.41	\$2.22 million	Medium/High	Immediate	Yes
Replace light rail	MP 4.41-MP 8.60	\$3.352 million	Low	Medium-term	Yes
Capacity constraints at Osburn Rail Yard	Phase 3 - 6,000 feet of additional spurs for transload	\$3 million	Medium	Medium-term	Yes
Replace light rail and worn ties	Airbase Branch (2.5 miles)	\$2 million	Medium	Medium-term	Yes
Siding for lumber customer	Install 600-foot siding at Hayward Lumber	\$500k	Medium	Immediate	No
Need more track capacity for inbound and outbound trains	Double-track main line from MP 0.43 to MP 1.32	\$1.1 million	Medium/High	Immediate	No
MOW equipment, ballast regulator, tie inserter, tie crane	Need additional MOW equipment for future track projects	\$900k	Medium	Immediate	No
Need pit at Osburn Rail Yard	Build concrete pit to service locomotives and railcars	\$25k	Medium/High	Immediate	No
Need covered facility and shops for locomotive repairs	Build engine house facility as Osburn Yard	\$3 million	Medium/High	Medium-term	Yes
Need dock at Osburn Yard for boxcar customers	Build concrete dock facilities at Osburn Yard	\$75k	Medium	Immediate	No
Need covered space to protect inventory for transload customers	Build warehouse facility and covered facility as Osburn Yard	\$2 million	Low	Long-term	No

# Sierra Northern Railway

## Track Milage

Owned	112	Tracks owned on the Oakdale, Woodland, & Mendocino Divisions
Leased	8	Industry yard tracks and spurs in West Sacramento & Riverbank

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	34	Valley & Sonora Subdivision- Oakdale
Class 1	56	Fort Bragg, Willits, Woodland Sub Divisions
Class 2	22	Riverbank & Valley Subdivision - Oakdale
Class 3 and above	N/A	N/A

## Top inbound and outbound commodities

1.	Petroleum Gases	Lumber
2.	Polyvinyl	Hydraulic Cement
3.	Lumber	Bad Order Railcars
4.	Environmentally Hazardous	Waste Oil
5.	Beans	Rice

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015	1,160	3,018	0	N/A	4,178
2016	955	3,323	0	N/A	4,278
2017	1,247	3,512	0	N/A	4,759
2018	1,000	6,024	0	N/A	7,024
2019	1,537	5,331	0	N/A	6,868

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Longer interchange tracks to hand off unit trains and other manifest traffic to Class 1 railroads	4 interchange tracks varying from 3,000-5,500 feet long need to be constructed West of Oakdale	\$4 million	High	1-2 years	Y
New 4 track classification and storage yard to support transload facility	4 track yard would be built 4 miles East of Oakdale	\$6 million	Medium	2-3 years	Y
Rock hoppers for dumping ballast	Rock cars would be based out of Oakdale and interchanged to Class ones to deliver rock to other division	\$200K	Medium	2-3 years	N
New office and shop facility in Oakdale due to growth in the company	Build and new 24,000sqf building four miles East of Oakdale, CA	\$4 Million	High	1-2 years	Y
New office and shop facility in West Sacramento	Build a new 5,000sqf building in West Sacramento	\$1 Million	Medium	2-5 years	Y

# St. Paul and Pacific Railroad

## Track Milage

Leased	3	Coastal Subdivision - UP
Out of Service	28	Coastal Subdivision - UP

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	31	Coastal Subdivision
Class 2	0	
Class 3 and above	0	

## Top inbound and outbound commodities

1. Food Products
2. Lumber

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					
2016			No data		
2017					
2018	101	218	0	0	319
2019	106	325	0	0	431

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)



# Stockton Terminal and Eastern Railway

## Track Milage

Owned	23
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## Top inbound and outbound commodities

1.	Tomato Paste
2.	Cement
3.	Coiled Steel
4.	Fertilizer
5.	Road Oils

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	23	
Class 2	0	
Class 3 and above	0	

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					4,333
2016					4,409
2017		No data			4,816
2018					4,619
2019					4,469

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Mainline rail replacement of existing 90-lb. rail	Mainline track from MP 1.4 to MP 5.4	\$3.8 million	Medium	Medium-term	No
East Yard rehab	Rehabilitation of 10 yard tracks	\$5 million	Medium/High	Medium-term	No
Roosevelt St	Tie, surfacing and surface renewal over 2,600 feet of street running trackage	\$4 million	High	Immediate	Yes
Fire suppression upgrade	East yard	\$500k	Medium	Medium-term	No
Industrial Park	Modern multi-commodity warehousing and storage in Stockton, CA	\$5 million	Low	Medium-term	Yes
Budiselich Yard	Construct 5 track serving yard	\$6 million	Low	Medium-term	No

# Trona Railway Company

## Track Milage

Owned	31
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## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	0	
Class 2	31	
Class 3 and above	0	

## Top inbound and outbound commodities

1.	Coal	Soda Ash
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## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					
2016			No data		
2017					
2018	8,562	6,245	0	0	14,807
2019	5,043	6,760	0	0	11,803

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Locomotives	Tier 4 Locomotives	\$6-10 million	Low	Long-term	Yes

# Ventura County Railroad

## Track Milage

Owned	0	
Leased	13	Oxnard

## Mileage by FRA Class of Track

Track Class	Miles	Subdivision
Excepted track	0	
Class 1	13	Patterson and Port Huemene
Class 2	0	
Class 3 and above	0	

## Top inbound and outbound commodities

1.	Autos	Autos
2.	Lumber	Paper
3.		Berries

## Number of California carloads transported (2015-2019)

Year	Outbound	Inbound	Local	Overhead	Total
2015					
2016					
2017			No data		
2018					
2019					

## Freight Rail Needs

Description of Need	Project Description & Location	Estimated Cost	Priority	Timing	Planning to Apply for Federal Funding (Y/N)
Land purchase	Expand transload at San Ysidro	unknown	Low	Medium-term	unknown