Nevada State Rail Plan
Nevada Department of Transportation

March 2012

NEVADA DOT

U.S. Department of Transportation

Federal Railroad Administration

JACOBS

Policy Statement

Nevada hereby sets forth its 2012 State Rail Plan as the state's rail policy, consistent with the intentions of Congress as expressed in the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). This Plan reflects Nevada's leadership, with public and private transport providers at the state, regional, and local levels, to expand and enhance passenger and freight rail and better integrate rail into the larger transportation system. The 2012 Nevada State Rail Plan:

- Provides a plan for freight and passenger rail transportation in the state;
- Prioritizes projects and describes intended strategies to enhance rail service in the state to benefit the public;
- Establishes the five-year period covered by the Plan; and
- Serves as the basis for federal and state investments in Nevada.

The Nevada Department of Transportation (NDOT) prepared this Plan and is the state rail transportation authority that will also maintain, coordinate, and administer it.

This plan was presented to the Nevada Statewide Technical Advisory Committee (STTAC) on April 2, 2012.

The Nevada State Transportation Board, comprised of the Governor, the Lt. Governor, the Attorney General, the Controller, and three public members, adopted the Nevada State Rail Plan on September 10, 2012.

The Director of the Nevada Department of Transportation attests to the adoption of this 2012 Nevada State Rail Plan as the state's official policy document for rail:

_____

Rudy Malfabon, P.E., Director

_____, 2012

Summary

Summary

This document is written to provide the state of Nevada with a plan for implementing passenger and freight rail service improvements in the state, as well as guide multi-state initiatives, and to fulfill the requirements of the 2008 federal Passenger Rail Investment and Improvement Act (PRIIA). The plan has a multimodal passenger and intermodal freight focus designed to be compatible with highway, air, and transit modes operating in and through the state.

A. Coordination and Outreach

A comprehensive public information and outreach program was used to engage project stakeholders in the planning process to develop the Nevada state rail plan. The program included identifying the stakeholders, creating north and south technical advisory committees with industry experts, hosting multiple committee and public information meetings, soliciting stakeholder input through surveys and interviews, and developing a series of electronic and hard copy information materials. Project information was disseminated through correspondence, technical advisory committee and public meetings, including WebEx conferencing, printed collateral materials, and an interactive website to inform stakeholders and the public about project status and outcomes.

B. Mission, Vision, Goals & Objectives

The Nevada Department of Transportation (NDOT) strongly supports transportation opportunities whether they involve highways, runways, or railroads and will work with all partners on opportunities within the state. NDOT does not specifically endorse the development of any one project over another. NDOT created the following mission statement to guide its efforts in developing the state rail plan:

> *NDOT will work with passenger and freight rail transportation stakeholders to develop and provide enhanced rail transportation infrastructure and services that address the transportation needs of the state and that improve the overall quality of life, safety, security, and environmental/economic sustainability for the citizens of Nevada.*

This mission statement reflects the fact that Amtrak and private operators, notably Union Pacific Railroad, rather than NDOT, provide and fund passenger and freight rail services available in Nevada. Thus, Nevada's role is one of supporting, coordinating, and enhancing the services these third-party owner/operators provide, rather than taking on the role of owning and operating its own rail facilities and services.

The following separate passenger and freight rail vision statements, tailored to the distinctive needs of each, were developed to describe the additional potential for future rail development and growth in the state and to inspire stakeholders to take the actions necessary to implement the state rail plan.

> *The vision for passenger rail transportation in Nevada is to develop a passenger rail system that provides the traveling public with a safe, secure, attractive, energy-efficient, cost-effective, and reliable alternative choice to auto, bus, and air transportation, with intermodal connectivity that enhances economic and environmentally sustainable travel within, to, and through the state.*
>
> *The vision for freight rail transportation in Nevada is to have an economically-competitive freight rail system that moves goods efficiently and expeditiously across the state and is fully integrated with interstate and intrastate shipping modes, thereby relieving highway congestion and improving the overall safety and quality of life for the traveling public and the citizens of Nevada.*

In addition, a series of goals and objectives were developed to provide big-picture strategic guidance for developing rail in the state, as follows:

- Goal 1 – Enhance the safe operating efficiency of the state's rail transportation system.
  - Objective a: Work with adjacent states to achieve a regional transportation solution.
  - Objective b: Provide enhanced rail system connectivity to other modes of transportation, especially in the state's major transportation hubs of Las Vegas, Reno, and Elko.
  - Objective c: Promote congestion relief on the state's rail lines and on its interstate highway network
  - Objective d: Enhance rail safety and security, including accommodating Positive Train Control (PTC) measures
- Goal 2 – Optimize Nevada's rail potential to effectively address social, economic, environmental, and energy effects.
  - Objective a: Plan for high-speed passenger rail services
  - Objective b: Address the potential for trade and economic development
  - Objective c: Realize positive air quality gains and reduce energy consumption with effective passenger and freight rail operations
  - Objective d: Maximize sustainability
- Goal 3 – Develop an organizational structure and strategies yielding a streamlined process for implementing Nevada's rail transportation improvements.
  - Objective a: Identify and prioritize rail infrastructure improvements.
  - Objective b: Identify funding strategies for rail improvements
  - Objective c: Prepare an organizational chart and legislative procedures to accomplish rail improvements

C. Existing Rail in Nevada

Nevada's geography and historic development patterns have resulted in two primary rail corridors, which generally run east-west across the state, along with a few supplemental branch and excursion lines. The Union Pacific Railroad operates both the northern and the southern east-west corridors, as a result of mergers; BNSF Railway has trackage rights on nearly three-quarters of the Union Pacific Railroad trackage in Nevada as a condition of the mergers. The two-route northern corridor serves Reno, as well as other northern Nevada communities, and connects with Salt Lake City and Denver to the east and with Sacramento and the San Francisco area to the west. Amtrak operates once-a-day passenger rail service in each direction across this northern Nevada corridor; I-80 generally parallels the rail lines in this corridor. The southern corridor serves Las Vegas and connects it with Salt Lake City to the northeast and with Los Angeles to the southwest. Amtrak discontinued providing service in this corridor some 15 years ago; I-15 generally parallels the single-track rail line in this corridor. The state lacks north-south through rail or interstate highway linkages, thus, Las Vegas is not connected to Reno or with nearby Phoenix to the southeast.

A total of 191 million net tons of freight moved across Nevada by rail in 2009, of which 96 percent was through-traffic with origins and destination outside the state. Three percent of the rail traffic flow originated outside Nevada with an in-state destination, and less than one percent originated in Nevada with a destination outside the state.

D. Proposed Rail Improvements

Numerous suggestions were made for rail service to be considered in this plan. These suggestions and projects can generally be grouped into one of four categories:

1. Suggestions requiring further study and development to define and evaluate them before they can be included for implementation in the state rail plan.
2. Possible projects, which have been studied, but which have current implementation issues precluding them from advancing at this time.
3. Requests for freight rail service changes, which may best be addressed directly with the railroad service providers.
4. Potential projects, recommended for inclusion in the state rail plan.

The recommended projects included in the Nevada state rail plan involve a combination of private and public-sector conventional and high speed passenger rail, freight rail, excursion rail, and rail-highway grade crossing improvements to be made in the short-, mid-, and long-term. The following are the key projects included in the Nevada state rail plan for the next five years:

- the X-Train conventional passenger rail service between Los Angeles and Las Vegas, a private company venture
- the DesertXpress high speed rail service between Las Vegas and southern CA, a private company venture
- a Union Pacific Railroad track enhancement project to upgrade the Weso crossover
- a Union Pacific Railroad Phase 1 sub siding improvements—Patrick and Rose Creek
- NDOT rail-highway grade-crossing improvements.
- three excursion rail improvements: Nevada Northern Railway, Virginia & Truckee Railroad, and Nevada Southern Railway

The following key projects are included in the Nevada state rail plan for the six-to-20 year timeline:

- passenger rail service for the Reno-Tahoe bid for the 2022 Winter Olympic Games
- consolidated multimodal terminals in Elko, Winnemucca, Sparks, Reno, Las Vegas, and Laughlin
- Northern and southern Nevada inland port projects
- Union Pacific Railroad Phase 2 projects, including: sub siding projects in Nevada (construct Oreanna; construct Valery; and extend Massie); Elko CTC improvements; Donner Pass improvements in California (which could enhance Nevada freight movements)
- White Pine (Nevada Northern Railway) shortline improvements
- Fallon transload facility relocation
- A rail-highway grade crossing improvement in Las Vegas

The following key projects are included in the Nevada state rail plan for the greater-than-20-year horizon:

- high speed rail across northern Nevada serving Reno and high speed rail serving Las Vegas in southern Nevada, linking with Los Angeles and Phoenix potentially followed by other connections, such as Reno-Las Vegas
- high speed rail passenger terminals, notably Las Vegas

E. Project Effects

Retrofitting, rehabilitating, and designing new rail infrastructure can help build an effective and efficient comprehensive transportation system, which will benefit the national and state transportation system, as well as enhance the quality of life for Nevada residents, yielding regional and local benefits. Excursion rail projects can offer economic development opportunities. Improving freight rail operational efficiency can result in more energy-efficient rail shipments, reducing highway truck requirements and air pollution, as well as improving on-time passenger rail performance. Rail-highway grade crossing improvements reduce crashes and fatalities.

F. Implementing the State Rail Plan

The plan includes a thorough description of a full range of possible federal, state, and local rail funding sources and an identification of those sources most suitable for projects presented in the state rail plan. A discussion of public-private partnerships is also included. Nevada needs to keep rail as part of the state's funding agenda to help implement the projects in this document.

A number of currently-underway studies will influence rail in the state, especially over the longer term. These include: the Federal Railroad Administration's Southwest Multi-State Rail Planning Study, which is a three-state multi-corridor network planning study, including consideration of high speed rail to, through, and from Nevada; NDOT's Connecting Nevada study with its short- and long-term multimodal focus; NDOT's multi-state multimodal framework study, which will evaluate north-south connections through and beyond Nevada; and the Nevada Economic Development Commission's inland port study.

A number of organizational and legislative changes can be made to assist in implementing the state rail plan. The important rail safety coordinator and staff position should be relocated to the rail group within NDOT and additional staff should be hired, including a rail lead and supporting staff with rail industry knowledge, technical environmental and economics skills, plus grant writing specialties. Legislative changes can provide opportunities to strengthen the state's rail project funding capability.

NDOT is committed to continuing its rail-highway grade-crossing improvement program and to studying: passenger rail, among other modes, in support of the Reno-Tahoe bid for the 2022 Winter Olympic Games; a multimodal passenger rail hub study for Las Vegas; and an enhanced passenger rail platform for Elko.

NDOT is also committed to assisting in advancing the rest of the projects recommended in the state rail plan, which third parties will lead. NDOT will coordinate with other agencies of government and other states and the US DOT agencies, as well as the private sector to advance the projects. NDOT can facilitate dialogue among interested and involved parties to advance projects, host meetings, conduct studies, maintain a dialogue with passenger and freight rail interests, and write grants for funding. NDOT should engage an on-call rail engineering consultant to provide services, as needed. Over time, Nevada needs to grow its financial support to implement additional rail projects, perhaps with a rail program, similar to Oregon's progressive Connect Oregon bond financing program for local rail and other transportation projects.

List of Abbreviations

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A	AASHTO	American Association of State Highway and Transportation Officials
	ABS	automatic block signal
	ADA	Americans with Disabilities Act
	ADT	average daily traffic
	AMG	American Magline Group
	Amtrak	National Passenger Railroad Corporation
	AREMA	American Railway Engineering and Maintenance-of-Way Association
	ARRA	American Recovery and Reinvestment Act
	ARTIC	Anaheim Regional Transportation Intermodal Center
B	BCA	benefit cost analysis
	BEA	Bureau of Economic Analysis
	BLM	Bureau of Land Management
	BNSF	BNSF Railway
	BOO	build-own-operate
	BOOT	build-own-operate-transfer
	BOT	build-operate-transfer
	BTO	build-transfer-operate
	BTU	British thermal unit
C	CAMPO	Carson Area Metropolitan Planning Organization
	CCJPA	Capitol Corridor Joint Powers Authority
	CERC	Clean Energy Rail Center
	CHP	combined-heat-and-power
	CM	construction management

	CM@R	construction manager at risk
	CMAQ	Congestion Mitigation and Air Quality
	CO	carbon monoxide
	CO_2	carbon dioxide
	COFC	Container-on-flat-car
	CSI	Customer Service Index
	CTC	centralized traffic control
D	DB	design build
	DBF	design-build-finance
	DBFO	design-build-finance-operate
	DBFOM	design-build-finance-operate-maintain
	DBOM	design-build-operate-maintain
	DOD	US Department of Defense
	DOT	US Department of Transportation
	DPU	distributed power units
	DRCOG	Denver Regional Council of Governments
	DX	DesertXpress
E	EDA	US Economic Development Administration
	EIR	environmental impact report
	EIS	environmental impact statement
	EMU	electric multiple unit
	EPA	US Environmental Protection Agency
F	FAF	freight analysis framework
	FAF3	freight analysis framework version 3

	FAST	Freeway and Arterial System of Transportation
	FDOT	Florida Department of Transportation
	FHWA	US Federal Highway Administration
	FRA	US Federal Railroad Administration
	FRIIP	Freight Railroad Infrastructure Improvement Program
	FTA	US Federal Transit Administration
H	HC	hydrocarbons
	HSIRP	High Speed Intercity Passenger Rail Grant
I	IRAP	Industrial Rail Access Program
	IRS	US Internal Revenue Service
	ISTEA	Intermodal Surface Transportation Efficiency Act
L	LED	light emitting diode
	LVMC	Las Vegas Monorail Corporation
M	MAG	Maricopa Association of Governments
	maglev	magnetic levitation
	MiRLAP	Michigan Rail Loan Assistance Program
	mph	miles per hour
	MPO	metropolitan planning organization
	MTMC	Military Traffic Management Command
	MUTCD	Manual on Uniform Traffic Control Devices
N	NARP	National Association of Railroad Passengers
	NCDOT	North Carolina Department of Transportation
	NCED	Nevada Commission on Economic Development
	NDOT	Nevada Department of Transportation
	NEPA	National Environmental Policy Act

	NNRR	Northeastern Nevada Regional Railport
	NO_x	nitrous oxide
	NPUC	Nevada Public Utilities Commission
	NRS	Nevada Revised Statutes
	NSTP	New Starts Program
O	O&M	operations and maintenance
	ODOT	Ohio Department of Transportation
	ORDC	Ohio Rail Development Corporation
	OTP	on-time performance
P	PABs	private activity bonds
	PFRAP	Passenger & Freight Rail Assistance Program
	PIP	Performance Improvement Plan
	PM	particulate matter
	PRIIA	Passenger Rail Investment and Improvement Act
	PTC	positive train control
	P3	public-private partnership
R	RailPAC	Rail Passenger Association of California and Nevada
	ReTRAC	Reno Transportation Rail Access Corridor
	RFAP	Rail Freight Assistance Program
	RLP	Rail Line Relocation and Improvement Capital Grant Program
	ROD	Record of Decision
	RRIF	Railroad Rehabilitation Improvement Financing
	RRR	Railroad Rehabilitation and Repair Program
	RSAC	Railroad Safety Advisory Committee

	RTC	regional transportation commission
	RTD	regional transportation district
	RTIP	Regional Transportation Improvement Program
S	SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
	SCORT	Standing Committee on Rail Transportation
	SIB	state infrastructure bank
	SO_x	sulfur oxides
	SPTC	Southern Pacific Transportation Company
	STB	Surface Transportation Board
	STCC	Standard Transportation Commodity Code
	STIP	Statewide Transportation Improvement Program
	STP	Surface Transportation Program
	STP-R	Surface Transportation Program-Rural
	STP-U	Surface Transportation Program-Urban
	STRACNET	Strategic Rail Corridor Network
	STTAC	Statewide Transportation Technical Advisory Committee
T	TAC	technical advisory committee
	TCSP	Transportation, Community, and System Preservation Program
	TE	Transportation Enhancements Program
	TEA21	Transportation Equity Act for the 21st Century
	TFA	Transportation Facility Agreement
	TIF	tax increment finance
	TIFIA	Transportation Infrastructure Finance Improvement Act
	TIGER	Transportation Investment Generating Economic Recovery
	TMC	transportation management center

	TMPO	Tahoe Metropolitan Planning Organization
	TOD	transit oriented development
	TOFC	trailer-on-flat-car
	TRIC	Tahoe Reno Industrial Center
	TSP	Transportation System Projects
	TWC	track warrant controlled
U	UPRR	Union Pacific Railroad
	USDA	United States Department of Agriculture
	UT	United States Postal Service state abbreviations typical
	UTA	Utah Transit Authority
V	V&T	Virginia & Truckee Railroad Company
	VHT	vehicle hours traveled
	VMT	vehicle miles traveled
W	WAX	Westcliff Airport Express
	WHSRA	Western High Speed Rail Alliance

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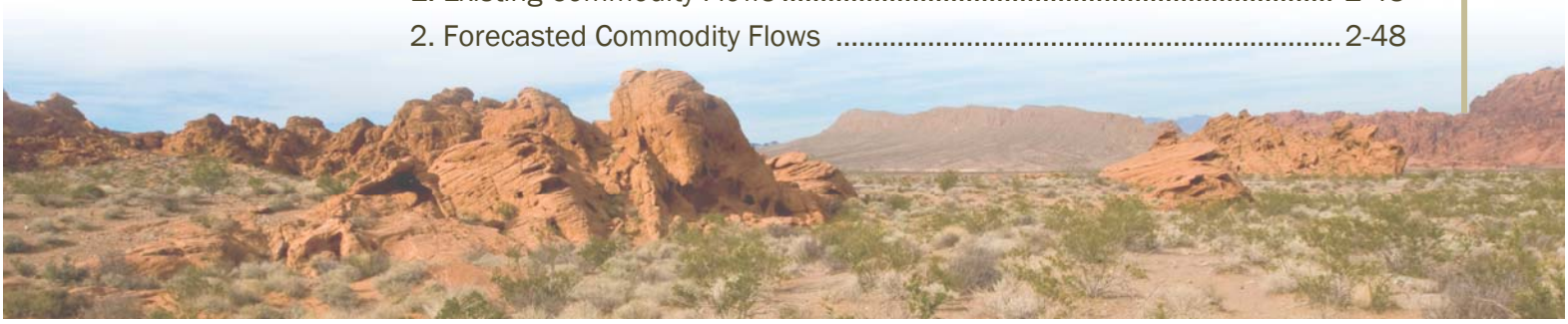

Appendices *(bound separately)*

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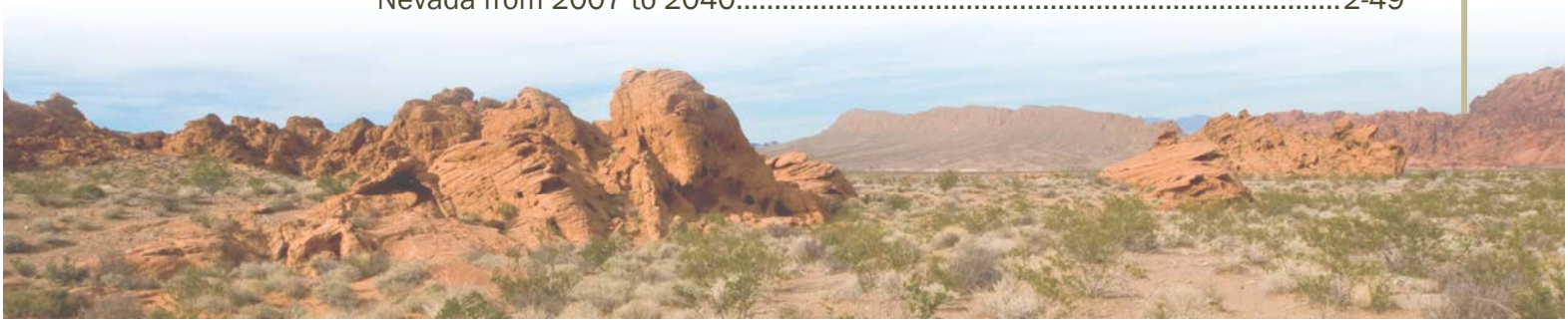

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Exhibits *(courtesy of Marc Pearsall)*

Footer image from the Valley of Fire State Park, Nevada.

Chapter 1:
Introduction

Chapter 1 : Introduction

This document is written to provide a plan for passenger and freight rail in the state of Nevada that is in compliance with the federal Passenger Rail Investment and Improvement Act (PRIIA). This 2008 legislation requires that states update a state rail plan at least every five years to be eligible for federal funding and that the document contain standardized formatting and meet data requirements that the Secretary of Transportation issues. The following text presents FRA's preamble for state rail plans to be in compliance with PRIIA:

FRA Preamble

- Congress called for enhanced state involvement in rail transportation through the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) (Public Law No. 110-432, Division B, enacted Oct. 16, 2008, Amtrak/High-Speed Rail), Section 303, Chapter 227 State Rail Plans,
- PRIIA tasks states with establishing or designating a state rail transportation authority that will develop statewide rail plans to set policy involving freight and passenger rail transportation within their boundaries, establish priorities and implementation strategies to enhance rail service in the public interest, and serve as the basis for federal and state rail investments within the state.
- State rail plans are to address a broad spectrum of issues, including an inventory of the existing rail transportation system, rail services, and facilities within the state. They must also include an explanation of the state's passenger rail service objectives, an analysis of rail's transportation, economic, and environmental impacts in the state, and a long-range investment program for current and future freight and passenger infrastructure in the state.
- The plans are to be coordinated with other state transportation planning programs and clarify long-term service and investment needs and requirements.

This document has been written with the active participation of the Federal Railroad Administration (FRA). This document also reflects the guidance included in the American Association of State Highway and Transportation Officials' (AASHTO) Standing Committee on Rail Transportation (SCORT) *State Rail Planning Best Practices,* issued November 2009.

This document is written to bring the state of Nevada into full compliance with 49 USC Section 22102, which requires that states comply with the regulations that the US Secretary of Transportation prescribes to be eligible to receive federal financial assistance. The Nevada Department of Transportation (NDOT) confirms that the state of Nevada is in compliance with the following 49 USC Section 22102 requirements:

(1) the state has an adequate plan for rail transportation in the state and a suitable process for updating, revising, and modifying the plan;

(2) a designated state authority administers or coordinates the state plan and provides for a fair distribution of resources;

(3) the State authority -

(A) is authorized to develop, promote, supervise, and support safe, adequate, and efficient rail transportation;

(B) employs or will employ sufficient qualified and trained personnel;

(C) maintains or will maintain adequate programs of investigation, research, promotion, and development with opportunity for public participation; and

(D) is designated and directed to take all practicable steps (by itself or with other state authorities) to improve rail transportation safety and reduce energy use and pollution related to transportation; and

(4) the state has ensured that it maintains or will maintain adequate procedures for financial control, accounting, and performance evaluation for the proper use of US government assistance.

A. Nevada Multimodal Transportation System Goals

The Statewide Transportation Plan – Moving Nevada Through 2028, which was adopted in 2008, identifies the mission for NDOT as follows: "providing a better transportation system for Nevada through our unified and dedicated efforts." This 2008 plan gives the vision for NDOT as making Nevada "the nation's leader in delivering transportation solutions, improving Nevada's quality of life."

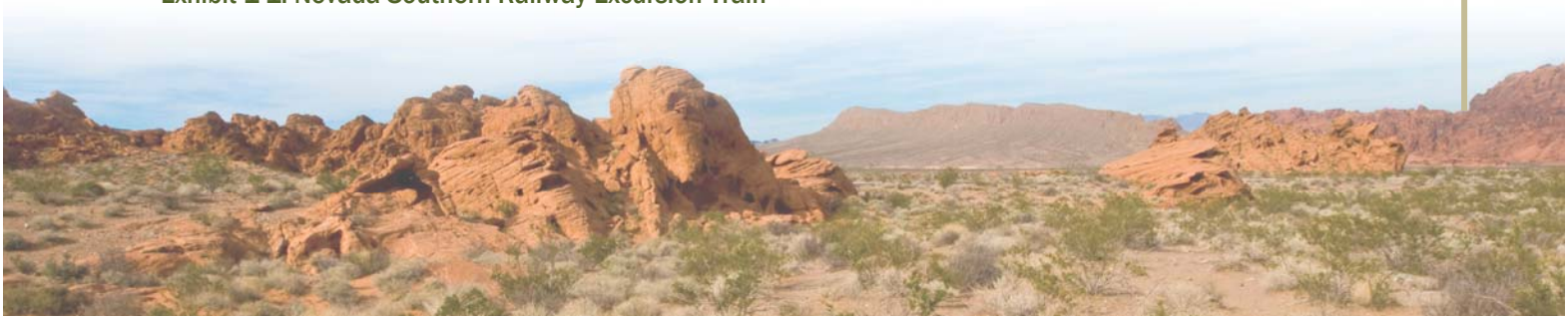
NDOT recognizes that investments in rail have the potential to improve the quality of life for a state by reducing highway congestion and associated air pollution, decreasing the cost of shipped commodities and consumer products, and broadening mobility choices for travelers. This document is the product of an 18-month study designed to identify, carefully evaluate, and prioritize rail investments so that the state of Nevada can realize such gains.

NDOT's focus is to provide for a multimodal transportation system in the state so that the most efficient means of transportation is available for shippers and travelers. Rail is a key modal choice among the options available in the state. This plan presents ways to enhance rail service and infrastructure so that rail can achieve greater efficiencies and provide additional travel choices.

B. The Role of Rail in the State's Transportation System: Mission

Nevada's geography and historic development patterns have resulted in two primary rail corridors, which generally run east-west across the state, along with a few supplemental branch

Exhibit 1-1: Nevada Southern Railway Excursion Train



lines. The Union Pacific Railroad (UPRR) operates both the northern and the southern east-west corridors, as a result of mergers; BNSF Railway (BNSF) has trackage rights on nearly three-quarters of UPRR's Nevada trackage as a condition of the mergers. The two-route northern corridor serves Reno, as well as other northern Nevada communities, and connects with Salt Lake City and Denver to the east and with Sacramento and the San Francisco area to the west. Amtrak operates once-a-day passenger rail service in each direction across this northern Nevada corridor; I-80 generally parallels the rail lines in this corridor. The southern corridor serves Las Vegas and connects it with Salt Lake City to the northeast and with Los Angeles to the southwest. Amtrak discontinued providing service in this corridor some 15 years ago; I-15 generally parallels the single-track rail line in this corridor. The state lacks north-south through rail or interstate highway linkages, thus, Las Vegas is not connected to Reno or with nearby Phoenix to the southeast. **Chapter 2** of this state rail plan fully details Nevada's existing rail infrastructure and services.

Amtrak and private operators, notably UPRR, rather than NDOT, provide and fund passenger and freight rail services available in Nevada. Thus, Nevada's role is one of supporting, coordinating, and enhancing the services these third-party owner/operators provide, rather than taking on the role of owning and operating its own rail facilities and services. For example, NDOT commits staff resources to work with state and local highway officials, UPRR personnel, and other key stakeholders to identify needed rail-highway grade crossing projects each year and improve the selected crossings, using federal dollars and a UPRR local match. NDOT's primary objective with this program is to improve the state's quality of life, safety, and environmental/economic sustainability. NDOT's rail efforts are coordinated with other modes of transportation in the state, including highway, transit, and air.

The Nevada State Rail Plan is based on: NDOT's mission statement presented below; and the passenger and freight rail vision statements, plus specific goals with corresponding objectives (discussed in **Chapter 5 Section A**). NDOT created the following mission statement to guide its efforts in developing the state rail plan:

> *NDOT will work with passenger and freight rail transportation stakeholders to develop and provide enhanced rail transportation infrastructure and services that address the transportation needs of the state and that improve the overall quality of life, safety, security, and environmental/economic sustainability for the citizens of Nevada.*

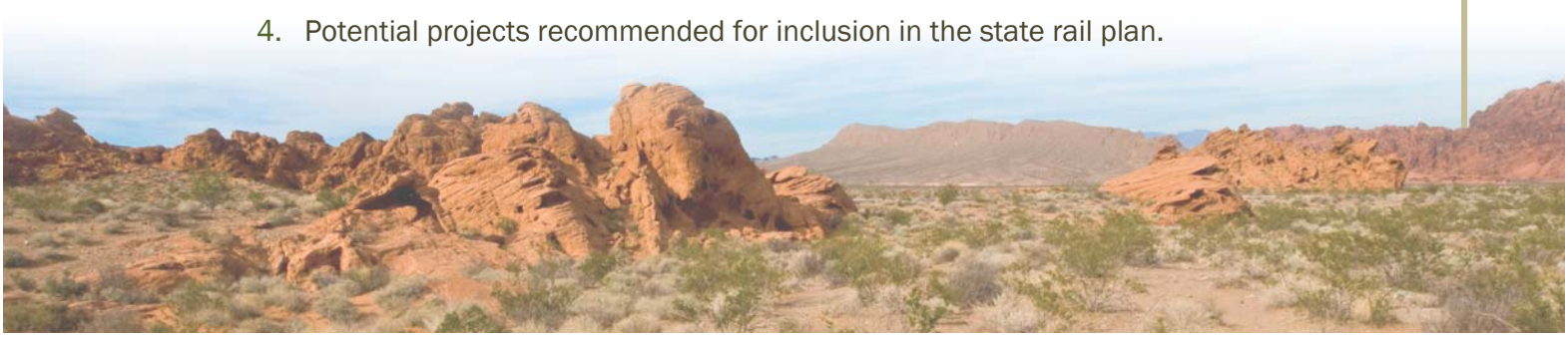
C. Passenger and Freight Rail Service Activities and Initiatives Considered

This state rail plan addresses existing rail conditions and rail improvements that are both near-term, i.e., scheduled over the next five years, and longer-term, i.e., anticipated to occur more than five years in the future.

This state rail plan is based on a broad public outreach effort, which **Chapter 6** documents. Stakeholders were identified, including individuals, groups, elected officials, agencies, businesses, and others who may potentially be affected directly or indirectly by the current and/or future rail system within or adjacent to the state of Nevada. Stakeholders were surveyed to inform the study effort. A select group of the stakeholders was empowered as a Technical Advisory Committee (TAC) to guide the state rail planning process; both North and South TACs were activated to facilitate participation in the northern and southern parts of the state. Two meetings were held with both the North and the South TACs during the course of the study; WebEx conferencing was provided to facilitate participation, especially among out-of-state interests. Two rounds of public meetings were held in three different parts of the state to educate the public about the study and to solicit public input. In addition, an interactive website was developed and maintained to provide the public both information and access to participate in the study.

Numerous suggestions were made for rail service to be considered in this plan. These suggestions are discussed and evaluated in **Chapters 3** (passenger), **4** (freight), and **5** (rail service and investment program) in this state rail plan. **Chapter 6** details the public engagement process used to determine the recommended projects. The rail suggestions and projects can generally be grouped into one of four categories:

1. Suggestions requiring further study and development to define and evaluate them before they can be included for implementation in the state rail plan.
2. Possible projects, which have been studied, but which have current implementation issues precluding them from advancing at this time.
3. Requests for freight rail service changes, which may best be addressed directly with UPRR or with BNSF, where it has trackage rights on UPRR trackage.
4. Potential projects recommended for inclusion in the state rail plan.



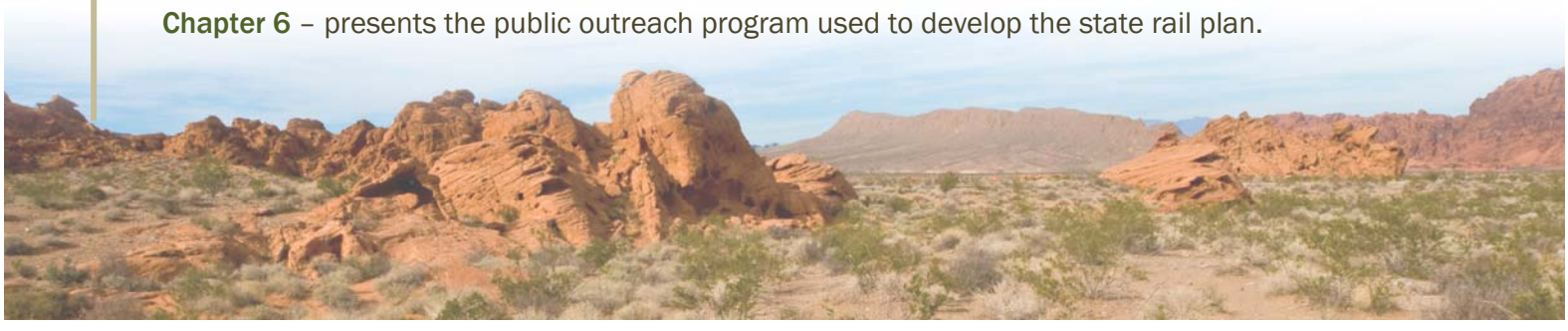
Suggestions and proposals for rail improvement projects included conventional and high speed passenger rail, freight rail, excursion rail, and rail-highway grade crossing improvements that may be summarized as follows:

- **Conventional Passenger Rail** – reinstating conventional rail between southern California and Las Vegas, as well as improving service between Sacramento and Reno to Salt Lake City were suggested.
- **High Speed Intercity Passenger Rail** – advancing high speed rail between southern California (the Los Angeles basin) and Las Vegas and between Las Vegas and Phoenix was suggested among other future destinations.
- **Freight Rail** –the issues and opportunities include track improvements and additional sidings, as well as the opportunity for inland ports and transloading facilities.
- **Rail-Highway Grade Crossings** – multiple at-grade crossings, which pose safety concerns, were referenced.
- **Excursion Rail** – three of the state's four excursion lines expressed interest in expanding their current operations.

D. Report Organization

This state rail plan is organized into chapters that address its key components as follows:

Chapter 1 – establishes Nevada's multimodal transportation system goals, provides NDOT's mission statement for rail in the state of Nevada, and introduces the passenger and freight rail projects considered in the state rail plan;
Chapter 2 – inventories and evaluates the state's rail infrastructure, commodity flows, and state rail organizational structure, as well as provides a baseline analysis of rail transportation's economic and environmental impacts;
Chapter 3 – describes passenger rail improvements and investments proposed for Nevada;
Chapter 4 – describes freight rail improvements and investments proposed for Nevada;
Chapter 5 – presents the vision and the goals and objectives for rail improvements in Nevada; discusses multi-state planning and coordination efforts; lists legislative changes to strengthen Nevada's rail organizational structure to develop a streamlined process for implementing the state rail plan; and describes financing and implementing five-year, six-to-20-year, and greater than 20-year passenger and freight rail plans; and
Chapter 6 – presents the public outreach program used to develop the state rail plan.



Chapter 2:
Existing Nevada Rail System

Chapter 2 : Existing Nevada Rail System

Exhibit 2-1: BNSF Locomotive

Figure 2-1 shows the main, branch, and excursion rail lines currently used for passenger and freight service in the state of Nevada. The following sections describe the rail service that these lines provide in more detail.

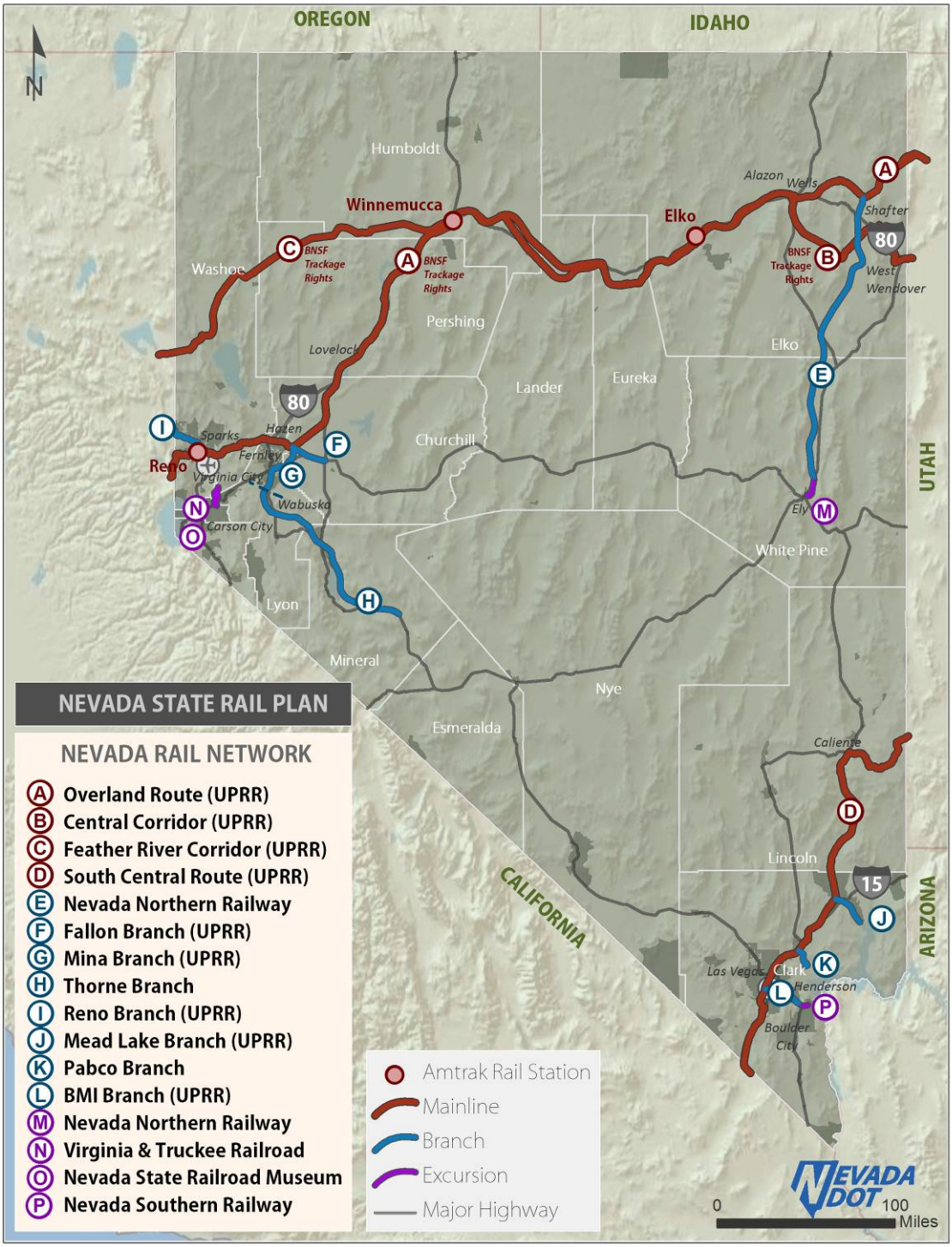


Figure 2-1: Nevada Rail Network

A. Passenger Rail Infrastructure and Operations

1. Passenger Service Objectives and Performance

PRIIA, which Congress passed in 2008, created a new set of metrics for Amtrak to use in managing and measuring performance and service quality on its intercity passenger rail lines. PRIIA Section 207 outlines the service standards that Amtrak must achieve by the end of FY14; these standards include cost recovery, passenger miles per train miles, on-time performance, train delays, and customer satisfaction.

Table 2-1 lists the PRIIA performance metrics for Amtrak's long-haul routes, including the *California Zephyr* line, which is the only Amtrak rail line currently operating in Nevada. Section 207 mandates that all of Amtrak's long-haul routes must achieve an on-time performance measure of 85 percent and an overall Customer Service Index (CSI) of 90 percent by the end of FY14. FRA is responsible for preparing a quarterly report on Amtrak's progress and achievements.

Table 2-1: PRIIA Section 207 Performance Metrics for Amtrak Long-Haul Routes

On-Time Performance (OTP)	Standard (FY14)
Endpoint OTP	85%
All Station OTP	85%
Train Delays	
Amtrak responsible delays per 10,000 train miles	325 minutes/10,000 train miles
Host-responsible delays per 10,000 train miles	900 minutes/10,000 train miles
Customer Service Index (CSI)	
Percent of customers "Very Satisfied" with	90%
Overall service	90%
Amtrak personnel	90%
Information given	90%
On-board comfort	90%
On-board cleanliness	90%
On-board food service	90%
Financial/Operating	
Short-term operating cost recovery	Continuous year over year improvement on an eight quarter moving average
Fully allocated operating cost recovery	
Long-term avoidable operating loss per passenger-mile	
Passenger miles per train mile	

The *California Zephyr* currently ranks in the bottom third of Amtrak routes in on-time performance with a 31 percent on-time performance measure compared with the PRIIA standard of 85 percent. The *California Zephyr*'s overall CSI of 83 percent in FY10 more closely approximates the PRIIA requirement for a 90 percent CSI rating by FY14.

Amtrak created a PRIIA Performance Improvement Plan (PIP) for the *California Zephyr* in September 2010 to establish the groundwork needed to achieve the PRIIA performance standards. The PIP outlines a proposed implementation plan that includes ways to improve the *California Zephyr*'s on-time performance through better coordination with host railroads and improving customer service through a new Customer Excellence Program, which emphasizes staff training and employee incentives. The *California Zephyr*'s performance will be reassessed in FY14.

2. Passenger Rail Service

Figure 2-2 shows the California Zephyr route and the complete Amtrak network in the US.

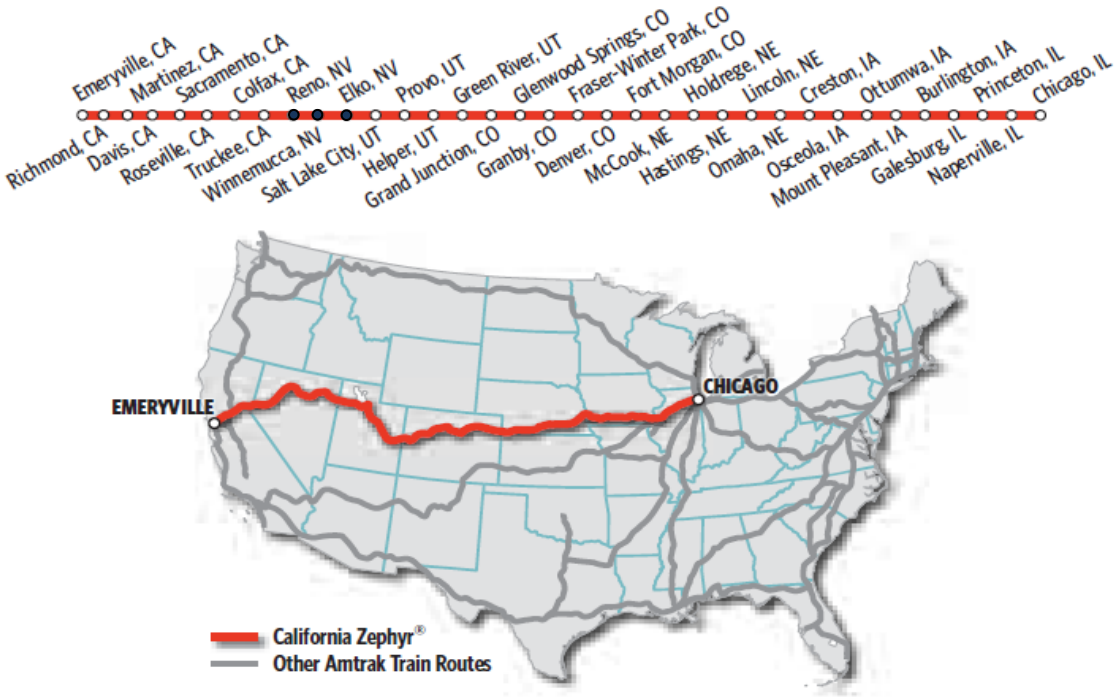


Figure 2-2: *California Zephyr* and Amtrak System
Source: Amtrak

Current passenger rail service in Nevada consists of Amtrak's *California Zephyr* route, which travels 2,438 miles between Chicago and the San Francisco Bay area. The *California Zephyr* carried a total of 377,876 passengers in 2010. The route began service in 1949 as a joint operation between Chicago Burlington and Quincy Railroad, Denver and Rio Grande Western Railroad, and Western Pacific Railroad. The line experienced various route and name changes over the next 34 years until Amtrak created the current alignment in 1983. The following section summarizes the operational characteristics of Amtrak service in Nevada. Amtrak also contracts with a tour operator, Key Holidays, to operate special "Fun Trains" and "Snow Trains," which carried 9,150 passengers in FY11 from the San Francisco Bay area to Reno during the winter months when other modes of transportation may be incapacitated.

Amtrak's *California Zephyr*

The *California Zephyr* is a cross-country intercity passenger rail service that Amtrak operates with one trip daily in both directions between Chicago and Emeryville, CA. The route passes through the states of Illinois, Iowa, Nebraska, Colorado, Utah, Nevada and California. The service operates on 427 miles of UPRR-owned track in Nevada where it stops in the cities of Elko, Winnemucca, and Reno. UPPR owns the Elko and Winnemucca stations, and the city of Reno owns the Reno Amtrak station. Service to Sparks was discontinued in 2009 as a result of operating constraints at the terminal within the UPRR intermodal yard.

Table 2-2: *California Zephyr* Route Characteristics

Daily Round Trips	1
Equipment	Superliner Coaches & Sleepers
Number of Stops	34
Distance Traveled	2,438
Stops in Nevada	Elko, Winnemucca, Reno
2010 Annual Ridership	377,876

The *California Zephyr* is a full-service Superliner-equipped train, which typically includes three Superliner sleeping cars, three Superliner coaches, a sightseer lounge car, and a dining car. **Table 2-2** summarizes the *California Zephyr* operating characteristics. **Figure 2-3** presents the existing *California Zephyr* route in Nevada.

Figure 2-3: *California Zephyr* in Nevada

Amtrak employed 23 Nevada residents in FY11 with total annual wages of $1,851,182; and Amtrak spent $6,091,650 on goods and services in the state in FY11, almost exclusively in Reno. Amtrak invested $2 million in accessibility improvements at the Elko and Winnemucca stations and a new shelter and platform in Winnemucca, using American Recovery and Reinvestment Act (ARRA) program funding in 2009. The Reno station was relocated to a new full-service facility in 2006 as part of the Reno Transportation Rail Access Corridor (ReTRAC) project, which depressed two miles of UPRR main line track through downtown Reno.

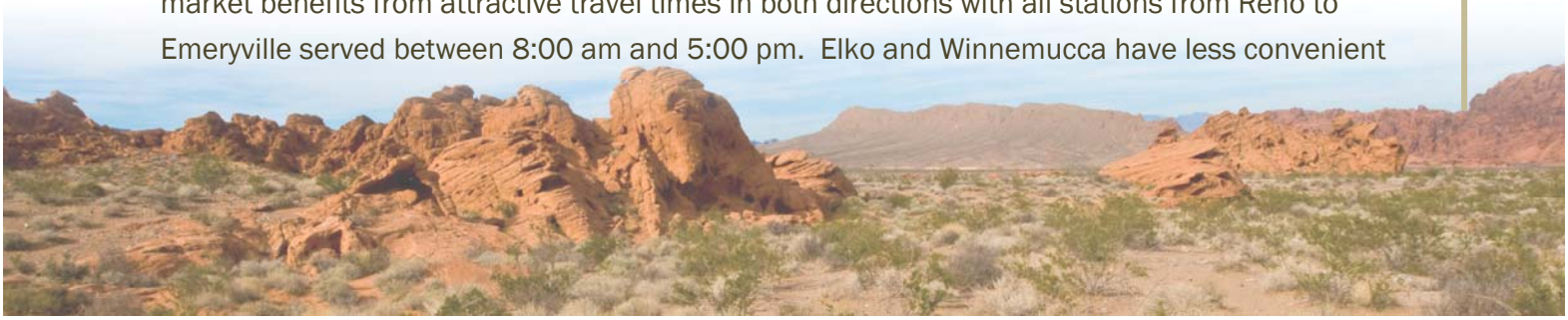
Passenger Activity and Travel Times

Passenger activity (boardings and alightings) on the *California Zephyr* route in Nevada has generally increased fairly steadily over the last decade with ridership more than doubling at Elko and Winnemucca over the decade and with more modest increases at Reno. The increase in ridership reflects a national trend; Amtrak experienced the highest ridership total in its history in 2010 with 28.7 million passengers. **Table 2-3** shows passenger usage by station in Nevada over the last ten years. **Figure 2-4** gives Amtrak's complete *California Zephyr* schedule.

Table 2-3: *California Zephyr* Ridership, FY02-FY11

Fiscal Year	Elko			Winnemucca			Reno		
	ONS	OFFS	TOTAL	ONS	OFFS	TOTAL	ONS	OFFS	TOTALS
02	1,524	1,476	3,000	600	639	1,239	23,491	30,534	54,025
03	1,376	1,514	2,890	1,011	711	1,722	24,514	30,809	55,323
04	1,447	1,594	3,041	1,154	908	2,062	25,247	31,832	57,079
05	2,166	1,656	3,822	928	1,045	1,973	24,148	31,140	55,288
06	2,649	2,205	4,854	1,081	1,184	2,265	22,068	30,772	52,840
07	1,992	1,965	3,957	1,029	1,168	2,197	18,192	26,607	44,799
08	1,981	2,626	4,607	1,308	1,422	2,730	25,721	30,059	55,780
09	2,635	2,644	5,279	1,326	1,424	2,750	25,311	29,949	55,260
10	3,657	3,178	6,835	1,957	1,601	3,558	26,616	33,192	59,808
11	3,506	3,619	7,125	1,684	1,757	3,441	27,367	32,740	60,107

Two of the five busiest trip segments that the *California Zephyr* serves include Reno as an origin/destination. The Sacramento-to-Reno trip is the third largest travel market on the line, accounting for 4.3 percent of total ridership; and Emeryville-to-Reno, accounting for 3.1 percent of total ridership, is the fifth largest travel market. The largest travel market is Chicago to Denver, which accounts for over nine percent of the ridership. The Reno-to-Northern California market benefits from attractive travel times in both directions with all stations from Reno to Emeryville served between 8:00 am and 5:00 pm. Elko and Winnemucca have less convenient



5	◂ Train Number ▸				6
Daily	◂ Normal Days of Operation ▸				Daily
R	◂ On Board Service ▸				R
Read Down	Mile			Symbol	Read Up
2 00P	0	Dp	Chicago, IL–Union Station (CT)	●🛏🍴QT	Ar 2 50P
R2 34P	28		Naperville, IL (METRA/BN Line)	●♿QT	D1 43P
3 44P	104		Princeton, IL	○	D12 23P
4 38P	162		Galesburg, IL-S. Seminary St. 77	●🍴QT	D11 31A
5 25P	205		Burlington, IA	○♿	10 36A
5 59P	233		Mount Pleasant, IA	●♿	9 54A
6 53P	279		Ottumwa, IA	●♿	9 09A
8 09P	359		Osceola, IA (Des Moines)	○♿	7 40A
8 41P	392		Creston, IA	○♿	7 04A
10 55P 11 05P	500	Ar Dp	Omaha, NE	●🛏♿QT	Dp 5 14A Ar 4 59A
12 08A 12 14A	555	Ar Dp	Lincoln, NE	●🛏♿	Dp 3 26A Ar 3 20A
1 47A	652		Hastings, NE (Grand Island)	●🛏♿	1 42A
2 34A	706		Holdrege, NE	○♿	12 54A
3 43A	783		McCook, NE (CT)	○♿	11 49P
5 05A	960		Fort Morgan, CO (Sterling) (MT)	○♿	8 25P
7 15A 8 05A	1038	Ar Dp	Denver, CO 🚌 Colorado Springs, Pueblo, Vail, Glenwood Springs —see back	●🛏🍴QT	Dp 7 10P Ar 6 38P
10 07A	1100		Fraser-Winter Park, CO	○🍴	3 50P
10 37A	1113		Granby, CO (Rocky Mt. Nat'l Park)	○♿	3 12P
1 53P	1223		Glenwood Springs, CO (Aspen)	●🛏♿	12 10P
4 10P	1311		Grand Junction, CO	●🛏🍴	10 23A
5 58P	1417		Green River, UT	○♿	7 59A
7 20P	1488		Helper, UT (Price)	○♿	6 37A
9 26P	1563		Provo, UT	○🍴	4 35A
11 05P 11 30P	1608	Ar Dp	Salt Lake City, UT (MT) 🚌 Ogden, Boise, Las Vegas —see back	●🛏🍴	Dp 3 30A Ar 3 05A
3 03A	1871		Elko, NV (PT)	○🍴	9 31P
5 40A	2013		Winnemucca, NV	○♿	7 08P
8 36A	2202		Reno, NV	●🛏🍴QT	4 06P
9 37A	2237		Truckee, CA (Lake Tahoe)	○♿	2 38P
11 48A	2301		Colfax, CA	○♿	12 21P
12 57P	2336		Roseville, CA	○🍴QT	11 35A
D2 13P	2353		Sacramento, CA	●🛏🍴QT	11 09A
D2 44P	2367		Davis, CA	●🛏🍴QT	10 36A
D3 26P	2411		Martinez, CA (San Joaquin Trains)	●🛏🍴QT	9 54A
D3 59P	2430		Richmond, CA	○♿QT	9 22A
4 10P	2438	Ar	Emeryville, CA (PT) 🚌 San Francisco—see back	●🛏🍴QT	Dp 9 10A

Figure 2-4: *California Zephyr* 2011 Timetable
Source: Amtrak (May 9, 2011 Schedule)

service with trains departing between 7:00 pm to 9:30 pm eastbound and 3:00 am and 5:00 am westbound. The total travel time from one side of the state to the other (Elko to Reno) is about five and a half hours.

The state of Nevada does not contract with Amtrak to provide any additional passenger service to supplement the *California Zephyr* route. Fifteen states, including the neighboring states of California and Oregon, provide operating and capital funding for additional service, including the *Capitol Corridor*, *San Joaquin*, and *Pacific Surfliner* routes in California and the *Cascades* route in Oregon.

Table 2-4 provides a sample of travel times by mode from Reno to destinations on the *California Zephyr* route. Amtrak trips tend to take 20 to 40 percent longer than trips on other modes, such as long-haul bus (Greyhound) and personal automobile. Amtrak and Greyhound have similar travel times for long-distance trips, such as Reno to Chicago; however, the trip on Greyhound involves making three transfers. The highway-based modes may be less competitive during peak periods when traffic congestion can slow travel times in the urban areas. Air travel is by far the fastest mode; however, quantifying the extra time needed for security checks and for travel to and from airports is difficult.

Table 2-4: Travel Times from Reno by Mode

From Reno to:	Mode	Travel Time
Emeryville, CA	Amtrak	7 hours
	Greyhound Bus	5 to 6 hours
	Automobile	4 to 5 hours
	Plane [1]	2 hour 15 minutes
Sacramento	Amtrak	5 hours
	Greyhound	3 hours
	Car	2 hours 30 minutes
	Plane [1]	4 hours 30 minutes (no direct flights)
Salt Lake City	Amtrak	11 hours
	Greyhound Bus	9 hours 40 minutes
	Automobile	8 hours
	Plane [1]	3 hours
Chicago	Amtrak	44 hours 30 minutes
	Greyhound Bus	42 hours (3 transfers)
	Automobile	30 hours
	Plane [1]	7 hours 30 minutes

[1] One and a half hours has been added to plane travel to account for additional time needed for security screening and travel to and from the airport.

Desert Wind

The *Desert Wind* service between Chicago and Los Angeles was discontinued in 1997 because of budget cuts in the Amtrak system. *Desert Wind* served Las Vegas and Caliente, NV and provided direct trips to Salt Lake City and Los Angeles. Southern Nevada has not had any passenger rail service since the elimination of the route.

Southwest Chief

The *Southwest Chief* travels 2,256 miles between Chicago and Los Angeles with 31 interim stops, including Kansas City, Albuquerque, and Flagstaff. The line operates one trip daily in each direction and passes through the states of Illinois, Iowa, Missouri, Kansas, Colorado, New Mexico, Arizona, and California. The route travels through northern Arizona along the I-40 corridor within 30 miles of southern Nevada. Amtrak Thruway Buses connect the Kingman, AZ station with Laughlin, NV and Las Vegas. A total of 342,403 passengers rode the *Southwest Chief* in FY2010.

3. Amtrak Thruway Bus Service

Amtrak Thruway Bus operates six routes in the state of Nevada connecting to four different train lines, including the *California Zephyr* and the *Southwest Chief*, plus the *Capitol Corridor* and the *San Joaquin* service in California. The *Southwest Chief* route, which operates between Chicago and Los Angeles, is the closet Amtrak rail line to southern Nevada. An overview of the Amtrak Thruway Bus service in Nevada is provided in **Table 2-5**. A map of the Thruway Bus service is shown in **Figure 2-5**.

Table 2-5: Amtrak Thruway Bus Service in Nevada

Service	Trips	2010 Ridership by Destination	Route	Stations in Nevada
California Zephyr via Salt Lake City	2 trips daily inbound to Las Vegas, 3 trips daily outbound		Salt Lake City to Las Vegas	Las Vegas Greyhound Station.
Southwest Chief via Los Angeles	1 trip daily inbound to Las Vegas, 2 trips daily outbound	17,438-Las Vegas	Los Angeles to Las Vegas	Las Vegas Greyhound Station
Southwest Chief via Kingman, AZ	1 trip daily	4,214-McCarran 530-Laughlin	Kingman, AZ to Laughlin and Las Vegas	Tropicana Express in Laughlin and McCarran Airport in Las Vegas
Capitol Corridor via Sacramento	3 trips daily	17,804-Reno 723-Sparks	Sacramento to Reno and Sparks	Reno Amtrak Station and The Nugget in Sparks
San Joaquin via Sacramento	Reno: 3 trips daily outbound, 2 trips daily inbound and 1 trip daily to Stateline	108-Stateline	Sacramento to Reno, Sparks and Stateline	Reno Amtrak Station, The Nugget in Sparks and Kingsbury Transit Center in Stateline, NV
San Joaquin via Bakersfield, CA	1 trip daily	158-Primm	Bakersfield, CA to Primm and Las Vegas	Las Vegas Greyhound Station, Whiskey Pete's in Primm
		40,975-Total		

Figure 2-5: Amtrak Thruway Bus Network in Nevada

The Thruway Bus service provides connections between Las Vegas and the cities of Salt Lake City; Kingman, AZ; Los Angeles; and Bakersfield, CA. Service from Reno connects to the Sacramento Amtrak station with transfer opportunities to San Francisco on the Capitol Corridor line. Various private contract motor coach lines also provide service in the I-80 corridor with daily casino trips from Sacramento and the San Francisco Bay area to Reno and Sparks. Other Nevada communities with Thruway Bus connections include Stateline, Sparks, Laughlin, and Primm.

4. Excursion and Tourist Railroads

Four excursion railroads operate in the state of Nevada: the Nevada Northern Railway, Virginia & Truckee (V&T) Railroad Company, the Nevada State Railroad Museum, and the Nevada Southern Railway. Combined, the four railroads operate on 32.5 miles of track and carry over 100,000 passengers annually. The four excursion railroads address a notable component of the state's tourism industry.

Table 2-6 presents an overview of the tourist and excursion lines, and **Figure 2-6** shows the locations of the excursion service in the state.

Table 2-6: Excursion and Tourist Railroad Characteristics

Railroad	Routes	Total Route Miles	Annual Ridership
Nevada Northern Railway	McGill Junction Route and Keystone Route	14	13,000 to 15,000
V&T Railroad Company	Historic Route and Sisters in History Route	14	40,000 to 70,000
Nevada State Railroad Museum	Carson City Museum grounds	1	20,000 to 25,000
Nevada Southern Railway	Boulder City to Railroad Pass	3.5	32,000

Nevada Northern Railway

The Nevada Northern Railway Museum and the White Pine Historical Railroad Foundation operate steam and diesel locomotive excursion service throughout the year on a 14-mile-long segment of the historic route. The 149-mile-long railroad line was initially built to haul copper ore and was operated in this capacity from 1906 to 1983, when the Kennecott Minerals Company donated the line and facilities to the White Pine Historical Railroad Foundation.

Today, the Nevada Northern Railway Museum provides a 56-acre historic railroad complex with a museum, historic depot, and 68 other buildings and structures, including a roundhouse, machine shops, and yards. The excursion line operation has a staff of nine full time and two part time employees.

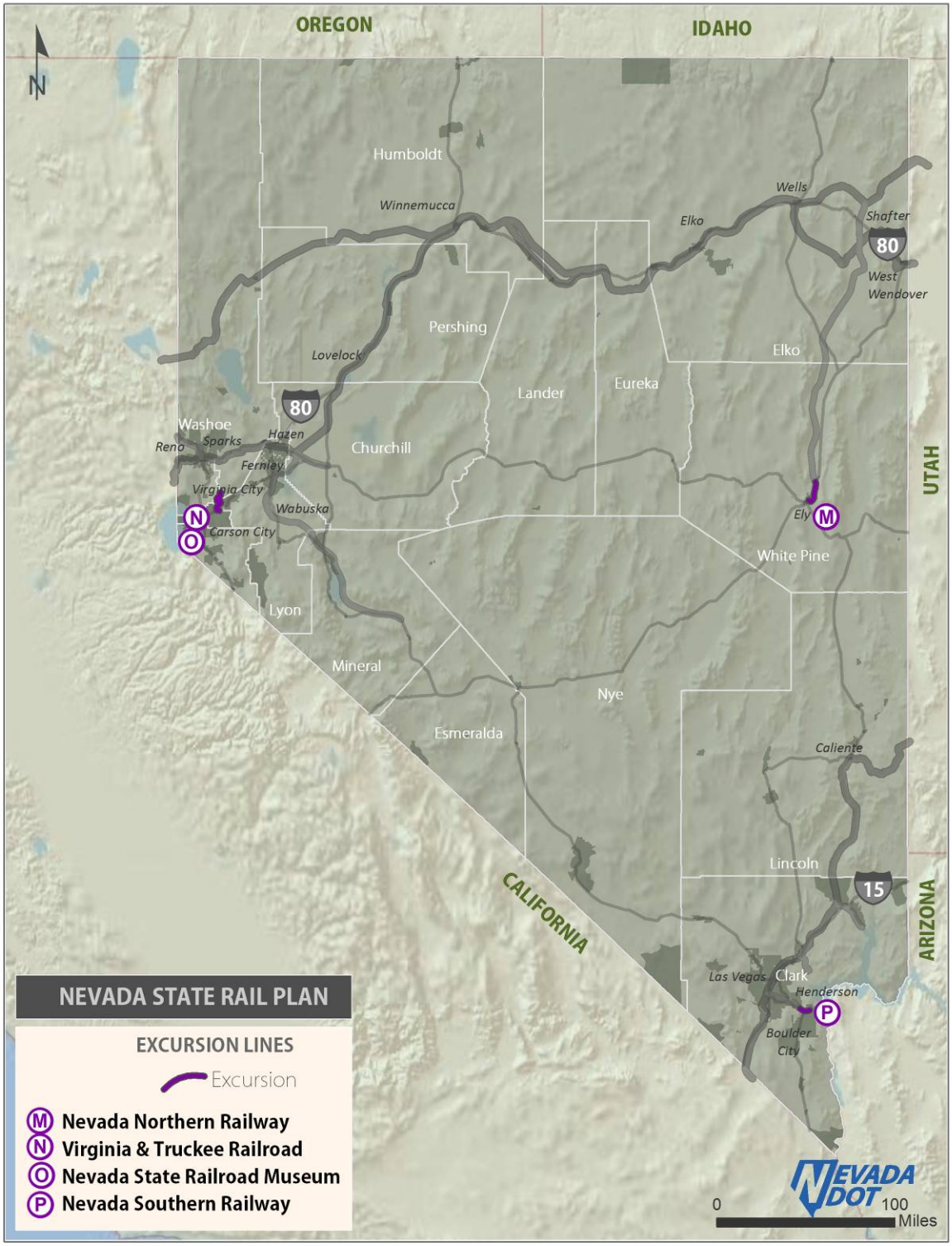


Figure 2-6: Excursion Lines

The Nevada Northern Railway operates two routes from its depot in Ely on weekends from April to September and weekdays from Memorial Day to Labor Day. The seven-mile-long McGill Junction Route travels north from the Ely Depot on the old main line tracks to McGill Junction, and the seven-mile-long Keystone Route travels west from the Ely Depot to the town of Ruth. The two routes make one to two trips per service day, depending on the time of year. In addition, the railway offers special event train rides throughout the year, including Polar Express trains in the winter and haunted ghost trains on Halloween. Ridership on the two lines ranges from 13,000 to 15,000 passengers annually.

The Nevada Northern Railway has hired S&S Shortline to provide maintenance on the out-of-service tracks between McGill and Currie for future service.

V&T Railroad Company

The V&T Railroad was completed in 1870 to haul gold and silver ore from the famous Comstock Lode mines in the Virginia City area to Carson City and Reno. The line was operated continuously for 80 years, until freight service was discontinued in 1950 after the line lost market share to highway truck traffic.

The V&T Railroad Company operates two excursion trains on sections of the original right-of-way from May to October. The Sisters in History Route provides diesel and steam trains on weekends, offering two to three trips between Carson City and Virginia City. The route travels 14 miles and lasts one and a half hours in each direction. The Historic Route operates seven trips daily on the three-mile-long segment between Virginia City and Gold Hill. The V&T also operates special event trains throughout the year, including the Comstock Christmas train and the Polar Express.

The Sisters in History Route attracts about 13,000 annually. Ridership on the Historic Route ranges from 40,000 to 70,000 passengers per year. A total of 10 full-time employees and 35 part-time seasonal employees operate the service.

Nevada State Railroad Museum

The Nevada State Railroad Museum in Carson City operates weekend excursion service on a one-mile loop around the museum property from May to October with special holiday service in December. The museum operates a steam engine one weekend per month and motor car service the other weekends with seven to 14 trips per day from 10:00 am to 4:00 pm. Annual ridership on the line ranges from 20,000 to 25,000 annually.

Nevada Southern Railway - Boulder City

The Nevada Southern Railway operates from the Nevada State Railroad Museum's Yucca Street Station in Boulder City along 3.5 miles of track to Railroad Pass. The railway was originally built in the 1930s as a UPRR branch line to transport equipment and supplies to construct the Hoover Dam. The Museum currently operates four daily 40-minute trips throughout the year on open-air and climate-controlled Pullman coaches. In addition to the excursion rail service, the museum offers an open-air display pavilion with a historic rail equipment exhibition.

Annual ridership on the Nevada Southern Railway has increased by 15 percent from 2009 to a total of 32,000 riders in 2010.

5. Multimodal Passenger Connections

This section provides an overview of the multi-modal transportation connections available within the eight Nevada cities that currently have Amtrak rail or Thruway Bus service. The section highlights non-automobile modes with a focus on transit and regional intercity connections; additional linkages might be developed for new passenger rail service provided to any of these cities. Each of the Amtrak-served stations in these eight cities can be accessed by bicycling and by walking, which receive no special mention here. All Amtrak rail and Thruway Bus departure and arrival times are based on the May 9, 2011 schedule.

Table 2-7 displays a summary of the modes available in each Amtrak city.

Table 2-7: Multimodal Connections Serving Amtrak Stations in Nevada Cities Ranked by Size

City	Amtrak Rail	Amtrak Thruway Bus	Greyhound	Intracity Transit	Regional Transit	Airport Shuttles	Taxi	Rental Car
Las Vegas		✓	✓	✓	✓	✓	✓	✓
Reno	✓	✓	✓	✓	✓	✓	✓	✓
Elko	✓		✓	✓			✓	✓
Winnemucca	✓		✓				✓	
Sparks		✓		✓	✓	✓	✓	✓
Laughlin		✓	✓	✓	✓	✓	✓	✓
Stateline/South Lake Tahoe		✓		✓	✓	✓	✓	✓
Primm		✓						

Las Vegas

Nevada's largest city, Las Vegas, does not have intercity passenger rail service, since the termination of the Amtrak *Desert Wind* service in 1997, which linked Las Vegas to Salt Lake City and to Los Angeles with a stop in Caliente, NV. Las Vegas currently has service on four Amtrak Thruway Bus lines with direct service to Salt Lake City; Kingman, AZ, where it connects with Amtrak's Southwest Chief; Los Angeles; and Bakersfield, CA. All Amtrak Thruway service operates out of the downtown Greyhound Station at 200 South Main Street, except for the Kingman, AZ line, which stops at McCarran International Airport. **Figure 2-7** shows the locations of the multimodal passenger connections in Las Vegas.

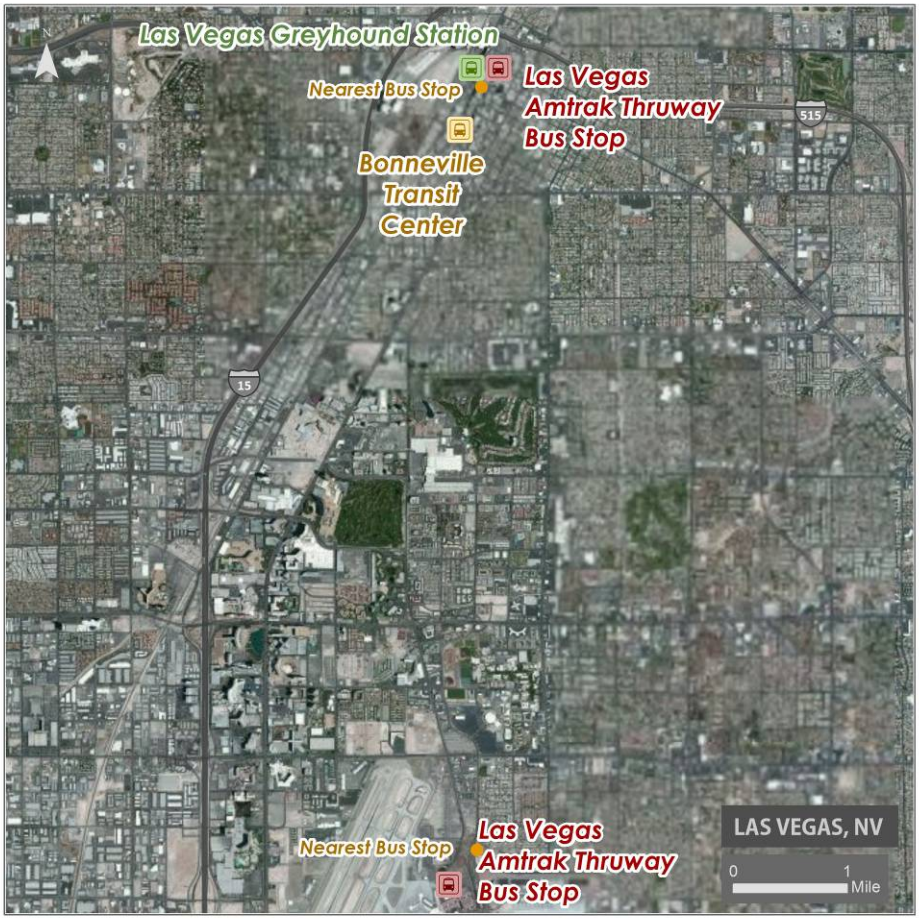


Figure 2-7: Las Vegas Multimodal Passenger Connections

Connections to the California Zephyr via Salt Lake City

The Amtrak Thruway Bus connects Las Vegas to the *California Zephyr* route in Salt Lake City. The route has two trips per day from Las Vegas to Salt Lake City. The first trip departs Las Vegas at 7:45 am and arrives in Salt Lake City at 5:10 pm and the second trip departs at 9:00 pm and arrives in Salt Lake City at 6:00 am the following day. Neither trip provides convenient connections to the *California Zephyr* service; trains depart Salt Lake City at 11:30 pm in the westbound direction and 3:30 am in the eastbound direction. One trip per day departs from Salt Lake City at 8:30 am and arrives at the Las Vegas Greyhound station at 3:35 pm.

Connections to the Southwest Chief via Kingman, AZ

Amtrak operates one Thruway Bus trip per day in each direction between Las Vegas McCarran International Airport and Kingman's Amtrak Station with connections to the *Southwest Chief*. The bus departs Las Vegas at 9:30 pm and arrives in Kingman at 1:00 am. It then departs from Kingman at 11:50 pm and arrives at 3:10 am in Las Vegas. The *Southwest Chief* stops in Kingman daily at 11:46 pm westbound and 1:33 am eastbound.

Connections to the Southwest Chief via Los Angeles

Amtrak Thruway Buses operate two trips daily from Los Angeles to Las Vegas and three trips per day from Las Vegas to Los Angeles. Trips from Las Vegas depart at 7:50 am, 11:50 am, and 4:50 pm and arrive in Los Angeles at 2:00 pm, 5:40 pm, and 10:35 pm. Trips depart Los Angeles at 10:50 am and 3:10 am and arrive in Las Vegas at 4:40 pm and 9:00 pm, respectively. The *Southwest Chief* departs Los Angeles at 6:15 pm daily with service to Chicago.

Connections to the San Joaquin via Bakersfield, CA

Amtrak Thruway Buses operate one trip per day between Las Vegas and Bakersfield with connections to the *San Joaquin* line. The *San Joaquin* travels through California's Central Valley between Sacramento, Stockton, and Bakersfield. The Thruway Bus service connects Las Vegas to Bakersfield once per day in both directions. The bus departs Las Vegas at 9:05 am and arrives in Bakersfield at 3:30 pm. It then departs from Bakersfield at 1:50 pm and arrives in Las Vegas at 6:50 pm. Trains depart Bakersfield four times per day between 5:00 am and 6:30 pm.

Greyhound

Greyhound provides direct service from Las Vegas to Utah, Arizona, and southern California. Connections between Greyhound and three of the Amtrak Thruway Bus lines can be made within the Greyhound terminal at 200 South Main Street in downtown Las Vegas.

Transit

Regional Transportation Commission of Southern Nevada (RTC):

RTC operates 39 routes, serving Las Vegas and the surrounding area. Four bus routes directly serve the Amtrak Thruway bus stop at the Greyhound station, and numerous other routes provide service within a six-block walk at the Bonneville Transit Center at 101 East Bonneville Avenue at Casino Center Boulevard. Several bus routes serve the Amtrak bus stop located at McCarran International Airport, including the Westcliff Airport Express (WAX) line, which operates every 30 to 60 minutes between the airport, the Strip, downtown, and the Westcliff Transit Center.

Silver Rider transit, an intercity coach carrier, provides regional service between Las Vegas and other southern Nevada communities, including Laughlin, Searchlight, and Primm.

Las Vegas Monorail

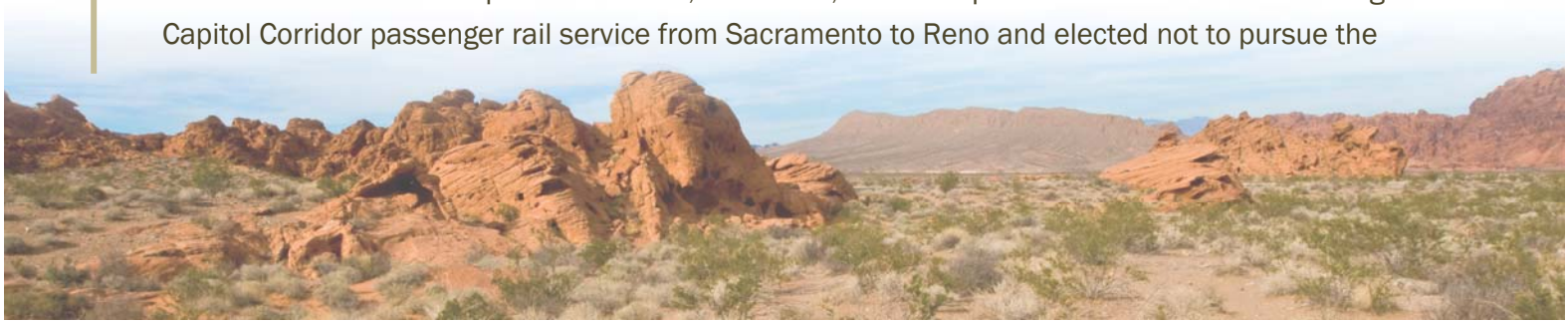
The Las Vegas Monorail, a private transit operating company, provides service along a 3.9 mile line east of the Las Vegas Strip between the MGM Grand Hotel and the Sahara Hotel with interim stations at Bally's/Paris Las Vegas, Flamingo/Caesar's Palace, Harrah's/Imperial Palace, Las Vegas Convention Center, and the Las Vegas Hilton. The monorail line does not currently link with Amtrak bus stops; however, the Las Vegas Monorail company has entertained extending its line south from the MGM Grand Hotel to the McCarran International Airport, which could link with the Kingman, AZ Amtrak Thruway Bus service.

Other Modes

A full range of transportation connecting services are available in Las Vegas, a major tourist destination, including shuttles, taxis, and rental cars.

Reno

Figure 2-8 shows the locations of the multimodal passenger connections in Reno. Amtrak's *California Zephyr* provides one trip daily to Reno. Eastbound trains to Chicago stop in Reno at 4:06 pm, and westbound trains headed to Emeryville, CA stop at 8:36 am. The Capitol Corridor Joint Powers Authority (CCJPA) contracts with Amtrak Thruway Buses to operate three buses per day in each direction to and from Reno. The eastbound buses terminate at The Nugget Casino and Hotel in Sparks, and the westbound buses travel to Sacramento for direct connections to the *Capitol Corridor* route. Eastbound buses depart Reno at 1:40 pm, 4:15 pm, and 7:25 pm; and westbound buses depart at 8:05 am, 11:30 am, and 5:05 pm. CCJPA evaluated extending Capitol Corridor passenger rail service from Sacramento to Reno and elected not to pursue the



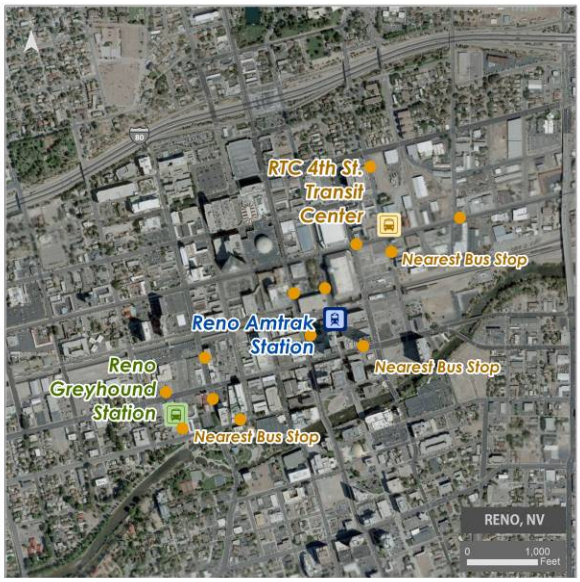


Figure 2-8: Reno Multimodal Passenger Connections

extension in 2005 following UPRR's capacity determination that separate right-of-way requiring costly new trackage would be needed on the Donner Pass route. Both Amtrak rail and bus services operate out of the full-service Amtrak station located in downtown Reno at 280 North Center Street, which opened in 2006 as part of the ReTRAC project.

Greyhound

Greyhound operates service along the I-80 corridor offering multiple trips per day from Reno to points east, including Salt Lake City, and points west to Sacramento and the San Francisco Bay area. The Greyhound station is located at 155 Stevenson Street about a half mile from the Amtrak station.

Transit

Reno's RTC Ride transit system provides service throughout the region on 33 bus lines, including express service to Carson City. RTC's new 4th Street Transit Center in downtown is located at 4th Street and Evans Avenue, three blocks from the Amtrak Station. Amtrak patrons have multiple transit options, including the high-capacity RTC Rapid line and the free Sierra Spirit line. Both lines operate 24-hours per day, providing direct connections between Amtrak and other areas of downtown and the Virginia Street corridor. Regional transit services also provide service from Reno, including Eastern Sierra Transit Authority to Bishop, CA; South Tahoe Express to South Lake Tahoe; and Modoc Sage Stage to Alturas and Susanville, CA.

Other Modes

Numerous private charter coach lines operate along the I-80 corridor between Reno and Sacramento and the San Francisco Bay area all year long taking passengers to casino destinations. Rental cars and taxis are readily available in downtown Reno near the Amtrak station.

Elko

Amtrak's *California Zephyr* passenger rail line makes one trip daily in each direction to Elko. The westbound train arrives in Elko at 3:03 am and the eastbound train arrives at 9:31 pm. Elko's Amtrak station is located at 1300 Water Street about a half mile northeast of downtown (see **Figure 2-9**). The station is comprised of an east- and westbound platform shelter and bench with no Amtrak staff on the premises.

Figure 2-9: Elko Multimodal Passenger Connections

Greyhound

Greyhound provides multiple trips per day to Elko with eastbound (Salt Lake City) and westbound (Reno) service along the I-80 corridor. Greyhound buses stop at the Tesoro Gas and Food Store located about one mile north of the Amtrak station at 1950 East Idaho Street (see **Figure 2-9**).

Transit

The Elko County deviated fixed route bus service does not currently serve the Amtrak station directly. The nearest bus line stops about a half mile away from the Amtrak station.

Other Modes

Connections between Amtrak, Greyhound, and other destinations in Elko can be made through the Elko Taxi service, which operates 24 hours per day. Rental cars are available through Enterprise Rent-A-Car at the Elko airport. Shuttle service is not available in Elko.

Winnemucca

Winnemucca is located in the northern part of the state on I-80 about two-and-a-half hours (170 miles) east of Reno. Both Amtrak's *California Zephyr* and Greyhound serve Winnemucca. The eastbound *California Zephyr* stops in Winnemucca daily at 7:08 pm, and the westbound *California Zephyr* stops in Winnemucca at 5:40 am. Amtrak's Winnemucca station is located at 209 Railroad Street, provides a shelter and bench, and is unstaffed (see **Figure 2-10**).

Figure 2-10: Winnemucca Multimodal Passenger Connections

Figure 2-11: Sparks Multimodal Passenger Connections

Greyhound

Greyhound provides multiple trips per day along the I-80 corridor with service from Winnemucca to Salt Lake City and to Reno. The Greyhound stop in Winnemucca is located at 240 West Winnemucca Boulevard about a half mile from the Amtrak station (see **Figure 2-10**).

Transit and Other Modes

Winnemucca Taxi provides 24-hour service to the Amtrak and Greyhound stations. Transit, shuttle and rental car services are not available in Winnemucca.

Sparks

Amtrak discontinued *California Zephyr* service to Sparks in 2009, although Amtrak Thruway Bus service continues to operate between Sparks, Reno, and Sacramento with connections to the *Capitol Corridor* route. Buses stop at John Ascuaga's Nugget Hotel and Casino at 1100 Nugget Avenue (see **Figure 2-11**). Eastbound buses arrive in Sparks at 2:00 pm, 4:30 pm, and 7:35 pm; and westbound buses depart from Sparks three times per day at 7:45 am, 11:10 am, and 4:45 pm.

Greyhound

Greyhound does not provide direct service to Sparks, although the Reno Greyhound station is located about four miles from the Amtrak Thruway Bus stop in Sparks. Greyhound operates multiple trips throughout the day between Reno and destinations along the I-80 corridor.

Transit

Sparks is part of the RTC Ride service area with seven routes operating out of the RTC Centennial Plaza transit center in downtown Sparks (see **Figure 2-11**). RTC does not provide direct bus service to the Amtrak Thruway Bus stop; the transit center is located within a 10-minute walk of the Amtrak Thruway Bus stop.

Other Modes

Sparks and Reno have numerous shuttle, taxi, and rental car services available.

Figure 2-12: Laughlin Multimodal Passenger Connections

Laughlin

The city of Laughlin is located two hours southeast of Las Vegas via US93 and US163 on the Arizona border. Amtrak's Thruway Bus service, connecting Las Vegas' McCarran International Airport to the *Southwest Chief* route in Kingman, AZ, stops in Laughlin once a day at the Tropicana Express Hotel, located at 2121 South Casino Drive (see **Figure 2-12**). Northbound buses arrive in Laughlin at 12:50 am and southbound buses arrive at 12:01 am. (A new highway bridge over the Colorado River is just advancing as of this report's publication, which could benefit bus movements between Laughlin and Kingman, AZ.)

Greyhound

Greyhound provides multiple trips per day to Las Vegas. Phoenix, and Flagstaff from the Bullhead City stop at 1000 Highway 95, which is located two and a half miles from the Amtrak stop in Laughlin (see **Figure 2-12**).

Transit

Silver Rider transit operates two one-way loop bus routes that circulate throughout the city of Laughlin, providing hourly service to the Amtrak bus stop in Laughlin. Route 777 operates 24 hours per day in a counter clockwise direction and Route 888 operates 19 hours per day in a clockwise direction.

Figure 2-13: Stateline Multimodal Passenger Connections

Silver Rider also operates regional bus service from Laughlin to other communities in southern Nevada, including Las Vegas, Searchlight, and Primm.

Other Modes

Several shuttle operators provide daily trips between Laughlin and McCarran International Airport in Las Vegas. Taxi and rental car services are also available in Laughlin.

Stateline

The small community of Stateline, NV is located at the California border directly across from South Lake Tahoe. It is a recreation destination with skiing in the winter and lake-oriented activities and hiking the rest of the year. Amtrak's Thruway Bus service operates one trip per day in each direction from Stateline's Kingsbury Transit Center, shown in **Figure 2-13**, to Sacramento with direct connections to the *Capitol Corridor*.

The bus departs Stateline at 2:20 pm for trips to Sacramento and arrives in Stateline from Sacramento at 12:50 pm.

Greyhound

Greyhound does not serve the Stateline/South Lake Tahoe area.

Transit

Lake Tahoe's BlueGo Transit operates five routes in Stateline with service to the Kingsbury Transit Center for direct connections to Amtrak buses. The routes provide service to the surrounding area, as well connections to Carson City.

Other Modes

Shuttles are available for trips between the Tahoe area and Reno. South Lake Tahoe and Stateline also have numerous taxi and rental car services available.

Primm

Primm is a small community with fewer than 500 residents located 40 miles southwest of Las Vegas on the border with California. Amtrak Thruway Buses stop at Whiskey Pete's Hotel & Casino at 31900 Las Vegas Boulevard once a day, (see Figure **2-14**), traveling between Las Vegas and Bakersfield, CA. The bus service connects with Amtrak's *San Joaquin* route in Bakersfield. Eastbound buses stop in Primm at 6:10 pm and westbound buses stop at 9:45 am.

Greyhound, Transit and Other Modes

Greyhound does not serve Primm, and Primm does not have transit, shuttle, taxi, or rental car services.

Figure 2-14: Primm Multimodal Passenger Connections

B. Freight Rail Infrastructure and Operations

This section describes all of the active, land-banked freight rail lines and facilities, including intermodal facilities, in the state of Nevada.

The description of each active railroad includes key characteristics, such as annual tonnage (density), route miles, weight restrictions, track classifications, and maximum operating speeds.

Table 2-8 gives the maximum operating speeds that FRA permits for freight traffic on various classifications of track. These speed restrictions are imposed to assure safe operating conditions.

Table 2-8: FRA Track Classification and Maximum Operating Speeds

Track Class	Max. Freight Operating Speed (mph)
Excepted Track	10
Class 1 Track	10
Class 2 Track	25
Class 3 Track	40
Class 4 Track	60
Class 5 Track	80
Class 6 Track	110

1. Main Lines

Two Class I, transcontinental railroads: UPRR and BNSF operate within the state of Nevada. The UPRR is the largest carrier in Nevada and owns all 1,085 main line route miles in the state (1,023 miles of single- and 62 miles of double-track). BNSF has trackage rights on 804 route miles or 74 percent of the freight rail line in the state; BNSF does not own any trackage in Nevada. BNSF gained its trackage rights as a result of the Surface Transportation Board's (STB) approval of the 1996 UPRR merger with the Southern Pacific Transportation Company (SPTC). BNSF was granted the following access rights to maintain pre-merger competition:

- the right to access all customers on the UPRR and former SPTC main lines between Weso and Alazon;
- the right to establish exclusive intermodal, automotive, and transload facilities in the Reno-Sparks area;
- the right to interchange directly with the Nevada Northern Railway (former BHP Nevada Railroad) at Shafter; and
- the right to access all customers who locate on the BNSF trackage rights lines after the merger.

UPRR employed 558 people living as residents in the state of Nevada with an annual payroll of $39.1 million in 2010; BNSF uses UPRR operating crews to move BNSF freight in the state by agreement with UPRR.

Combined, these two railroads hauled about 190 million net tons of freight through Nevada in 2009; of the total, Nevada is primarily a pass-through state for shipments traveling to and from the ports in California. Through-traffic comprised 96 percent of freight railroad traffic in the state. Traffic originating outside of Nevada with destinations in the state accounted for 6.6 million tons, including coal, clay, concrete, chemical products. The UPRR and BNSF shipped 1.6 million tons of freight originating in Nevada to destinations outside the state, which included commodities, such as chemical or allied products, intermodal, and non-metallic minerals.

UPRR freight rail traffic in Nevada has been declining at a steady pace over the past four years from 92,921 rail cars terminating in Nevada in 2007 to 70,019 in 2010, representing a decrease of 32 percent. Rail cars originating in Nevada have also decreased from 30,905 in 2007 to 27,331 in 2010, or 13 percent. The loss in rail traffic is most likely a result of the

slowing US and Nevada economies. BNSF Nevada traffic volume averaged 14,000 car loads annually between 2008 and 2010.

The UPRR main lines operate east-west across Nevada, connecting Salt Lake City and other destinations to the east, including Denver and Chicago, with northern and southern California. The state does not have any north-south lines connecting its two largest regions: Reno and Las Vegas.

Nevada's freight rail system is comprised of three UPRR main lines in northern Nevada (Overland Route, Central Corridor, and Feather River Corridor) and one in southern Nevada, the South Central Route. **Table 2-9** provides an overview of the freight rail routes and mileage, and **Table 2-10** displays route operating characteristics. **Figure 2-15** shows the main line routes and trackage right routes; **Figure 2-16** shows key UPRR and BNSF mainline routes in adjacent states.

Northern Nevada Main Lines

Overland Route (Historic Southern Pacific Route)

The Overland Route is a principle UPRR cross-country line, connecting Chicago, IL to Oakland, CA. The Overland Route travels 446 miles across the northern part of the state of Nevada, passing through the cities of Wells, Elko, Winnemucca, Hazen, Fernley, Sparks, Reno, and Verdi. The route runs east from Nevada connecting the states of Utah, Wyoming, Colorado, Nebraska, Iowa, and Illinois. The route runs west from Nevada crossing the Sierra Nevada Range over Donner Pass, linking Nevada with Roseville, Sacramento, and Oakland, CA. The Overland Route connects in Roseville to UPRR's I-5 Corridor with service to the San Joaquin Valley, Southern California, and north to Oregon and Washington. The Overland Route connects in Oakland to the San Francisco Bay area and to the UPRR's Coast Line, which runs south to Los Angeles.

The Overland Route operates predominantly as a single-track mainline with only 53 miles (12 percent) of the 446-mile route operating as a double–track mainline. The double-tracked segments include: Reno to Vista (11 miles); Alazon to Moor (14 miles); and Valley Pass to Tecoma near the Utah border (28 miles). Automatic block signals (ABS) are used to control traffic along the eastern part of the route between Verdi and Reno, Winnemucca and Moor, and Valley Pass and the Utah border. Centralized traffic control (CTC) is used to control traffic on the section of the railroad between Reno and Winnemucca and between Moor and Valley Pass. The maximum authorized freight speed is 79 miles per hour (mph), which is classified as Class 5 track under FRA Track Safety Standards. The track along the route is comprised primarily of 132 and 136-pound continuous welded rail.

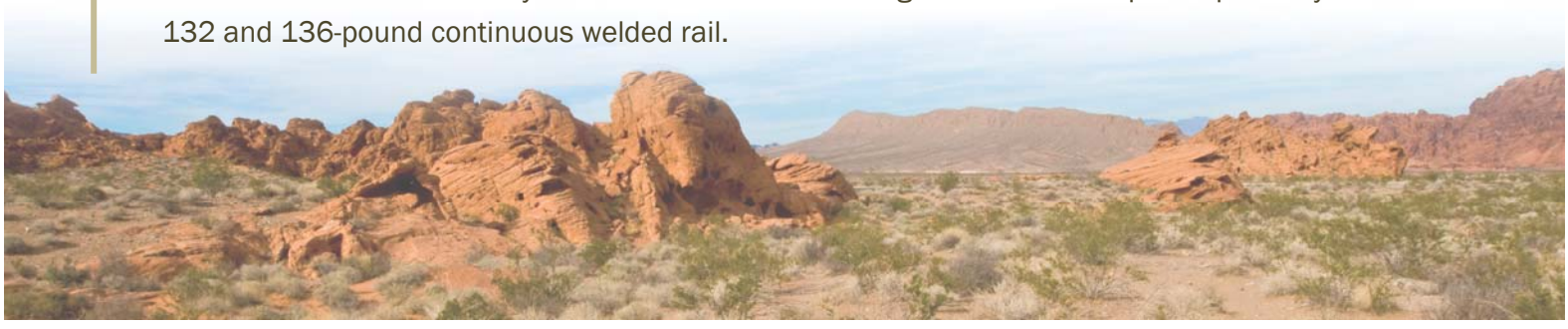
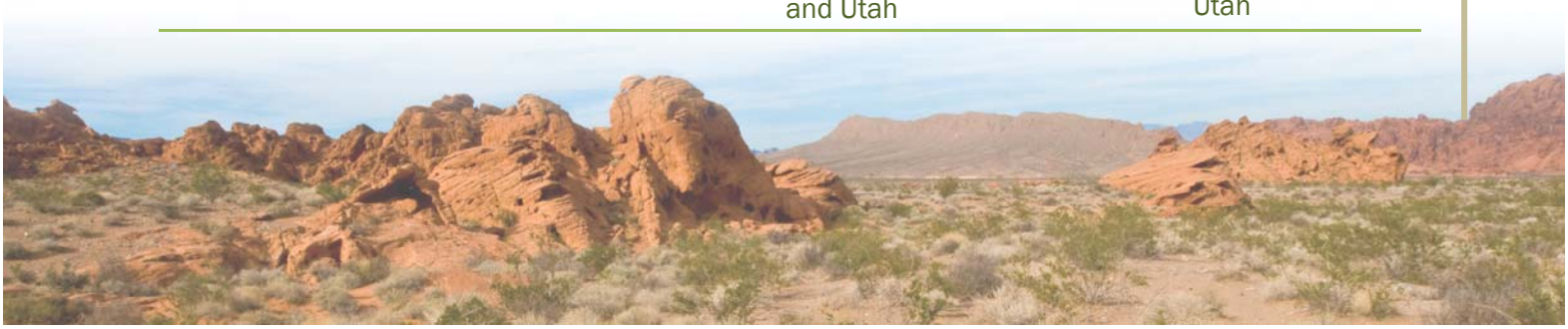


Table 2-9: Freight Rail Routes and Mileage

Route	Description	Route Miles in Nevada	BNSF Trackage Rights (miles)
Overland Route	Oakland, CA to Chicago via Reno and Ogden, UT (formerly Southern Pacific)	446	377
Central Corridor	Winnemucca to Denver via Salt Lake City (formerly Western Pacific)	273	273
Feather River Corridor	Sacramento to Winnemucca (formerly Western Pacific)	154	154
South Central Route	Los Angeles-Long Beach, CA to Salt Lake City via Las Vegas	212	0
	Total Miles	**1,085**	**804**

Table 2-10: Nevada UPRR Main Line Freight Operating Characteristics

Operating Characteristic	Overland Route	Central Corridor	Feather River Corridor	South Central Route
Operator	UPRR, BNSF	UPRR, BNSF	UPRR, BNSF	UPRR
Speed (mph)	70-79	70-79	70	70-79
Track Class	5	5	5	5
Track Type (Single or Double Track)	Single track with double track segments at MP 238 to 249 (Reno to Vista), MP 603 to 617 (Alazon to Moor), MP 641 to 669 (Valley Pass to Tecoma)	Single Track	Single Track	Single track with double track segment at MP 326 to 335 (Woodbury Beltway to Owens Ave in Las Vegas)
Type of Control	Automatic Block Signal (ABS) - Verdi to Reno, Winnemucca to Moor, Valley Pass to Utah border. CTC - Reno to Winnemucca and Moor to Valley Pass.	ABS - Weso to Wells. CTC - Wells to Utah border.	Centralized Traffic Control (CTC)	CTC
Rail Main (pounds)	Mostly 132 and 136	Mostly 133	Mostly 133	Mostly 133
Subdivision	Roseville, Nevada, Elko, Shafter, Lakeside	Winnemucca Elko, Shafter	Winnemucca	Cima and Caliente
Division	Roseville and Utah	Roseville and Utah	Roseville	Los Angeles and Utah



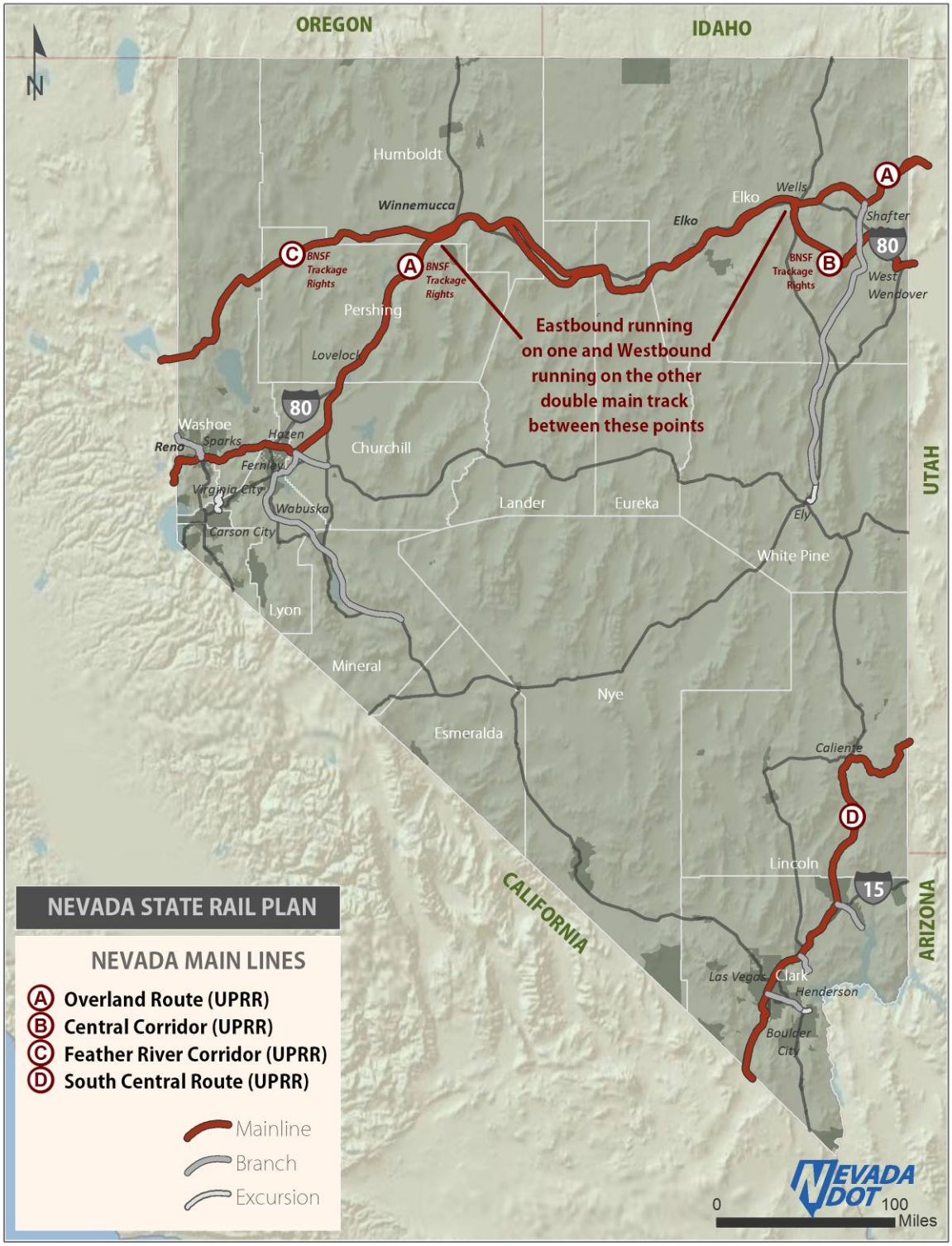


Figure 2-15: Nevada Main Lines

Figure 2-16: Main Line Network in Adjoining States

The Overland Route parallels the Central Corridor route for approximately 180 miles between Winnemucca and Wells, where the two routes run within the same geographic valley and share similar alignments. All eastbound traffic operates on the Central Corridor and westbound trains operate on the Overland Route. The Overland Route connects to the Feather River Corridor in Winnemucca and to the Fallon, Mina, and Thorne branch lines in Hazen. UPRR's highest car volumes in Nevada occur on the segment of the shared Overland Route/Central Corridor segment between Alazon and Winnemucca with a range of about 30 to 60 million gross tons shipped per year.

The Overland Route is part of UPRR's Utah and Roseville service units; and travels through the UPRR Lakeside, Shafter, Elko, Nevada, and Roseville subdivisions.

BNSF obtained trackage rights on the 377-mile Verdi-to-Alazon segment of the Overland Route in Nevada after the UPRR and SPTC merged in 1996. The SPTC owned the Overland Route prior to the merger, and the STB required that a second Class I railroad carrier be granted trackage rights in the state to preserve pre-merger competition in areas where it previously existed. BNSF was granted the right to serve some existing and all new customers along segments of the line and operates a daily local service for new customers between Reno, Sparks, and Hazen.

UPRR changed its operations following the merger. UPRR historically operated the Central Corridor across Nevada and west to Oakland over the Feather River branch. UPRR split the Central Corridor into two lines at Winnemucca after the merger, designating the line west of Winnemucca as the Feather River Corridor and the trackage east of Winnemucca as the Central Corridor. The changes were made to reduce redundancy and improve operational efficiency on the overall UPRR system.

Central Corridor (Historic Western Pacific Route)

The UPRR's Central Corridor travels across northern Nevada, a distance of 273 miles, linking Winnemucca and northwestern Nevada with Salt Lake City and Denver. The Central Corridor runs through West Wendover, Shafter, Wells, Elko, and Carlin in Nevada. The Central Corridor parallels the Overland Route between Wells and Winnemucca, a distance of approximately 180 miles where the two lines are situated within the same geographic valley and operate with all eastbound traffic on the Central Corridor track and westbound trains on the Overland Route. The Central Corridor diverges from the Overland Route at Wells and travels southeast to Salt Lake City. The Alazon-to-Winnemucca track segment that the Central Corridor shares with the Overland Route has UPRR's highest car volumes in Nevada with a range of about 30 to 60 million gross tons shipped per year. The Central Corridor connects with the Feather River Corridor to the west at Winnemucca.

The Central Corridor is a single-track mainline with a maximum operating speed of 79 mph (Class 5 track). The track consists of primarily 133-pound continuous welded rail. CTC is used to control traffic between the Utah border and Wells, and ABS is used between Wells and Weso. The Central Corridor is part of UPRR's Utah and Roseville service units and the UPRR Shafter, Elko, and Winnemucca subdivisions.

BNSF has trackage rights on the Central Corridor and ships about 2,000 carloads per year from Nevada to destinations outside the state. The shipments are comprised primarily of clay and aggregate. BNSF ships several thousand carloads per year into Nevada from other states. The

shipments are comprised of commodities, such as petroleum, paper, fertilizers, chemicals, and manufactured goods.

Feather River Corridor (Historic Western Pacific Route)

The Feather River Corridor is a 154-mile-long UPRR line, connecting Winnemucca to Sacramento. The line follows the Feather River through Ronda, Gerlach, and Flanigan west of Winnemucca and through Portola, Keddie, and Oroville in eastern California before reaching Sacramento. The line connects in Sacramento to the I-5 Corridor with service to Oregon and Washington to the north, and the San Joaquin Valley and Southern California to the south, and to the San Francisco Bay area via the Overland Route. Connections can be made in Winnemucca to both the Central Corridor (Salt Lake City and Denver) and the Overland Route (Chicago).

The single-track Feather River Corridor line is CTC-controlled and has a maximum authorized operating speed of 70 mph, indicating Class 5 track under the FRA Track Safety Standards. The track consists of mostly 133- and 136-pound continuous welded rail. The Feather River Corridor is part of UPRR's Roseville service unit and the Winnemucca subdivision. BNSF has operating rights to serve new customers on the Feather River Corridor.

UPRR shifted most traffic from the slower Feather River Corridor to the more direct Donner Pass route in 2009 after the completing a tunnel notching project to allow for double-stacked container shipments. The Feather River Corridor is now used primarily for bulk commodities and as an alternate route during winter storms.

Southern Nevada Main Lines

South Central Route

The UPRR main line across southern Nevada travels 212 miles through the state, connecting Salt Lake City and points east with Los Angeles-Long Beach. The line passes through the Nevada cities of Caliente, Moapa, Las Vegas, Jean, and Calada. Connections can be made in Colton, CA to UPRR's Sunset Route, which serves Arizona, New Mexico, Texas, and Louisiana, and to the I-5 Corridor, which serves northern California, Oregon, and Washington. BNSF does not have operating rights on the South Central Route.

UPRR plans to maintain some traffic on the South Central Route, although the railroad has reduced traffic on this line over the last four years. UPRR has begun to shift east-west traffic from the South Central Route to the Sunset Route, which travels between Los Angeles and El

Paso. The railroad has invested heavily in upgrading the Sunset Route, which is expected to be 68 percent double-tracked by 2012. The Sunset Route yields a more favorable route to Chicago and points east using the Golden State Route between El Paso and Kansas City and BNSF trackage rights from Kansas City to Chicago, than the South Central Route provides through Salt Lake City and Omaha to Chicago and points east.

The South Central Route is predominantly a single-track mainline, except for a nine-mile-long double-tracked section in Las Vegas between Owens Avenue in North Las Vegas and Bruce Woodbury Beltway west of McCarran International Airport. The line is CTC-controlled and operates at a maximum authorized speed of 79 mph (Class 5 track). The track is comprised of primarily 133-pound continuous welded rail. The route is part of UPRR's Utah and Los Angeles service units and the Caliente and Cima subdivisions.

2. Branch and Short Lines

Nevada has 309 railroad route miles of track on seven branch and short lines, serving six Nevada counties. Of the 309 route miles, 107 miles are in service, accommodating commercial freight railroad operations. The Nevada Northern Railway (currently out-of-service trackage) and the United States Army (Thorne Branch) own the remaining 202 miles. The entire network of branch and short lines is single-tracked, consisting of Class 1 and 2 tracks. **Figure 2-17** shows the locations of the branch and short lines, which are described in the following paragraphs in east-to-west order first in northern and then in southern Nevada. Nevada also has inactive branch lines, such as the Gerlach-to-Empire line, which connected with the Feather River Corridor; it was taken out of service in January 2011 with the closure of the United States Gypsum Corporation plant in Empire.

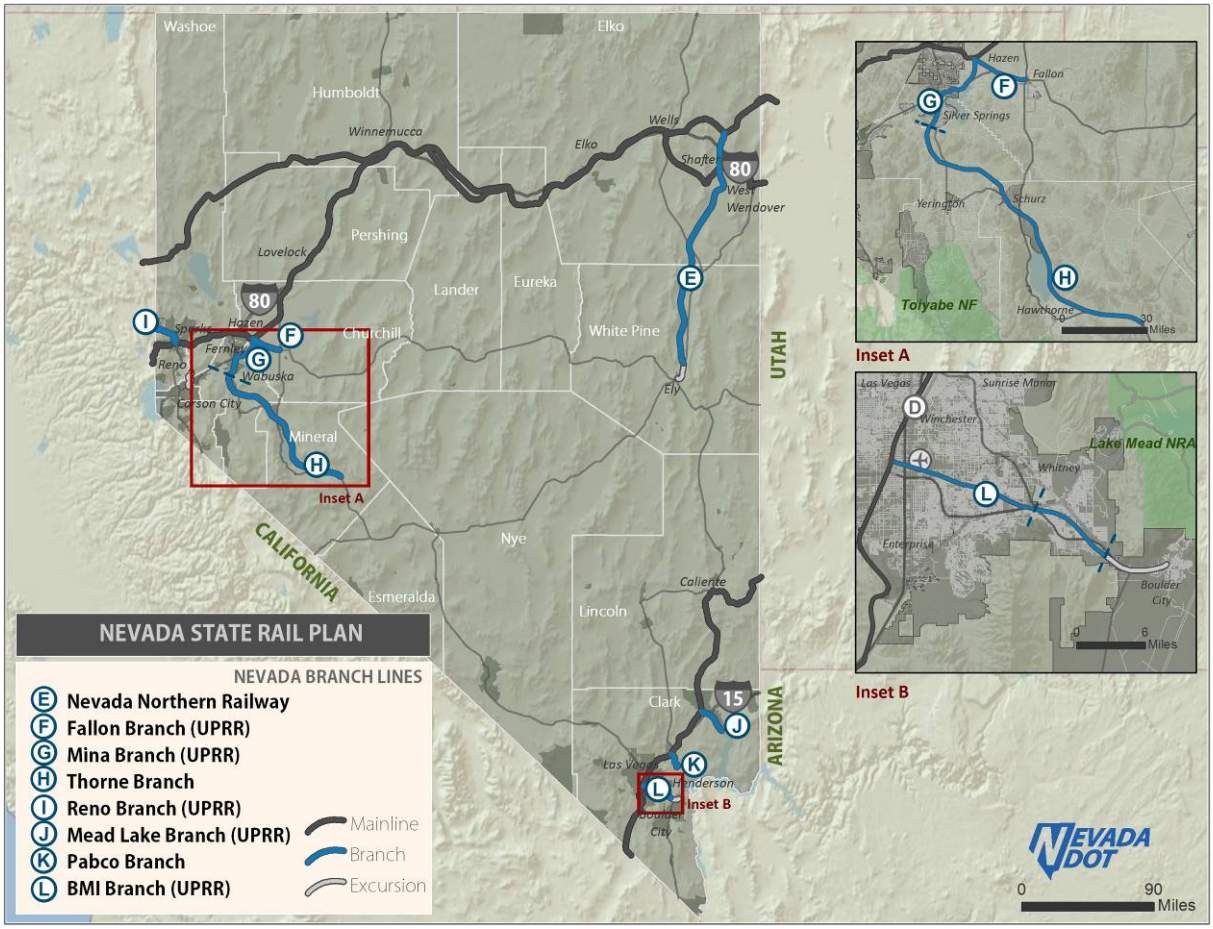


Figure 2-17: Nevada Branch Lines

Northern Nevada Branch and Short Lines

The northern Nevada branch and short lines include: Nevada Northern Railway and the Fallon, Mina, and Thorne branches. The characteristics of the Northern Nevada branch and short lines are given in **Table 2-11**.

Table 2-11: Northern Nevada Branch and Short Line Operating Characteristics

Operating Characteristic	Nevada Northern Railway	Fallon Branch	Mina Branch	Thorne Branch	Reno Branch
Owner	White Pine RR Foundation	UPRR	UPRR	US Army	UPRR
Operator	NA	UPRR	UPRR	US Army	UPRR
NV Route Miles	149	16	43	53	18
Speed (mph)	25	10	25	10	20
Track Class	2	FRA Excepted	2	1	1
Track Type (Single or Double)	Single Track	Single Track	Single Track	Single Track	Single Track
Type of Control	TWC	TWC	TWC	TWC	TWC
Rail Main (pounds)	60	80	Mostly 133	Mostly 132 and 136	Mostly 100 and 110
Subdivision	NA	Falllon	Mina	Mina	Reno
Division	Roseville	Roseville	Roseville	Roseville	Roseville
Mile Posts	0 - 149	288 - 304	288 - 331	331 - 384	11 - 29

Nevada Northern Railway

The Nevada Northern Railway consists of 149 route miles between the Overland Route main line in Cobre and McGill Junction near Ely. The White Pine Historical Railroad Foundation purchased the short line in 2004 from BHP Copper North America, which used the line to serve its copper mine in White Pine County. BHP discontinued service on the line in 1999, when the copper mines closed.

White Pine Historical Railroad Foundation hired S&S Shortline to rehabilitate segments of its route. S&S Shortline recently completed upgrading 45 miles of the line between Shafter (MP 18.5) and Currie (MP 63) to Class 2 track with maximum authorized speeds of 25 mph. The route is track warrant controlled (TWC) and consists of 60-pound rail. This 45-mile-long segment is not actively used for freight service at present, although the line is well situated to provide shipments between the UPRR Central Corridor main line in Shafter and the copper mine in Currie. The White Pine Historical Railroad Foundation also hired S&S Shortline to rehabilitate the southern section of the track between Currie and McGill so that S&S Shortline can operate future freight service and so that the Foundation can possibly accommodate an extension to the Nevada Northern Railway excursion train line in Ely. The 18.5-mile segment between Cobre and Shafter on the north end, which provides a link between the Overland Route and the Central

Corridor, is currently out of service and will require considerable upgrading to accommodate freight rail shipments.

S&S Shortline is a common carrier railroad with STB authority to operate from Cobre (MP 0) to McGill Junction (MP 128.5). S&S Shortline has interchange agreements with both UPRR and BNSF and has interchanged trains cars with UPRR and BNSF at Shafter. The White Pine Historical Railroad Foundation's wholly-owned subsidiary, the Great Basin and Northern Railroad, has authority to operate freight and switching services from McGill Junction (MP 128.5) to Keystone (MP 146.5).

Fallon Branch

The UPRR's Fallon Branch, which was once part of the SPTC, extends 16 miles from the Overland Route main line in Hazen southeast to Fallon. Freight shipments on the Fallon line consist primarily of calcium carbonate and magnesium oxide, which is shipped from Fallon to the main line in Hazen. Premier Magnesia ships the materials by truck three times per week from mines in Gabbs (Nye County) to Fallon, where it is transferred to rail cars at the facility in the Fallon Yard.

The maximum authorized speed is 10 mph (FRA Excepted Track) over 80-pound rail. The entire line is single-tracked and TWC-controlled. The Fallon Branch is part of UPRR's Fallon subdivision within the Roseville service unit.

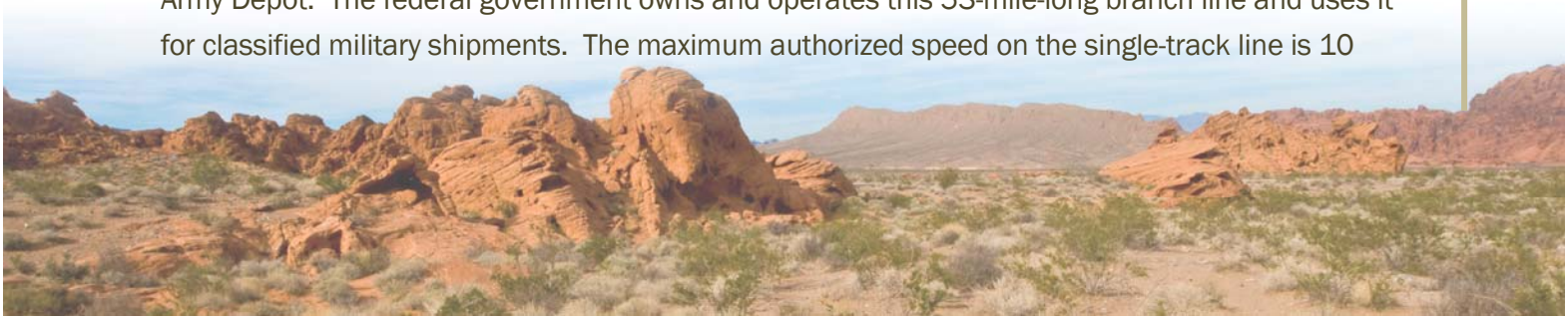
Churchill County has commissioned a study to consider options to relocate the Fallon line to an industrial park on the west side of town and abandon the seven-to-eight-mile segment from Trento Lane to Fallon.

Mina Branch

UPRR also owns and operates the Mina Branch, which was formerly part of the SPTC system. The line connects to the Overland Route main line in Hazen and extends 43 miles south to Fort Churchill near Wabuska. The Mina Branch primarily handles shipments of munitions and chemicals. The line also serves the Homestretch Geothermal Power Plant two miles north of Wabuska. The maximum authorized speed on the line is 25 mph (Track Class 2), and the rail consists of mostly 133-pound continuous welded rail. The Mina Branch is single-tracked and TWC-controlled. The Mina Branch is part of UPRR's Mina subdivision within the Roseville service unit.

Thorne Branch

The Thorne Branch is the continuation of the Mina Branch south of Fort Churchill to the Hawthorne Army Depot. The federal government owns and operates this 53-mile-long branch line and uses it for classified military shipments. The maximum authorized speed on the single-track line is 10



mph (FRA Excepted Track). The track consists of mostly 132- and 136-pound continuous welded rail. The Army plans to upgrade the line to 25 mph (FRA Class 2 Track) by 2015.

Reno Branch

The Reno Branch connects the Feather River Corridor to the Overland Route in Reno. The branch line operates from the Reno Yard in North Reno to Reno Junction, CA located 11 miles west of the Nevada state line. UPRR serves some industries on the line and maintains the line for the redundancy that it permits when weather or other conditions require alternate routes.

The maximum authorized speed on the line is 20 mph (Track Class 1), and the rail consists of mostly 110-pound continuous welded rail. The Reno Branch is single-tracked and TWC-controlled. The Reno Branch is part of UPRR's Reno subdivision within the Roseville service unit.

Southern Nevada Branch and Short Lines

The southern Nevada branch and short lines include: Mead Lake, Pabco Gypsum, and BMI branches. The characteristics of the southern Nevada branch and short lines are given in **Table 2-12**.

Table 2-12: Southern Nevada Branch and Short Line Operating Characteristics

Operating Characteristic	Mead Lake Branch	PABCO Gypsum	BMI Branch	City of Henderson
Owner	UPRR	Pabco	UPRR	Henderson
Operator	UPRR	Pabco	UPRR	UPRR
NV Route Miles	18	12	11	7
Speed (mph)	25	20	10	10
Track Class	2	1	1	1
Track Type (single or double track)	Single Track	Single Track	Single Track	Single Track
Type of Control	TWC	TWC	TWC	TWC
Rail Main (pounds)	Mostly 90 and 133	131	133	90
Subdivision	Mead Lake	NA	BMI	BMI
Division	Utah	Utah	Utah	Utah
Mile Posts	0 - 18	0 - 12	0 - 11	11 – 18

Mead Lake Branch

UPRR owns and operates the 18-mile-long single-track Mead Lake Branch, making two to three round trips per week between Moapa and Lake Mead, serving Simplot Cement. The maximum authorized speed on the line is 25 mph (Track Class 2). The line is TWC-controlled and is comprised mostly of 90- and 133-pound rail. The Mead Lake Branch is part of UPRR's Mead Lake subdivision within the Utah service unit.

Pabco Gypsum Branch

The Pabco Gypsum Branch (also known as the Nevada Industrial Switch) is the only private railroad operating in Nevada. It is a 12 mile-long single-track line between the UPRR main line at Moapa and the Pabco gypsum wallboard plant north of Lake Mead. The maximum authorized speed on the line is 20 mph (Track Class 1) and it is TWC-controlled.

BMI Branch

Three different owners control the 22-mile-long BMI line. The Nevada State Railroad Museum owns the most easterly 4.6 miles of the BMI Branch and operates excursion trains on the trackage from the Boulder City Depot. A complete description of this service is included in the excursion line section.

The city of Henderson owns the middle seven miles of the BMI Branch that includes a spur to serve the Henderson Industrial Park (from mile post 11 to mile post 18). The primary commodities shipped on the line are consumer goods, plastics, and chemicals for companies, such as Kerr-McGee, Ocean Spray, and Pioneer Chemical. The city of Henderson added new crossties, replaced rail, and added ballast to the line in 2009 to increase its operating speed to 25 mph (Track Class 2). The line is single-tracked; TWC-controlled; and comprised of 90-pound rail.

The UPRR owns and operates the 11-mile-long single-track western segment from the Boulder Highway and Railroad Pass crossing in the city of Henderson to Boulder Junction. The maximum speed on this segment is 10 mph (FRA Excepted Track), and it is TWC-controlled on mostly 133-pound rail. The BMI Branch is part of UPRR's Utah service unit and BMI subdivision.

3. Freight Rail Facilities

Nevada serves as a noteworthy warehouse and distribution center in the western United States, providing as a transition hub between California, Utah, and points east. The warehousing industry in the state has grown considerably over the past 20 years with the development of large-scale industrial parks in the Reno/Sparks, Fernley, and Las Vegas areas. Intermodal traffic serving these industrial parks and other facilities is comprised primarily of high-value, low-density commodities, such as consumer goods. Rail freight originating and terminating in Nevada is predominantly bulk commodities, such as coal, minerals, chemicals, glass and stone, and petroleum. In addition to the intermodal facilities and industrial parks, UPRR operates classification, maintenance and storage, and switching yards at select locations within the state. BNSF also operates a transload facility in Sparks to support freight operations.

Figure 2-18 shows the locations of the freight rail facilities in the state. BNSF owns a proprietary transload facility in Sparks and has invested in trackage in Fernley to support its customer's volume. BNSF may use the UPRR's Sparks Intermodal Facility and can establish its own automotive, intermodal, or transload facilities in Reno.

Intermodal Facilities

Nevada has two freight intermodal facilities where trailer-on-flat-car (TOFC) or container-on--flat car (COFC) can be transferred between rail cars and/or trucks. The facilities include the UPRR Sparks Intermodal Facility in northern Nevada and the UPRR Las Vegas Intermodal Facility.

UPRR Sparks Intermodal Facility

The intermodal facility in Sparks is located at 1151 Nugget Avenue and is part of a larger general classification yard. The facility specializes in longer trains carrying commodities, such as chemicals, coal, minerals, autos and auto parts, agricultural goods, and petroleum. The intermodal facility operates a side loader one shift per day between 6:00 am and 2:00 pm. In addition, the yard provides a facility for adding and removing helper locomotives to assist with train movements over the high elevations of Donner Pass. Sparks is the only terminal in the state that includes both TOFC and COFC.

The recent Donner Pass improvements allow double-stack containers to travel through the tunnels between Roseville and Truckee directly to Reno and Sparks from Sacramento and Oakland. The upgraded Donner Pass route has allowed UPRR to shift traffic from the Feather River Corridor to its Overland Route with direct access to Reno/Sparks, Salt Lake City, and Chicago.

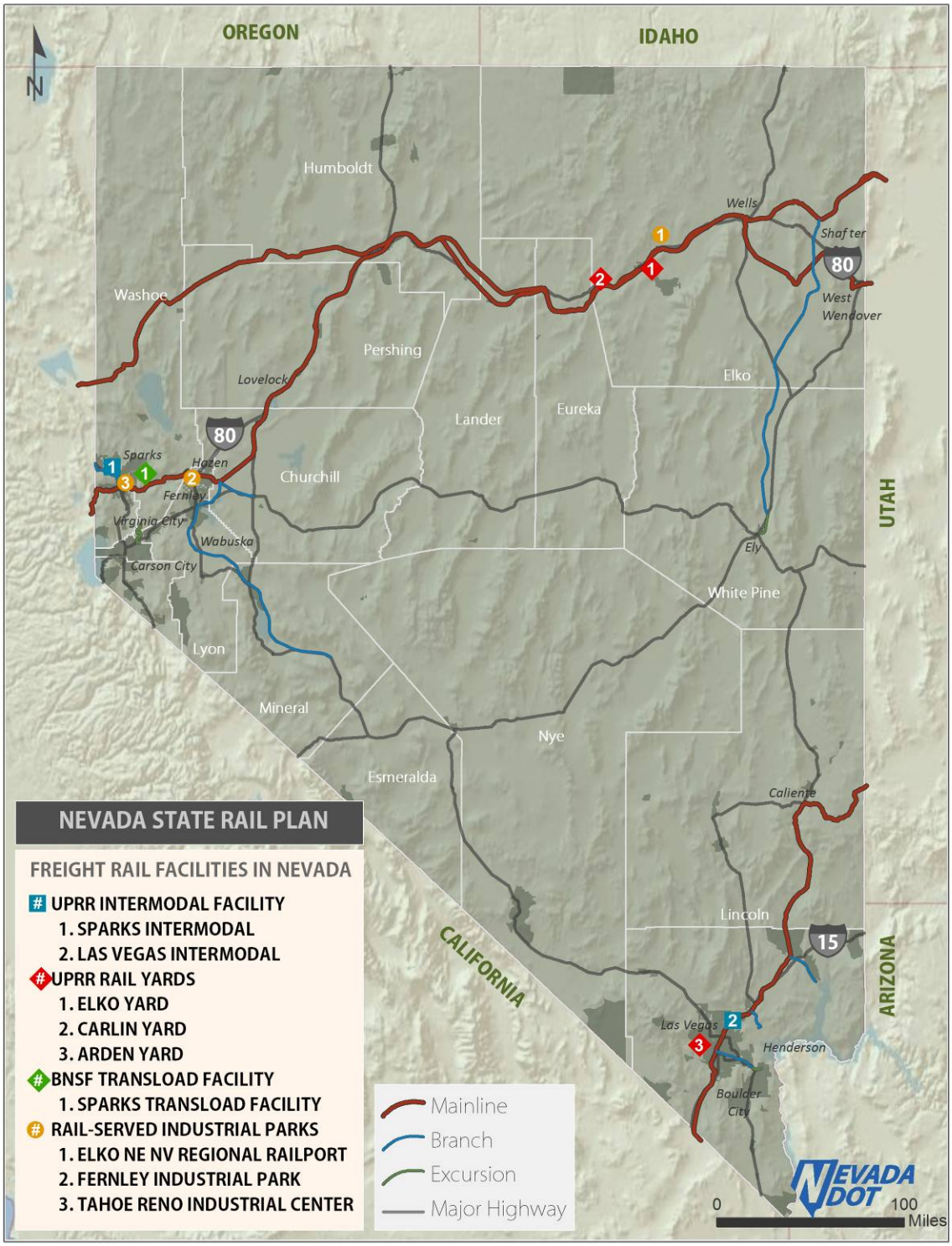


Figure 2-18: Freight Rail Facilities in Nevada

UPRR Las Vegas Intermodal Facility (Valley Yard)

The Las Vegas Intermodal Facility is located at 4740 Tropical Parkway in the northern part of Las Vegas near US15 and the Bruce Woodbury Beltway. The UPRR owns and operates the yard, which includes an intermodal (COFC only) and auto carload facility. The Las Vegas facility contains four tracks, two for auto unloading/loading and two for intermodal. Each track accommodates about 16 cars. Storage capacity is sufficient for about 80 trailers and containers. Traffic includes paper products, autos, and building materials.

UPRR traffic at the Las Vegas Intermodal facility has declined between 2000 and 2010 as a result of UPRR's shifting of traffic from its South Central Route through southern Nevada to its Sunset Route through Arizona. UPRR has made major improvements in the former SPTC Sunset Route (Los Angeles to New Orleans) following the UPRR/SPTC merger to accommodate more traffic because of the Sunset Route's more favorable grades and alignment.

Transload Facilities and Classification Yards

Classification yards are facilities used to separate and organize rail cars into groups or unit trains of shipments bound for the same destination. UPRR has three classification yards in Nevada. The Elko Yard on the Central Corridor line and the Carlin Yard on the Overland Route serve industries in the northern part of the state; and the Arden Yard on the South Central Route serves the southern part of the state.

Elko, Carlin, and Arden Yards

The Elko Yard has nine classification and three receiving/departure tracks. It serves as a key UPRR refueling facility and crew change location along the main line. Increased fuel capacity was added and installation of a direct-to-train fueling pad, which can accommodate four trains with four separate fueling stations, was completed in October 2011 at the Elko Yard.

The Carlin Yard has a four-track classification yard and a small repair facility.

The Arden Yard has six tracks and handles the switching requirements for Las Vegas, as well as BMI Branch traffic. The UPRR Arden Yard is a non-classification facility used for rail staging and switching; and it also serves as a crew change location for the Cima subdivision.

Rail-Served Business and Industrial Parks

Industrial leads are tracks connecting industrial parks, business parks, and individual companies directly to the main or branch line. Industrial lead facilities are mostly used for shipping, transloading, and warehousing. The following section provides an overview of the larger industrial facilities currently in use in Nevada.

Northeastern Nevada Regional Railport (NNRR)

NNRR opened in 2010 as part of a public-private revenue-sharing agreement between Elko County and Savage Services. This 60-acre intermodal transload facility is located on the eastern edge of Elko adjacent to the UPRR Elko Yard. The facility includes rail-to-truck and truck-to-rail capabilities, as well as rail car switching, storage, and warehousing. Companies located at the facility, which currently ship by rail, include: Rudy Pipeline, Pacific Steel, and Liebherr Mining Equipment.

Fernley

Fernley has two spurs off the main line serving industrial parks in east Fernley near Nevada Pacific Parkway and Newlands Road and in west Fernley near I-80 and West Main Street. Industrial Park includes a spur line connection to the Overland Route, serving companies, such as Valley Joist, Wayne, MSE, Paramont Petroleum, Qubecor, John Mansville, and Trex.

The city of Fernley and Sonterra Developers have prepared initial plans for a large-scale industrial site, called the Clean Energy Rail Center (CERC) in east Fernley to accommodate trucks, rail, planes, warehouses, and distribution facilities on 1,040 acres.

Tahoe Reno Industrial Center (TRIC)

TRIC is a 107,000-acre industrial park located in Storey County about seven miles east of Reno. The park has five miles of track with access to BNSF and UPRR service on the Overland Route. The facility includes transloading and warehousing capabilities. Companies located at the facility include Alcoa, Wal-mart, and Hardie Building Products. (Environmental documentation is starting on a USA Parkway extension southward from TRIC, which will connect I-80 with US50, benefitting TRIC truck access.)

4. Rail Line Abandonments and Land-Banked Track

Only one rail line has been abandoned in the last 15 years in Nevada, the Modoc Subdivision, shown in **Figure 2-19**. The line ran for seven miles in Washoe County and an additional 21 miles into northern California, terminating in Wendel, CA. The line used to serve a California power plant and lumber mill. UPRR reclassified the line to an Industrial Lead and sold it to the Lassen Valley Railway LLC on December 3, 2009 when the tracks were last used. STB authorized abandoning the line on August 8, 2011; and the American Trails Association, Inc. consummated a trail use/rail banking agreement for the right-of-way on October 1, 2011.

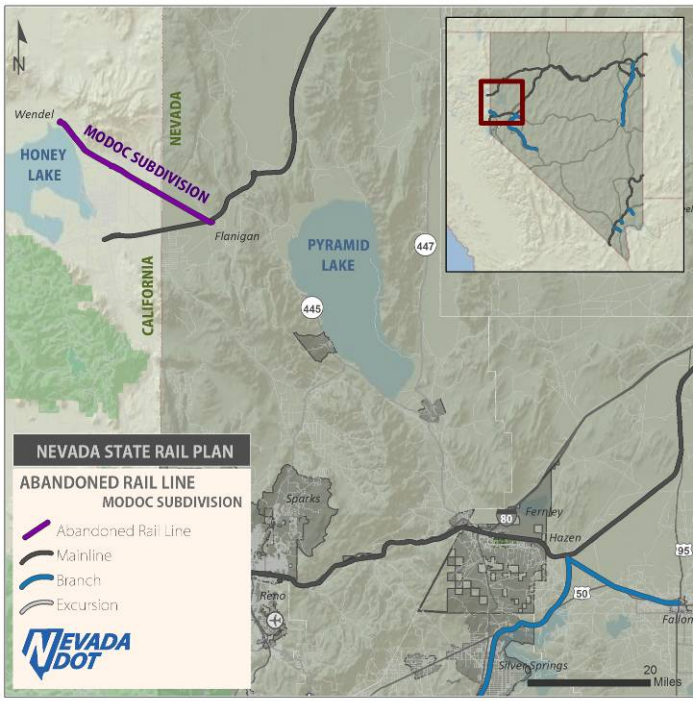


Figure 2-19: Abandoned Rail Line

5. Rails-to-Trails and Rails-with-Trails

More than 19,000 miles of abandoned rail lines in the US have been converted to multi-use bicycle and pedestrian trails over the last 25 years through the rails-to-trails program. Communities have also used rails-with-trails in recent years as another way to secure land for recreational trails. The rails-with-trails program is defined as a shared-use path located on or adjacent to an active railroad.

The Rails-to-Trails Conservancy and other organizations have helped to develop four rails-to-trails projects in Nevada: the Carson City Trail (two miles) on an abandoned segment of the V&T Railroad; the historic Railroad Tunnel trail (seven miles) near Boulder City; the River Mountains Loop Trail (35 miles) near Henderson and the Hoover Dam; and the Union Pacific Railroad Trail (five miles) near Henderson. These projects are more fully described in the state's bicycle plan. Nevada does not currently have any rails-with-trails projects.

C. Freight Commodities

1. Existing Commodity Flows

A total of 191 million net tons of freight moved across Nevada by rail in 2009, an increase of about 26 million tons (14 percent) over the last 15 years. Intermodal shipments accounted for 81 million tons (42 percent) of the total freight traffic. The vast majority of freight traffic in 2009 passed through Nevada with origins and destinations outside the state.

Figure 2-20 shows that through-traffic accounted for nearly 96 percent (182.9 million tons) of all freight traffic in the state. Traffic originating outside of Nevada with destinations in the state made up about three percent (6.6 million tons) of the rail traffic flow. Traffic originating in Nevada with destinations outside the state (1.6 million tons) and traffic originating and terminating in Nevada (81,000 tons) accounted for less than one percent of the total.

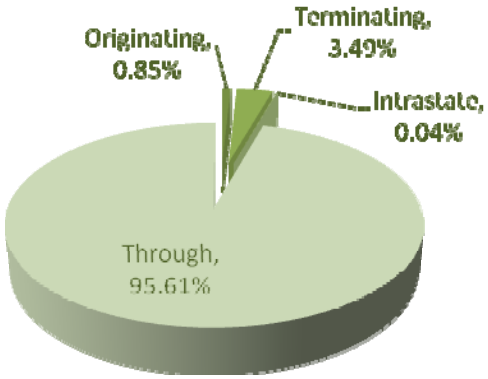


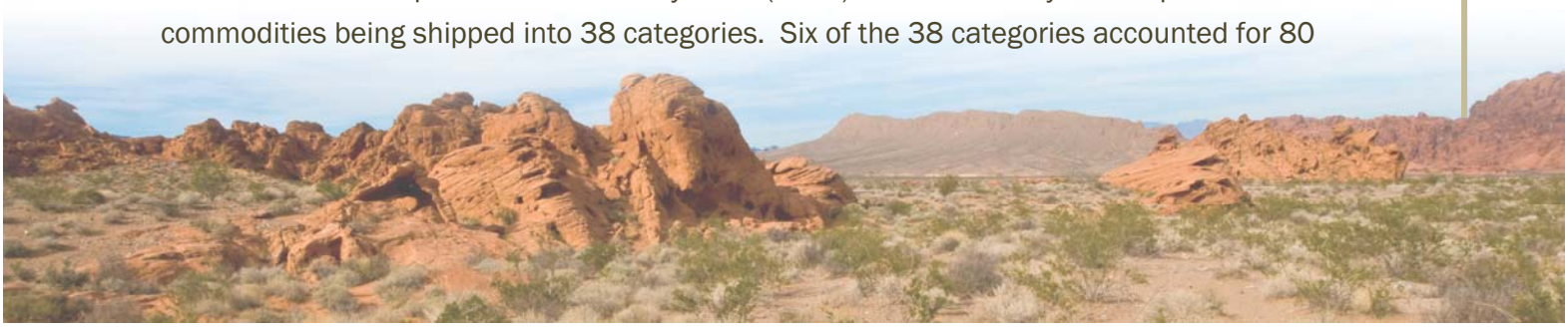
Figure 2-20: Nevada Freight Rail Traffic Distribution

Most of the freight traffic in Nevada is highway based. The Federal Highway Administration (FHWA)-commissioned 2002 Freight Analysis Framework Study found that truck-based shipments accounted for 55 percent of all shipments from Nevada to other states (14.5 million tons), 49 percent of shipments to Nevada (21.8 million tons), and 88 percent of total shipments within the state (41.6 million tons). By comparison, rail shipments accounted for three percent of the shipments to other states, five percent of the total traffic to Nevada, and less than one percent of in-state traffic.

Freight rail data in this section is based on the STB Carload Waybill Sample for 2009. The waybill includes a stratified sample of data compiled from UPRR and BNSF about origin, destination, commodity, distribution type, and volume.

Commodities Moved by Rail

The Standard Transportation Commodity Code (STCC) used in the waybill sample classifies the commodities being shipped into 38 categories. Six of the 38 categories accounted for 80



percent of Nevada's freight traffic in 2009. The six commodities include Intermodal or Freight All Kinds1 (29 percent), Farm Products (22 percent), Food or Kindred Products (12 percent), Chemicals or Allied Products (seven percent), Coal (six percent), and Lumber and Wood Products (four percent). Pulp, Paper, or Allied Products and Waste or Scrap Materials each accounted for three percent. Categories with less than three percent of the total volume are grouped together as "All Others," which combined, account for 14 percent of the rail traffic flow. **Figure 2-21** shows a breakdown of freight traffic by commodity.

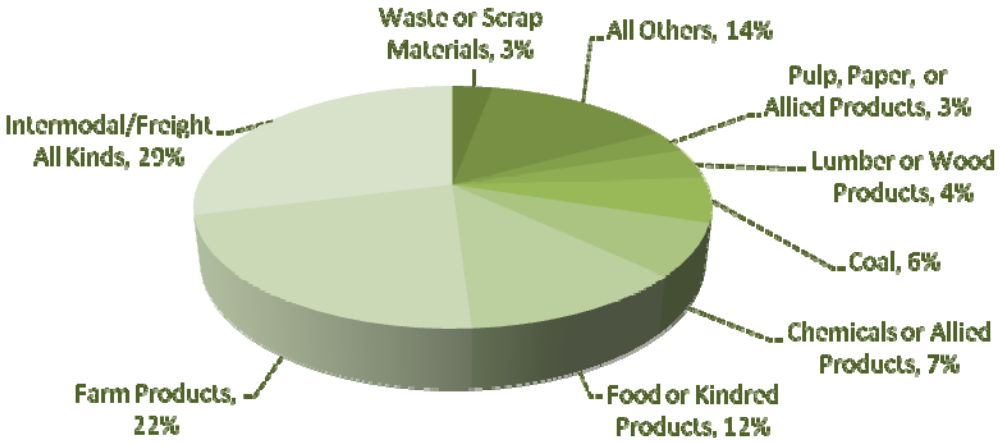


Figure 2-21: Freight Rail Traffic in Nevada by Commodity in 2009
Source: STB Waybill Sample 2009

Originating Freight Traffic

Traffic originating in Nevada accounts for only one percent of Nevada's total freight traffic. **Table 2-13** shows that nearly one quarter of this originating traffic occurs in the Chemicals or Allied Products category (STCC 28), mostly shipments containing

Table 2-13: Commodities Originating in Nevada

STCC	Descriptions	Total Tons	Percentage
28	Chemicals or Allied Products	401,069	24.6%
14	Non-metallic Minerals	345,346	21.2%
32	Clay, Concrete, Glass or Stone Products	320,047	19.6%
40	Waste and Scrap Materials	243,596	14.9%
46	Intermodal/Freight All Kinds	126,792	7.8%
	All Others	194,099	11.9%
	Total	1,630,949	100.0%

Source: STB Waybill Sample 2009

[1] Freight All Kinds (FAK) refers to consolidated, mixed or intermodal shipments.

fertilizers and potassium/sodium compounds. Non-metallic Minerals (STCC 14) and Clay, Concrete, Glass, or Stone Products (STCC 32) together accounted for about 40 percent of freight originating in Nevada.

The neighboring states of California and Utah were two of the top three destinations for freight traffic originating in Nevada. The two states accounted for over 810,000 tons of freight, or 50 percent of all shipments. Shipments to California consisted primarily of potassium/sodium compounds, ashes, and fertilizers. Illinois, a major transfer hub for shipments to the east, had the second highest traffic flow with 13 percent. Key commodities shipped to Illinois included copper ore, Freight All Kinds (intermodal), and small packaged freight. **Table 2-14** ranks the top destinations of freight originating in Nevada. **Figure 2-22** presents a map of the destinations for freight originating in Nevada.

Table 2-14: Top Destinations of Freight Originating in Nevada

State	Total Tons
California	700,078
Illinois	218,655
Utah	111,558
Wyoming	85,334
Nevada	81,439
Colorado	55,994
Oregon	45,908
Washington	45,733
Arizona	42,372
Pennsylvania	38,266

Source: STB Waybill Sample 2009

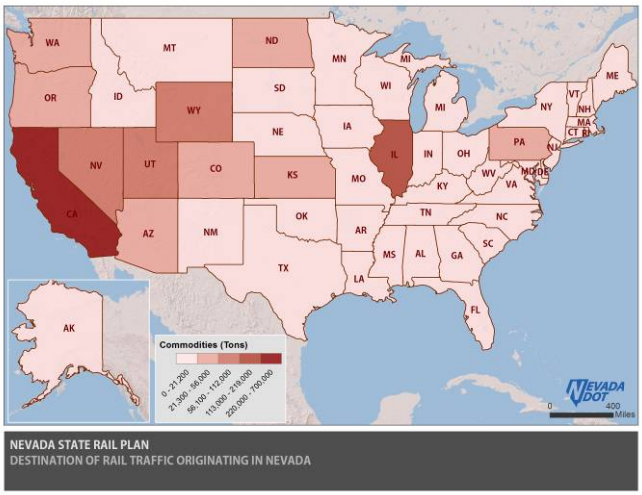


Figure 2-22: Destination of Rail Traffic Originating in Nevada

Terminating Freight Traffic

Nearly 90 percent of freight traffic terminating in Nevada falls into the categories of Coal (STCC 11); Clay, Concrete, Glass, or Stone (STCC 32); Chemicals or Allied Products (STCC 28); and Petroleum or Coal Products (STCC 29), as shown in **Table 2-15**. Key commodities shipped to Nevada within these STCC groupings include Portland cement, plastic materials, and bituminous coal.

Table 2-15: Commodities Terminating in Nevada

STCC	Descriptions	Total Tons	Percentage
11	Coal	3,437,693	51.5%
32	Clay, Concrete, Glass or Stone Products	856,939	12.8%
28	Chemicals or Allied Products	789,083	11.8%
29	Petroleum or Coal Products	739,797	11.1%
20	Food or Kindred Products	236,447	3.5%
	All Others	621,559	9.3%
	Total	6,681,517	100.0%

Source: STB Waybill Sample 2009

Utah accounts for 40 percent of traffic terminating in Nevada, while Wyoming and Texas comprise 11 percent and 10 percent, respectively. Bituminous coal is the primary commodity being shipped from both Utah and Wyoming, accounting for over 90 percent of the traffic. California is fourth on the list with 613,000 tons shipped to Nevada, or nine percent of the total traffic. **Table 2-16** ranks the originating states with the largest freight shipments to Nevada.

Figure 2-23 presents a map of the origins by state for freight terminating in Nevada.

Table 2-16: Top Origins of Freight Terminating in Nevada

State	Total Tons
Utah	2,677,341
Wyoming	801,996
Texas	717,408
California	613,257
Colorado	322,709
Oregon	291,238
Iowa	184,700
Illinois	178,238
Nebraska	102,975
Montana	85,628

Source: STB Waybill Sample 2009

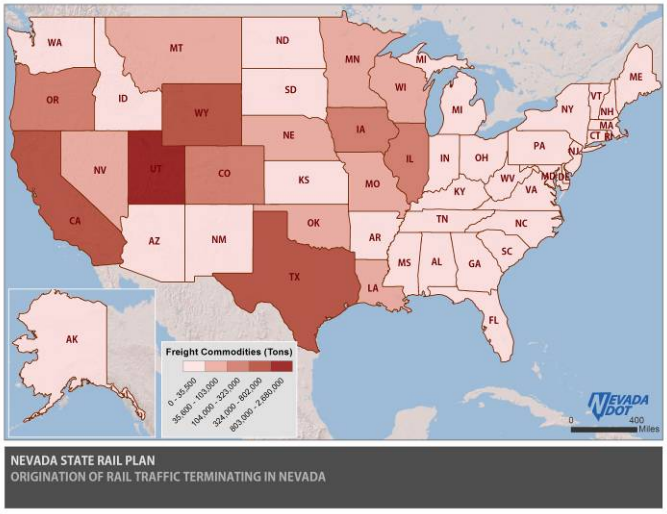


Figure 2-23: Origination of Rail Traffic Terminating in Nevada

Intrastate Freight Traffic

Intrastate traffic makes up a very small amount of the total traffic in the state. **Table 2-17** shows that the commodities shipped within Nevada in 2009 included only three of the 38 STCC categories. Portland cement shipments within southern Nevada comprised 82 percent of the intrastate traffic.

Table 2-17: Nevada Intrastate Commodities

STCC	Descriptions	Total Tons	Percentage
32	Clay, Concrete, Glass, or Stone Products	67,189	82.5%
28	Chemicals or Allied Products	14,064	17.3%
14	Non-metallic Minerals	185	0.2%
	Total	**81,439**	**100.0%**

Source: STB Waybill Sample 2009

Through-Freight Traffic

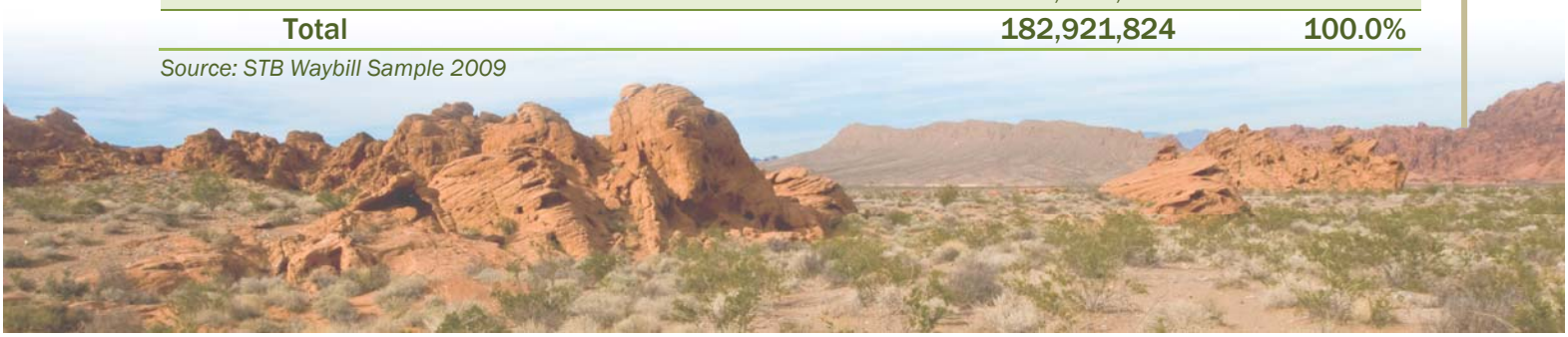
Most freight traffic in Nevada is considered through-traffic, that is, rail shipments with both origins and destinations outside the state. Through-traffic accounted for nearly 96 percent of Nevada's rail shipments in 2009. The largest traffic movement was to and from California. Three Nevada main lines--Overland Route, Feather River Corridor, and South Central Route--provide direct access to major California shipping ports (Oakland, Long Beach, and Los Angeles), as well as to freight intermodal centers in northern and southern California. Washington and Illinois are also primary origins and destinations for rail traffic through Nevada.

Table 2-18 displays the key commodities shipped through Nevada. Intermodal/Freight All Kinds (STCC 46), Farm Products (STCC 1), and Food and Kindred Products (STCC 20) account for nearly 65 percent of through-traffic.

Table 2-18: Through-Traffic Commodities

STCC	Descriptions	Total Tons	Percentage
46	Intermodal/Freight All Kinds	54,348,091	29.7%
1	Farm Products	41,516,765	22.7%
20	Food or Kindred Products	22,803,433	12.5%
28	Chemicals or Allied Products	12,900,362	7.1%
11	Coal	8,464,284	4.6%
24	Lumber or Wood Products	7,650,352	4.2%
26	Pulp, Paper, or Allied Products	5,360,485	2.9%
40	Waste or Scrap Materials	5,099,721	2.8%
37	Transportation Equipment	4,684,472	2.6%
29	Petroleum or Coal Products	3,833,209	2.1%
	All Others	16,260,649	8.9%
	Total	**182,921,824**	**100.0%**

Source: STB Waybill Sample 2009



2. Forecasted Commodity Flows

FHWA's Freight Analysis Framework (FAF) forecasts the movement of freight among states and major metropolitan areas by all modes of transportation. FAF version 3 (FAF3) provides estimates for tonnage and value by commodity type, mode, origin, and destination for 2007 through 2040, based on FHWA's 2007 Commodity Flow Survey and additional sources. The FAF3 State Annual Provisional Data 2010 and the forecast for 2040 have been used to summarize the projected shifts in commodity shipments in Nevada in this state rail plan.

Table 2-19 shows the commodities originating in Nevada that are projected to grow by the largest amounts between 2010 and 2040. Rail exports of non-metallic minerals from Nevada will increase by over 800,000 tons over the next 30 years. Currently, shipments of non-metallic minerals are the second highest export after chemicals/allied products. Other commodities projected to experience an increase in shipments from Nevada include animal feed, natural sands, wood products, and other agricultural products. FAF3 projections show the largest declines will occur in metallic ore shipments (-800,000 tons), representing a possible shift from metallic mining in the state. Nevada is expected to experience a net increase of 202,360 tons (6.44 percent) shipped to destinations outside the state by 2040.

Table 2-19: Commodities with Largest Increase in Shipments Originating in Nevada from 2007 to 2040

Commodity	Net Change in Tonnage (2010 - 2040)
Nonmetallic Minerals	829,433
Animal Feed	58,070
Natural Sands	50,277
Wood Products	43,873
Other Agricultural Products	14,519

Source: FHWA Freight Analysis Framework, 2010

FAF3 projections show the largest rail shipments from other states coming into Nevada will include such commodities as nonmetal mineral products (369.699 tons) and plastics/rubber (167,291). **Table 2-20** displays the top five commodities with the highest increase in traffic projected to be shipped into Nevada between 2010 and 2040. Shipments of coal are forecasted to experience the greatest declines, decreasing by over 588,000 tons over the 30-year period. Total rail imports are expected to increase by 731,873 tons or 9.25 percent in 2040.

Table 2-20: Commodities with Largest Increase in Shipments Terminating in Nevada from 2007 to 2040

Commodity	Net Change in Tonnage (2010 - 2040)
Nonmetal Mineral Products	369,699
Plastics/Rubber	167,291
Coal - n.e.c	164,463
Wood Products	146,221
Paper Articles	144,381

Source: FHWA Freight Analysis Framework, 2010

FAF3 also tracks the origin and destination states of future freight rail shipments. Nevada neighbors, California and Utah, will continue to be important trading partners, although North Dakota (159,696 tons) and Wyoming (109,231 tons) will experience the greatest increase in rail shipments from Nevada in 2040. Kansas, Tennessee, and Colorado will also experience an increase in shipments from Nevada, see **Table 2-21**. FAF3 data shows a major decline in exports to Michigan of over 630,000 tons by 2040.

Table 2-21: Top Destinations with Largest Increase in Shipments from Nevada from 2007 to 2040

Destination State	Net Change in Tonnage (2010 - 2040)
North Dakota	159,696
Wyoming	109,231
Kansas	47,422
Tennessee	13,856
Colorado	9,180

Source: FHWA Freight Analysis Framework, 2010

Table 2-22 shows that the greatest increase in rail imports will come from the western states of Utah (804,142 tons), Washington (340,447 tons), and California (227,394 tons). Most of these gains will be offset by a large decline in shipments from Wyoming; Wyoming shipments are projected to decrease by over 900,000 tons by 2040.

Table 2-22: Top Destinations with Largest Increase in Shipments from Nevada from 2007 to 2040

Origin State	Net Change in Tonnage (2010 - 2040)
Utah	804,142
Washington	340,447
California	227,394
Idaho	130,342
Michigan	122,852

Source: FHWA Freight Analysis Framework, 2010

D. Nevada State Rail Structure

1. State Governmental Structure and Legal Basis for Delivery of Rail Programs and Services

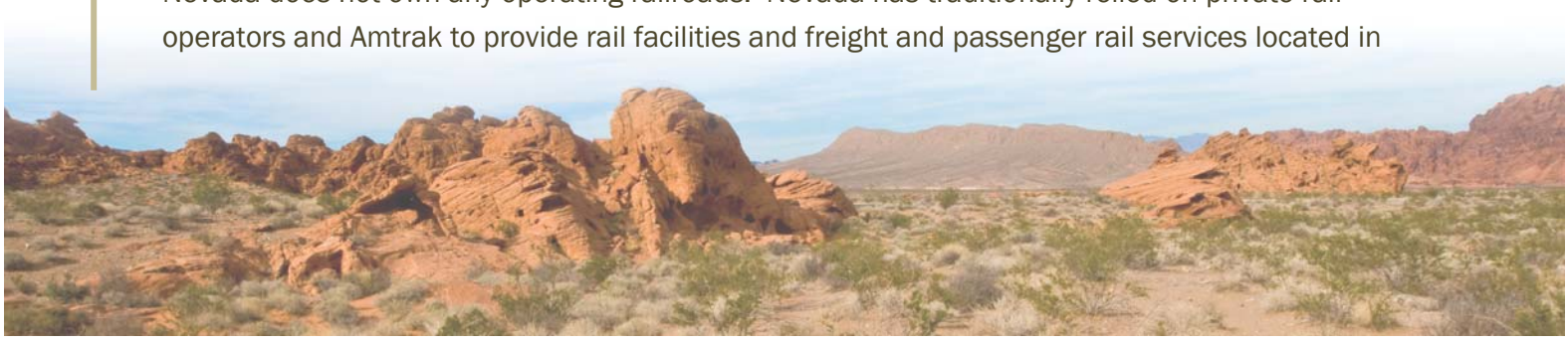
Rail planning functions at NDOT are located within the Department's Aviation/Freight/Rail Section. This Section is part of the Transportation/Multimodal Planning Division, which reports to the Assistant Director for Planning, one of four assistant directors under NDOT's Director and two Deputy Directors. The Section is fully integrated into NDOT's administrative structure and interacts effectively with the other operating units at NDOT. The Section is currently staffed with a division head, an aviation/freight/rail program manager, and two project managers. This Section is tasked with advancing passenger and freight rail system improvements within the state, and it is in charge of developing and updating Nevada's State Rail Plan.

Nevada revised statues (NRS) authorize and direct NDOT to engage in rail planning and development in the state. NRS 705.421 directs NDOT to prepare and implement a state plan for rail service in cooperation with Nevada's Public Utilities Commission (NPUC), including projects to preserve rail lines, rehabilitate rail lines to improve service, and restore or improve freight service on rail lines that are potentially subject to abandonment. NRS 705.423 gives NDOT the power to accept (federal, state, local, and private) money to develop and implement the state rail plan with state legislative approval required to expend funds to implement the plan; to enter into agreements for railroad purposes; and to act as agent for counties and cities for railroad purposes. NRS 705.425 provides for a state program to preserve lines where service has been discontinued; NRS 705.427 permits NDOT to acquire and operate track and other railroad property that is the subject of abandonment or discontinuation of service. NRS 705.428 authorizes NDOT to contract for construction, improvement, or rehabilitation of any trackage or rail line property, provided state legislative approval authorizes the expenditure of any funds.

The Statewide Transportation Technical Advisory Committee (STTAC) will review and advise on adopting the state rail plan; and the Nevada State Transportation Board has final state rail plan approval authority for Nevada. FRA will accept the document for the federal government.

2. State Capital Operating Funding and Policies

Nevada does not own any operating railroads. Nevada has traditionally relied on private rail operators and Amtrak to provide rail facilities and freight and passenger rail services located in



corridors extending across northern and southern Nevada. Recent legislative changes, however, have demonstrated the state's willingness to adopt legislation benefitting transportation improvement processes that open possibilities for growth.

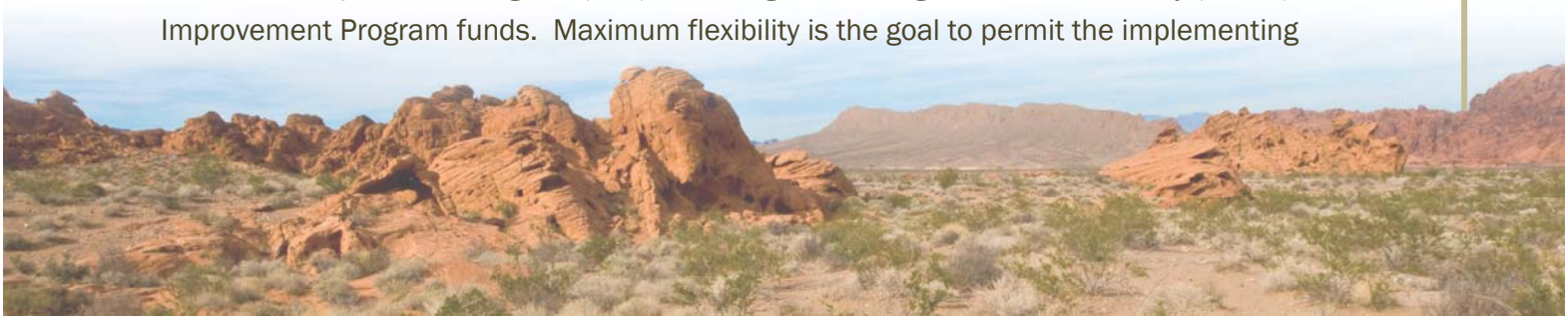
For example, Nevada recently passed the Inland Port Authority Act, which took effect July 1, 2011. This legislation permits establishing inland ports and inland port authorities to administrate them; and it directs the Nevada Commission on Economic Development (NCED) to develop a State Plan for Inland Ports. Designated Nevada inland ports must contain at least two of the following three modes in a contiguous area: a municipally-owned airport (with specific runway requirements); a highway that is part of the national highway system; or an operating STB-classified Class I railroad. Discussions are underway to advance an inland port in both northern and southern Nevada.

Additionally, the state legislature has demonstrated a willingness to adopt new project delivery methods and practices. The legislature enabled Nevada to use the design-build contract delivery method, and it made statutory changes to establish a pilot demonstration program to evaluate the benefits of the Construction-Management-at-Risk model. These two acts indicate a flexible approach to enacting enabling legislation to improve transportation projects, where needed.

Historically, the state has been focused on improving highway safety and capacity issues; rail improvement efforts have been limited to grade separations and the highway safety crossing program. The highway project development approach sets a baseline for implementing any rail improvement project. The state has established a formal, comprehensive project development process designed to implement highway improvement projects, addressing planning, prioritizing, and developing improvement plans.

Statewide Transportation Improvement Program

Nevada has a Statewide Transportation Improvement Program (STIP), which includes a four-year list of federally-funded and non-federally-funded transportation projects, which are consistent with the statewide transportation plan. The STIP is updated annually; and it includes an accompanying Annual Work Program, which provides a schedule of projects to be built throughout the state. Each implementing agency is responsible for prioritizing the funds it controls; eligible metropolitan planning organizations (MPOs) can prioritize NDOT-allocated local Surface Transportation Program (STP) and Congestion Mitigation and Air Quality (CMAQ) Improvement Program funds. Maximum flexibility is the goal to permit the implementing



agencies to address their transportation needs. The STIP and Work Program are included in the state's Transportation System Projects (TSP) document. **Figure 2-24** shows the STIP development process.

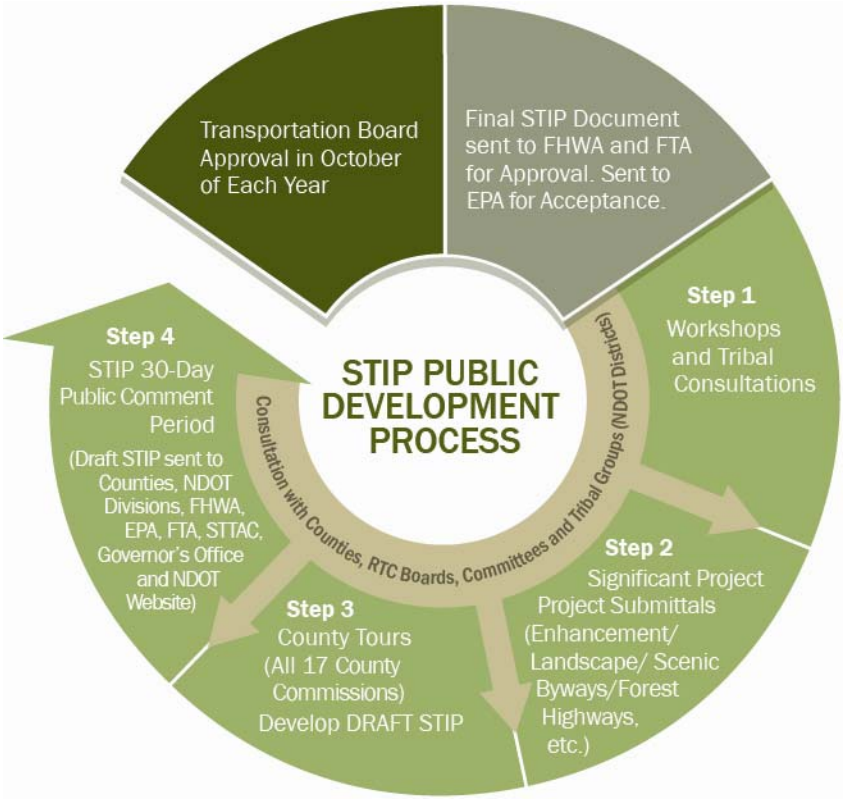


Figure 2-24: STIP Public Development Process

The STIP is developed through local agencies, such as local towns, counties, state agencies, Native American tribes, etc. in rural parts of the state, and through MPOs, including RTC of Southern Nevada, RTC of Washoe County, Carson Area MPO (CAMPO), and Tahoe MPO (TMPO). The projects that are submitted for consideration are organized and sequenced. The final list becomes the Work Program and part of the STIP. After the NDOT Board of Directors officially accepts the STIP, it is submitted to the relevant federal agencies involved in funding the projects, such as FHWA, the Federal Transit Administration (FTA), as well as to the US Environmental Protection Agency (EPA).

The STIP process typically starts with a Project Submittal Application. Federal and state agencies, counties, cities, local governments, local public agencies, Native American tribal governments, and not-for-profit entities may submit projects for consideration. Amtrak could be

eligible for project funding working through the MPOs or county commissions. An evaluation committee ranks submittals into high, medium, and low categories. The high-ranked projects are eligible for funding. NDOT's Director notifies each MPO by November 1 of the funds available for its prioritization; and each implementing agency identifies its capacity increasing projects by January 1 and advises the MPOs and NDOT. Then the process is advanced as follows:

January and February each year are the beginning of the submittal process. Workshops are held in small urban areas of populations less than 50,000. Invitations to the workshops are mailed to local public entities and to tribal agencies throughout the state. The workshops are held to educate the agencies about NDOT's various programs for funding transportation improvement projects and to provide assistance in completing the application forms.

NDOT and each MPO, with the assistance of any interested implementing agency, prioritize all the capacity increasing projects, assign fund categories to each project, and resolve any priority issues by March 1. Then, the MPO completes the air quality conformity analysis by March 31 for each of the projects to be implemented in its area over the four-year period of the STIP and of the Regional Transportation Improvement Program (RTIP).

Each MPO and NDOT agrees by April 30 to a draft Transportation System Projects list for the next fiscal year, which includes the Work Program. This document incorporates all of the projects from the rural/local agencies, tribal governments, and the four MPOs.

NDOT conducts consultations with the 14 counties (rural/non-MPO counties) and with the MPOs by July 1; and each MPO concurrently completes its respective public participation process. Each MPO approves its part of the STIP/RTIP and obtains the Governor's approval by July 30, followed by a RTIP submittal to FHWA for concurrence in the air quality determination.

Nevada's 23 tribes are invited to attend Tribal consultation meetings in each of the three highway district offices.

All consultation meetings have a published agenda and are open to the public. Participants are encouraged to ask questions, comment, and raise issues about the proposed Work Program.

At the end of the consultation meeting, each entity (such as, a County Commission) is asked to approve the draft TSP plan in its entirety, or with noted exceptions.

The draft TSP plan is then presented to the STTAC. Meetings are open to the public and include a published agenda. The STTAC, which includes representatives from federal, local, tribal, and state agencies/entities, serves as an advisory board to NDOT's Director and to the State Transportation Board. A "final draft" is prepared once comments are received from all parties; and it is distributed to each of the participants in the process.

Notices are published in local newspapers throughout the state announcing the draft TSP. Comments on the "final draft" document are requested by the end of August and are taken into consideration in preparing the final document. The final document is submitted to the State Transportation Board in September each year for approval of the Work Program. NDOT's Board of Directors approves the NDOT portion of the STIP and accepts the MPO's STIP/RTIP components by September 30.

NDOT applies an administrative modification process to address lesser changes in funding categories and priorities requiring changes in the STIP/RTIP; and the Department applies a four-to-six-month amendment process to address significant changes in the STIP/RTIP.

The current project development process is under revision and as a result will be processed from the Planning Division rather than from the Roadway Design Division. The goal of these revisions is to reevaluate cost and scoping each year and to deliver 87 percent of projects listed in the STIP within that year.

3. Rail Safety and Security Program

NDOT has administrative responsibility for Nevada's public grade crossings, and NPUC has regulatory responsibility for the crossings. The two state agencies coordinate closely.

Nevada has a well-developed rail-highway grade crossing program. This program secures federal funding and applies a railroad company match to improve grade crossings statewide. An NDOT Statewide Coordinator, positioned within NDOT's Planning Division, heads up the highway safety improvement program. This Coordinator's primary task is to make the state's transportation network safe for the motoring public. The Coordinator prepares an annual report to identify federal Section 130 projects each fall. The report addresses projects for the next year; NDOT does not develop a long-term listing of projects because of the uncertainties of funding from year to year.

The Rail Coordinator maintains a database of all at-grade and grade-separated vehicular and pedestrian railroad crossings in the state. This database contains crossing location and

classification information, including the US Department of Transportation (DOT) number, railroad and road milepost locations, train and vehicular average daily traffic (ADT), and crossing type and owner. The database also includes information on the safety devices and geometry at each crossing, as well as FRA-reported accidents and incidents. The state's public grade crossing inventory is completely updated every three years, or one-third of all crossings in each of three years. NDOT reports annually to FRA on all of the state's open public crossings in compliance with the US DOT National Crossing Inventory File requirements (RSIA2008).

The Railroad Safety Coordinator meets quarterly with the railroad company project managers and contacts each NDOT district annually to identify any maintenance issues and incidences, such as rough pavement at crossings, deteriorated safety equipment, signage needs, or pavement marking deterioration, etc. Then, a team is assembled to prepare a diagnostic field review leading to a prioritized list of grade-crossing improvement projects for the year. The invited team includes a local roadway representative (the agency that owns the roadway), a railroad company representative (a north or a south UPRR representative, who is the manager of industrial and public projects, participates according to the location of the crossing), UPRR track maintenance manager, UPRR track signal manager, the NPUC (who inspects and regulates the state's rail crossings), and local NDOT personnel (district traffic engineer plus maintenance and utility inspectors). Almost all grade crossings in Nevada are on UPRR-owned or operated rail lines.

NDOT typically receives $1.1 million in federal Section 130 funding annually, half of which goes for hazard elimination and half goes towards signal improvements. Projects can be funded with up to 90 percent federal Section 130 funding with a minimum local match of 10 percent, for which Nevada applies railroad company funding. The state does not contribute to the capital cost of the grade-crossing improvements.

Nevada's rail safety program also involves reviewing engineering drawings and plans, coordinating with NDOT's Design and Construction group, and interpreting engineering manuals and standards for new crossings and proposed changes and upgrades to existing crossings. The rail safety group is also responsible for implementing all new FRA, DOT, and FHWA laws, standards, rules, and regulations affecting rail-highway safety statewide.

In addition, security is a critical component of rail planning. NDOT will engage the Northern Nevada Counter-Terrorism Center in all aspects of planning affecting rail security in northern Nevada.

E. General Analysis of Rail Transportation's Economic and Environmental Impacts

Effective and efficient comprehensive transportation systems provide a variety of regional and local benefits. Rail is a key component of Nevada's overall transportation system moving both freight and people. Investments in rail transportation technologies can help realize numerous community goals. Retrofitting, rehabilitating, and designing new infrastructure can benefit the national and state transportation system, as well as the quality of life for Nevada residents.

This section identifies benefits for the state of Nevada that will result from improvements in rail infrastructure. The economic and environmental impacts of rail infrastructure are embedded into many aspects of the state's economy, including such things as congestion mitigation, trade and economic development, air quality, land use, energy use, and community impacts, which are discussed below.

1. Congestion Mitigation

NDOT is tasked with developing and maintaining a modern transportation system with the capacity to accommodate future growth, and thus the agency is constantly evaluating congestion levels to determine the use and capacity of the state's infrastructure. Air, truck, car, and train traffic all contribute to congestion within Nevada, affecting both freight and passenger movements and services.

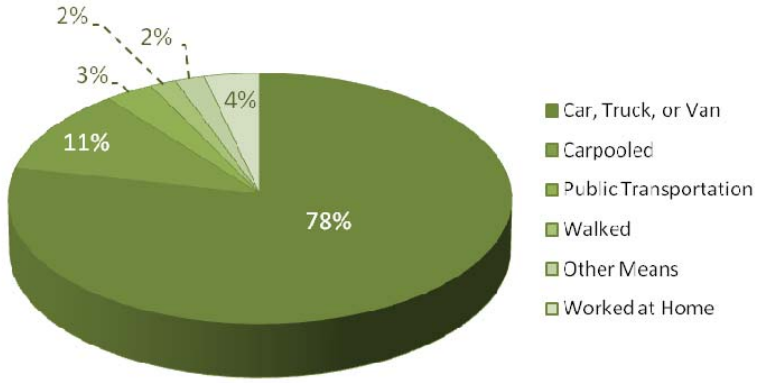


Figure 2-25: Nevada Means of Transportation to Work (Census 2010)

The FHWA Office of Highway Policy Information lists over 34,800 miles of public roads in the state of Nevada, including urban and rural interstates, principal arterials, minor arterials, collectors, local roads, and other freeways. Even with some 80 percent of Nevada's roadway system classified as rural, urban residents accounted for over 15 billion miles traveled, which is equivalent to over 75 percent of all vehicle miles traveled in Nevada. A vast majority of Nevada residents chose to commute to work by means of car, truck or van, as shown on **Figure 2-25**.

Local commuter trips contribute to congestion in the state's urban areas. As population trends upward and highway funding decreases, the existing transportation networks become strained, causing delay in intercity truck freight shipment and motorist trips. Urban public transportation systems throughout Nevada are working to provide additional local bus service and other high capacity transit service options to help mitigate demand on highway infrastructure. The largest transit agencies within the state of Nevada, both serving over two million boardings per year, are the RTC of Southern Nevada and the RTC of Washoe County.

Las Vegas' McCarran International Airport supports the local economy as the principal gateway for the majority of the city's visitors, and therefore, is an essential component of the tourism, hospitality, and gaming industries. This airport is the 22nd busiest in the world for passenger traffic, serving almost 40 million travelers per year. Cargo operations are also an important component of this airport's operations, moving over 200 million pounds of cargo annually. McCarron, with a maximum capacity of 625,000 aircraft movements, is anticipated to reach capacity in the next decade.

Growing competition and increasing demand for freight traffic and passenger movements on existing rail lines suggest a need to restructure both people and goods movements. TOFC and COFC service is increasingly becoming a major source of traffic and revenue. FHWA's Freight Management and Operations Department projects that rail congestion will worsen in Nevada. Although all rail lines in Nevada are currently operating below capacity, segments of UPRR's Overland Route are projected to experience train volumes at a level of maximum capacity by 2035, and UPRR's South Central Route is projected to be operating above capacity.

2. Trade and Economic Development

The transportation system provides mobility to the state's residents, visitors, and businesses; and it provides access to school, work, recreation, healthcare, social, and commercial activities. Transportation and economic development are integrally linked. Investments in transportation infrastructure, and more specifically rail infrastructure, can provide numerous economic benefits for the region; while deficiencies within the system can be a detriment to Nevada reaching its economic potential.

The development and construction process can create jobs and support other job creation initiatives. Rail investments can spur supportive land use and developments to maximize land utility. Agencies and private industries that create efficient and safe infrastructure have a positive effect on multiple industries that are dependent on rail services.

Efficient transportation infrastructure can attract additional talent needed to supplement the existing workforce. Turnover in Nevada's existing workforce will generate a need to attract and retain new talent. Nevada's Department of Employment, Training and Rehabilitation notes that natural resources and mining will see the largest increased requirements from 2008 to 2018 at 14.7 percent. **Figure 2-26** shows that trade, transportation, and utilities plus leisure and hospitality remain the dominate industries in terms of employment share.

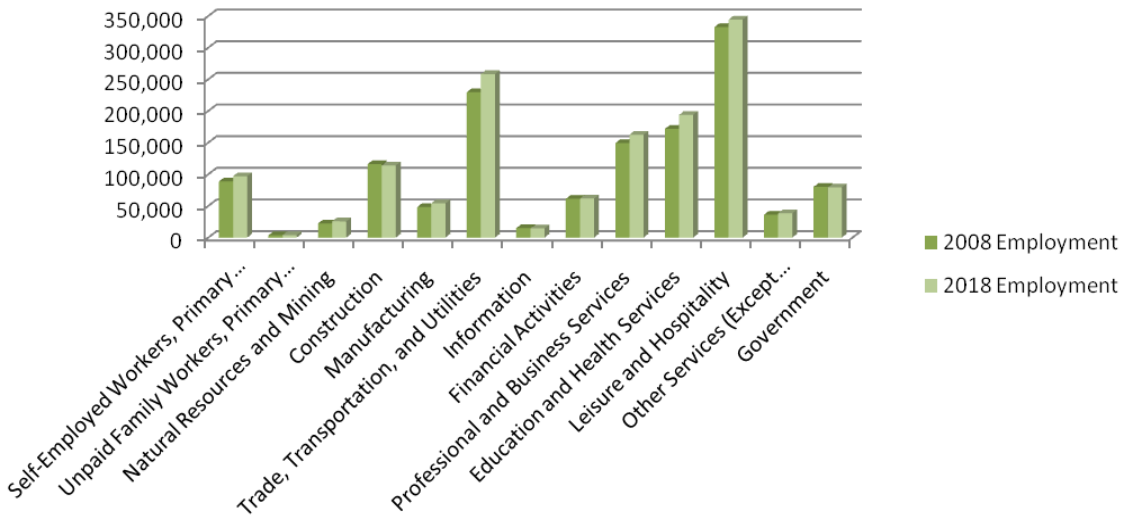


Figure 2-26: Long-Term Industrial Employment Projections, 2008-2018
Source: NV Department of Employment, Training and Rehabilitation

Transportation remains a critical component of Nevada's economy. Transportation and warehousing employment opportunities are projected to constitute approximately 3.7 percent of the total future share of Nevada industry jobs. All transportation sectors anticipate growth over the ten-year time period as shown in **Table 2-23**.

The state's productivity and competitiveness, nationally and internationally, depends heavily on the reliability and condition of the state's transportation infrastructure. Short- and long-term economic goals can be aided by reducing the cost of travel and by improving transportation infrastructure and systems. Infrastructure supporting rail services spurs external investments, such as businesses that tend to locate together to maximize efficiencies in supply and product shipments.

Table 2-23: Nevada Transportation Industry Employment Projections

Industry Title	2008 Employment	2018 Employment	2008 - 2018 Percent Change
Air Transportation	6,816	6,978	2.4%
Truck Transportation	7,591	8,332	9.8%
Transit and Ground Passenger Transport	13,718	14,901	8.6%
Scenic and Sightseeing Transportation	1,278	1,496	17.1%
Support Activities for Transportation	5,527	6,573	18.9%
Warehousing and Storage	9,220	10,017	8.6%

Source: NV Department of Employment, Training and Rehabilitation

Industrial development surrounding freight rail improvements can spur supportive service industries. An efficient rail system will help Nevada sustain the health, diversity, and productivity of the public lands. Nevada is the fifth largest gold producer in the world, and is responsible for 80 percent of US gold production. Reducing the monetary and time costs involved with building, using, improving, and maintaining the transportation system will help sustain stable economic growth across multiple Nevada industries.

Development amenities around passenger rail stations takes the form of mixed use, diverse and dense land uses suitable for urban dwellers. This development can maximize land productivity and help agencies reach optimal transit occupancy. This type of urban development has the ability to create areas of dense economic activity, which support the revitalization and investment goals of urban communities.

3. Air Quality

The "transportation sector," which is broadly defined as an energy-consuming sector consisting of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another, (including automobiles; trucks; buses; motorcycles; trains, subways, and other rail vehicles; aircraft; and ships, barges, and

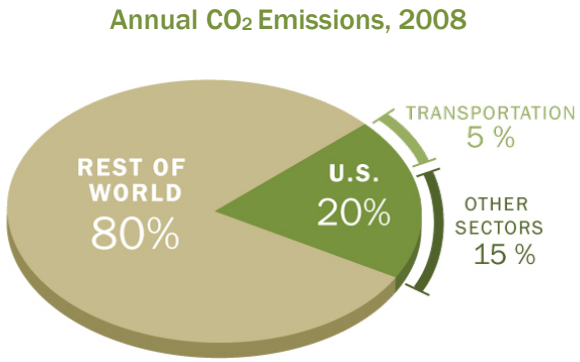
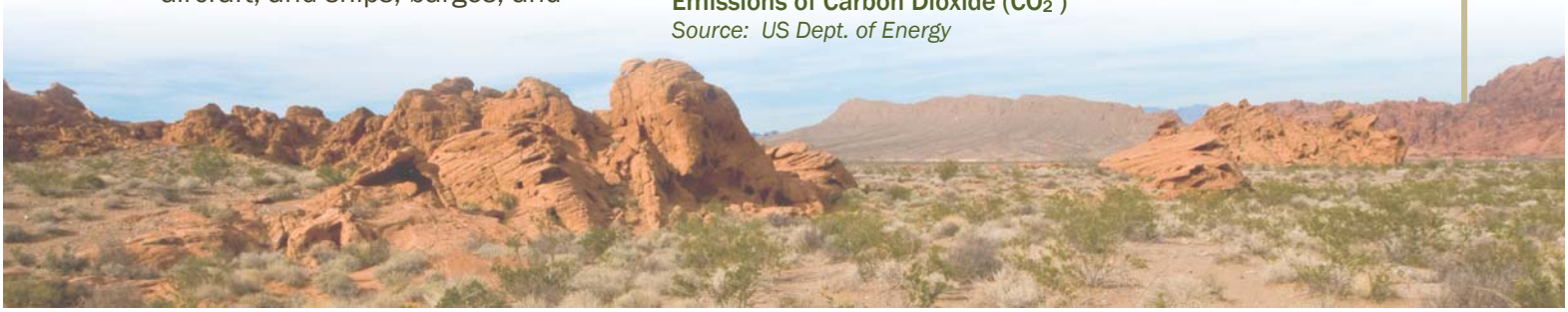


Figure 2-27: US Transportation Produces Five Percent of World Emissions of Carbon Dioxide (CO_2)
Source: US Dept. of Energy



other waterborne vehicles), plays a prominent role in regional and local air quality standards. **Figure 2-27** shows that US transportation accounts for five percent of CO_2 emissions worldwide.

Nevada consumes over 268 million British Thermal Units (BTUs) of energy each year, equating to over $3,360 per Nevada resident annually, according to the US Energy Information Administration. Carbon dioxide (CO_2) emissions that the transportation sector's energy usage creates are mostly attributed to petroleum and partially attributed to natural gas. Mobile combustion includes all emissions from passenger cars and trucks, air, rail, and marine transportation, plus farm and construction equipment. Nitrous oxide emissions are sourced from stationary combustion, or consumption of energy for heat or electricity.

Several cities in Nevada have committed to join the "Clean Cities" coalition to work to reduce petroleum use. The coalitions, present in both Las Vegas and Truckee Meadows, are comprised of businesses, fuel providers, vehicle fleets, state and local government agencies and community organizations.

Investments in travel demand management strategies, idle reduction initiatives, and intermodal freight transportation improvements have the potential to utilize technologies to improve air quality within the state of Nevada. Intermodal projects are designed to improve efficiency of truck, rail, and marine operations by effectively connecting and coordinating between modes.

EPA previously classified parts of Clark County, including the Las Vegas Valley, as non-attainment in Particulate Matter (PM10) and Ozone (eight-hour standard); and Clark County began PM10 mitigation measures in 2004 to demonstrate attainment milestones. EPA made a determination in 2010 that the Las Vegas Valley is in attainment for PM10 and will redesignate the area with approval of the Maintenance Plan. Similarly, Clark County has submitted a Redesignation Request and Maintenance Plan for eight-hour ozone to EPA for redesignation to attainment.

The Truckee Meadows area in Washoe County, which includes the cities of Reno and Sparks, is designated non-attainment in PM10. The county submitted a Maintenance Plan in 2005 for reducing PM10 to gain redesignation to attainment.

4. Land Use

Nevada's land mass covers almost 110,000 square miles, and serves a wide variety of industries, public land resources, and numerous urban and rural communities. The federal Bureau of Land Management (BLM) manages 68 percent of Nevada's land as public lands. Nevada has many important cultural resources, including historic roads, trails, railways, highways, and associated sidings and stations throughout the state.

Major destinations within the state of Nevada depend on a reliable and safe transportation system to maintain operations. Several major employers support regional and local economies within the state. Most of the state's largest employers are in the public sector, such as school districts, higher education institutions, and municipal administrations. Many cities and towns within Nevada also serve as the economic activity centers for surrounding smaller communities. The most populous counties include Clark, Washoe, Carson City, and Douglas, which include the cities of Las Vegas, Reno, Carson City, and Gardnerville Ranchos, respectively.

The 2010 Census shows Nevada's population has reached 2.7 million people, of which 77 percent live in an urban setting, see **Error! Reference source not found.**. Future growth trends in population and employment will continually require additional investments in infrastructure and services to meet the growing population demands.

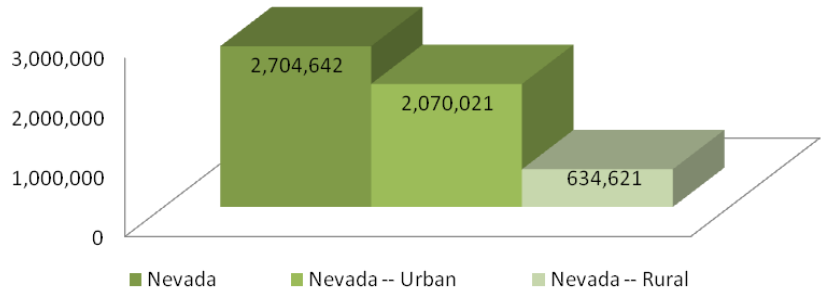


Figure 2-28: Nevada Total Population (Census 2010)

Transit Oriented Development (TOD) is development associated with passenger rail and transit station areas. The compact urban TOD incorporates a mix of land uses, including residential and commercial activities. Station areas reinforce the importance of multimodal transportation, including transit, pedestrian, and bicycle travel. Several Nevada cities have begun to incorporate TOD into the planning process of land use development, including Reno, Las Vegas, North Las Vegas, Sparks, and Henderson. Planning for TOD before high capacity transit is implemented ensures that communities attain the full value of any future transit investment.

5. Energy Use

The US Energy Information Administration found that the transportation sector's consumption of energy in 2010 exceeded residential- and commercial-sector consumption with 28 percent of total consumption, as shown on **Figure 2-29**. Unlike other sectors, the transportation sector's energy consumption is mostly attributed to one energy source, petroleum. Reliance on a single energy source can cause an unpredictable and unmanageable environment for future transportation investments. The transportation sector uses 13.5 million barrels per day and is the only sector in which reliance on petroleum has increased in the past 60 years. The majority of petroleum consumption can be attributed to motor gasoline; other major products include distillate fuel oil and jet fuel.

Nevada consumes about 286 million BTUs of energy per capita each year, ranking the state 40th in consumption in the US. The transportation sector consumes approximately 215,000 billion BTUs of energy each year, or 0.8 percent of transportation energy usage nationwide. The state consumes approximately 46 million barrels of petroleum on an annual basis, which represents a 0.7 percent share of total US petroleum consumption. While petroleum consumption is low, jet fuel consumption is disproportionately high, in part because of demand from airports in Las Vegas, Reno, and at air bases.

Renewable energy development for solar and geothermal energy is growing in prominence. Nevada has established a renewable portfolio standard that requires 25 percent of its electricity to come from renewable sources by 2025.

Regional planning organizations and agencies envision integrated transportation and land use planning as a primary strategy to reduce transportation energy usage in the long term. Nevada's economic growth, and specifically, casino resort development and its associated uses, demand more energy. Current land use and development patterns throughout Nevada's urban areas require an increase in the number and length of vehicle trips. The state and regional agencies can affect energy consumption by reducing demand and by reducing passenger miles through land use planning and telecommuting. Effective transportation policies combined with effective land use policies can reduce automobile travel and shift traffic to more efficient modes. Using existing mass transit and commuter travel systems and building compact development can result in fuel savings for the individual and for agencies.

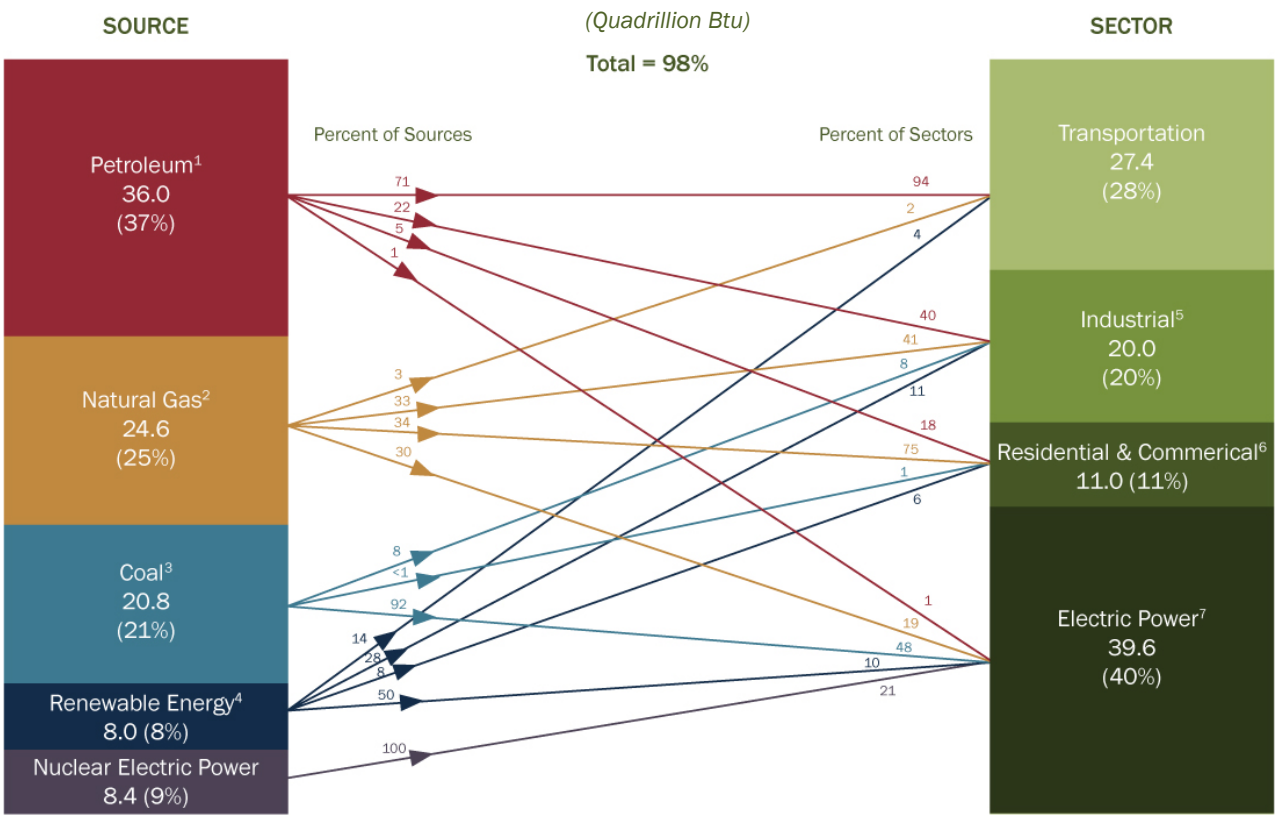


Figure 2-29: Primary Energy Consumption by Source and Sector, 2010

Source: US Energy Information Administration/Annual Energy Review, 2010, Tables 1.3, 2.1b-2.1f, 10.3, and 10.4

[1]Does not include biofuels that have been blended with petroleum – biofuels are included in "Renewable Energy."

[2]Excludes supplemental gaseous fuels.

[3]Includes less than 0.1 quadrillion BTU of coal coke net exports.

[4]Conventional hydroelectric power, geothermal, solar/PV, wind, and biomass

[5]Includes industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

[6]Includes commercial CHP and commercial electricity-only plants.

[7]Electricity-only and CHP plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes 0.1 quadrillion BTU of electricity net imports not shown under "Source."

Notes: Primary energy is energy in the form that it is first accounted for in a statistical energy balance, before any transformation to secondary or tertiary forms of energy (for example, coal is used to generate electricity). Sum of components may not equal total as a result of independent rounding.

6. Community Impacts

Nevada's 2.7 million residents have a diverse range of nationalities, races, and socioeconomic characteristics. The majority of Nevada's population is urban (76 percent) and white (56 percent). Twenty-seven percent of Nevada is Hispanic or Latino. Other minority populations residing in Nevada include African American (eight percent), Asian (seven percent), Native American (one percent), and Native Hawaiian (one percent).

Rail and transit investments in the state will result in both direct and indirect benefits. Effects on communities and concentrations of certain populations will need to be examined as individual projects advance to determine the level of impact and benefits of each project.

The median household income in Nevada is $51,000 with the majority of Nevada residents making between $75,000 and $99,999, according to the US Census Bureau, see **Figure 2-30**. **Figure 2-31** shows that 22 percent of Nevada residents' income falls below the poverty line. That percentage increases to 24 percent in urban areas and decreases to below eight percent for rural residents. A total of 158,000 people are living below the poverty line in the state of Nevada.

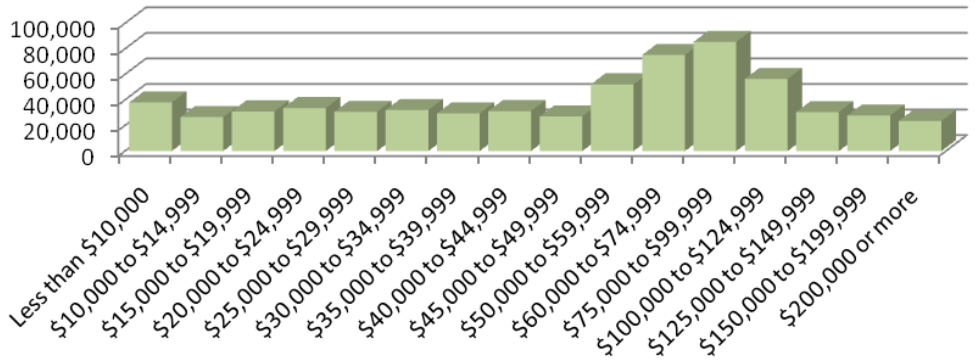


Figure 2-30: Median Household Income in the Past 12 Months (Census 2010)

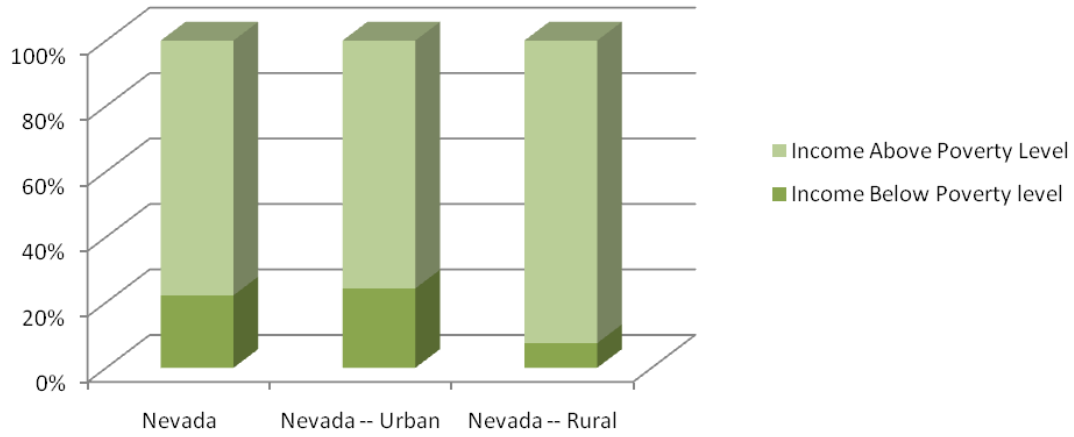


Figure 2-31: Nevada Poverty Classification by Setting (Census 2010)

Safety is one of the most tangible outcomes of creating a sustainable and effective state rail plan. FRA has jurisdiction for most rail safety rules and regulations. Nevada experienced a 58.8 percent reduction in train accidents from 2004 through 2007. The state consistently ranks the lowest in the nation in terms of incidents and fatalities, although the state suffered a single very serious accident in 2011. The existing rail safety program inspects four major categories: hazardous material, operating practices, track and motive power, and equipment.

Crossing safety can often be improved by adjusting the roadway network in the area around the crossing. Collisions and derailments can be avoided by implementing improved technologies, such as positive train control (PTC), light emitting diode (LED) signal systems, wayside detection systems, and automatic train stop systems, among others. PTC is a concept which allows trains to receive geographic information and safe movement authorities; this technology allows computer systems to override human works in emergencies. PTC user benefits include increased fuel efficiency and locomotive diagnostics. FRA requires this technology to be implemented for all Class I railroads and Amtrak by December 2015. Additionally, NDOT can work with Nevada Operation Lifesaver to educate the public on the dangers associated with rail operations, particularly with at-grade crossings.

Chapter 3:
Passenger Rail Issues, Opportunities, and Potential Projects

Chapter 3 : Passenger Rail Issues, Opportunities, and Potential Projects

Third parties outside of the current owner/operators of the rail lines in Nevada, have proposed making both conventional and high speed passenger rail improvements, as well as improvements in excursion rail facilities. Some of these proposals are suggestions for improvement; others are specific projects that are being advanced and funded both near- and long-term.

This section discusses passenger rail suggestions made as a part of developing this rail plan; and it also identifies those who are proposing to make improvements and describes their proposals and the current status of the proposals. **Figure 3-1** shows the corridors where these improvements are proposed in Nevada and adjacent states.

Passenger rail is also addressed as one component of a number of multi-state studies that are recently completed or currently underway; **Chapter 5 Section B** discusses these studies, which include a new north-south multi-state corridor, potentially incorporating passenger rail (referenced in **Figure 3-1**).

Figure 3-1: Passenger Rail Improvement Corridors

No exclusively commuter rail proposals are currently formulated for Nevada. Suggestions were presented during the development of this state rail plan to operate commuter rail between Reno and other northern Nevada communities, such as Sparks, Fernley, Fallon, and Carson City. However, discussions with UPRR have confirmed that the UPRR's Central Corridor does not have available capacity to accommodate additional passenger rail service. In other cases, the northern Nevada communities suggested to be linked, lack existing rail lines between them, which would probably make the cost of developing commuter rail service cost prohibitive. Such suggestions would require considerable additional study and development to establish their feasibility and cost-effectiveness.

A hybrid proposal, which includes some commuter service, has been proposed for the Las Vegas area and is discussed in the chapter's excursion rail subsection. The RTC of Sothern Nevada studied building a commuter rail line between Henderson and Las Vegas, involving parts of the same trackage included in the hybrid proposal, a number of years ago and encountered substantial community opposition. Bus service is now being explored to serve this potential commuter market.

A. Passenger Rail Issues and Opportunities

A wide-ranging stakeholder coordination and public outreach effort, fully described in **Chapter 6**, was used to identify the passenger rail issues and opportunities discussed in this chapter.

1. Passenger Rail Issues

Reno, Winnemucca, and Elko in northern Nevada are the only cities in the state with passenger rail service. Amtrak connects these cities with Salt Lake City to the east and Sacramento to the west, as well as destinations farther east (Denver and Chicago) and west (San Francisco Bay area) as part of a cross-country operation known as the *California Zephyr*, which is operated on UPRR-owned trackage in Nevada.

Las Vegas, located in southern Nevada and the state's largest city, has not had any passenger rail service for some 15 years, since the long-distance *Desert Wind* Amtrak service connecting Las Vegas with Salt Lake City and Los Angeles was discontinued in 1997. Las Vegas has never had passenger rail service connecting with Phoenix; the two cities are not connected in a direct line by rail, nor by an interstate highway across the Colorado River.

Northern and southern Nevada are not connected by rail, nor by interstate highways, reflecting the state's historic development patterns and topography. (Amtrak-operated motorcoach connections to Reno and to Las Vegas, plus a few other smaller Nevada locations, provide limited bus in lieu of rail service.) Nevada does not fund any supplemental Amtrak service in the state.

The frequency of service in and out of the passenger-rail-served northern Nevada cities is limited to one train a day in each direction; and the availability of this limited service, extending five and a half hours across northern Nevada, occurs at unfavorable late-night early-morning times in Winnemucca and Elko, given their location in relation to the larger Reno and Salt Lake City markets.

Amtrak's PRIIA-required study of its *California Zephyr* service found in 2010 that only 30 percent of this route's trains operated on schedule. Amtrak's evaluation attributed delays on the route to speed restrictions, dispatching priorities, and right-of-way conditions. Single-track mainline operations with existing sidings east of Elko between West Wendover and Wells and west of Winnemucca to Reno can result in freight-passenger congestion and delays.

Amtrak's September 2010 PRIIA PIP study evaluated restoring *Desert Wind* service, noting a need to negotiate with host railroads and to secure federal capital and operating funds for the multi-state service. Unfortunately, the in-service freight line through Utah, which covers the bulk of the distance between Salt Lake City and Las Vegas, does not serve the more populated communities lying between these two large cities. Also, highway traffic on I-15 has historically been greater between Salt Lake City and St. George, UT, than to Las Vegas, suggesting less travel demand between Salt lake City and Las Vegas.

Improvements in the northern Nevada passenger rail stations in recent years and currently underway are enhancing passenger convenience and comfort, as well as accessibility for those with disabilities, although the split platform arrangement at Elko still leads to some passenger confusion.

Multimodal connections are generally available in the northern Nevada passenger-rail-served cities, although additional enhancements could be made, such as consolidated facilities for both intercity (between cities) and intracity (within the city) modes. Reno has all modal connections; its Greyhound station is about a half-mile from the Amtrak station. Its downtown intracity bus transfer center is only three blocks away from the Amtrak station, while rental car and taxi

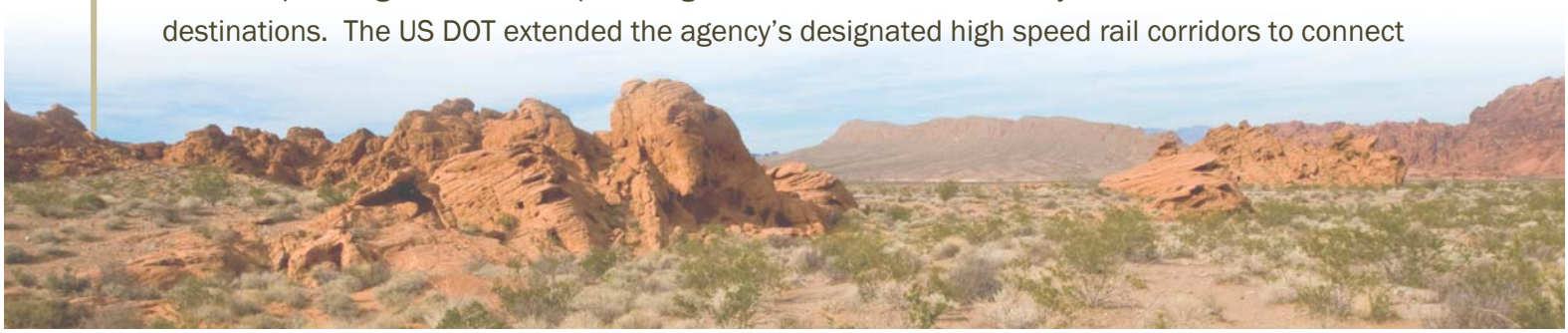
service are available near the Amtrak station in downtown Reno. Elko's Greyhound station is located about a mile away from its Amtrak station; its intracity bus service stops about a half mile away, and rental car service is available at the airport; however, taxis are available 24 hours a day. Winnemucca's Greyhound station is located about a half mile from its Amtrak station; Winnemucca does not have intracity bus service or rental car availability, although the community does have 24-hour taxi availability. Consolidated multimodal transfer centers should be a goal for all Nevada cities to accommodate both intercity bus and rail service with intracity transit services in a single facility or adjacent facilities.

Exhibit 3-1: Amtrak Locomotive

In summary, passenger rail service in Nevada is limited in scope, frequency, and availability. Schedule reliability impairs what limited service is available. Topography, distance between the larger potential passenger rail markets, and the location or absence of existing infrastructure, as well as limited funding sources, are challenges. These challenges impair Nevada's ability to provide and grow passenger rail service with seamless interconnection with other modes of transportation to create a complete transportation system. These challenges affect providing service between in-state (Las Vegas and Reno) and larger adjacent-state cities (Salt Lake City, Phoenix, Los Angeles, and San Francisco), which offer the strongest potential passenger rail markets, as well as to smaller in- and out-of-state locations.

2. Passenger Rail Opportunities

Nevada has opportunities to grow passenger rail service near- and long-term. The appeal of the Las Vegas market, especially, is attracting the private sector to invest in both near-term conventional rail and longer-term high speed intercity passenger rail. As more persons are attracted to take rail between southern California and Las Vegas, Nevada's economy can grow as a result of additional trips; and reduced congestion on I-15, reduced energy consumption, and diminished air pollution will improve the environment. Long-term, a multimodal terminal to accommodate high speed rail connections, especially for Las Vegas, offers opportunities to enhance passenger rail service, providing local intermodal connectivity to travelers' final destinations. The US DOT extended the agency's designated high speed rail corridors to connect



the California High Speed Rail Corridor to Las Vegas on July 2, 2009, which provides federal funding eligibility for high speed rail projects linking southern California to Las Vegas.

In addition, an advocacy group is working to coalesce a western states high speed rail focus, involving both northern and southern Nevada and adjacent states, which FRA is currently studying. Furthermore, NDOT is beginning a multimodal multi-state transportation study, which will include consideration of intercity passenger rail connections.

Among the more significant opportunities discussed in this chapter and in Chapter 5 are the following:

- "X Train" is a privately-funded Las Vegas Railway Express Company project, which is proposed to provide themed-entertainment conventional passenger rail service between the Los Angeles area and Las Vegas, using existing rail lines, with service anticipated to begin in late 2012. (See **Chapter 3 Section B, Subsection 1**.)

- DesertXpress is a privately-advanced DesertXpress Enterprises, LLC project proposed to provide 150-mph passenger rail service on new right-of-way between southern California and Las Vegas with service anticipated to begin in 2016. (See **Chapter 3, Section C, Subsection 2**.)

- Developing a multimodal terminal to serve future high speed passenger rail in the Las Vegas area with other modes of transportation located into a single complex will require study to identify, conceptualize, and then preserve such a location, for example, the proposed Ivanpah International Airport. (See **Chapter 3, Section C, Subsection 3**.)

- The Western High Speed Rail Alliance (WHSRA) is focused on realizing long-term Intermountain West high speed rail opportunities as part of the US initiative to advance high speed rail. A future northern Nevada cross-state route, as well as a "Golden Triangle" connection (involving Las Vegas, Phoenix, and Los Angeles), are among the Alliance's interests, which are being explored in FRA's Southwest Multi-State Rail Planning Study of a regional rail planning model or guideline with national supporting data. (See **Chapter 3, Section C, Subsection 1** and **Chapter 5, Section B, Subsection 1**.)

- NDOT is working on a multimodal framework study for what could become a new interstate highway and passenger/freight rail corridor between Mexico and Canada. This

study will be addressing intercity passenger rail service and infrastructure between Las Vegas and Phoenix, which is being evaluated at a macro level in FRA's Southwest Multi-State Rail Planning Study. (See **Chapter 5, Section B, Subsection 2**.)

Other passenger rail opportunities include proposed freight rail siding and related capacity improvements across northern Nevada, which can also improve on-time passenger rail service.

Excursion rail enhancements also present opportunities to advance the state's tourism and economic development. **Chapter 3, Section D** discusses Nevada Northern Railway, V&T, and Nevada Southern Railway opportunities.

B. Conventional Passenger Rail

This section describes conventional passenger rail improvements proposed for northern and southern Nevada.

1. Northern Nevada

Amtrak currently provides conventional passenger rail service in northern Nevada with its national-network *California Zephyr* line between Chicago and the San Francisco Bay area with Nevada stops in Elko, Winnemucca, and Reno. Amtrak has no plans to add stops in other Nevada cities at the present time. The state rail plan has elicited suggestions to enhance station facilities and operations and to expand service; these suggestions do not include cost estimates, schedules, or benefit/cost analyses (BCA). They are described below.

California Zephyr Improvements

- Improve passenger station facilities at Elko for the nocturnal service provided in cold winter weather. Add lighting, Americans with Disability Act (ADA) compliance features, intermodal connections, platforms, and measures to achieve a good state-of-repair.
- Address the considerable offset in access between the east- and westbound Elko platforms, which leads to passenger confusion and missed train connections in the middle of the night.
- Add stops to the *California Zephyr* at Fernley, Lovelock, Wells, and/or West Wendover, NV/Wendover, UT.

- Add sleeping cars to the *California Zephyr* train sets; add service between Reno and the San Francisco Bay area during the winter months as a more desirable means of transportation between these two cities, or add a second daily train in each direction to the *California Zephyr* service for the length of its Chicago-to-San-Francisco-Bay-area run.

Amtrak upgraded its Reno station as part of the ReTRAC project, which was completed in November 2005; Amtrak upgraded its Winnemucca station in 2011; and Amtrak is scheduled to upgrade its Elko station in 2012. Amtrak has several initiatives underway to bring all of its stations into ADA compliance, along with an initiative to improve station signage and information displays. The Winnemucca station work was focused on meeting ADA requirements and included parking spaces and pathways, a new unstaffed station providing a three-sided shelter, and a new platform. The Elko station work will include parking improvements, new concrete sidewalks, pathways, and curb ramps, new stairs with handrail, plus a new fence and guardrail, as well as new doors and hardware and repair of the existing platforms, including adding detectable warning strips on the platform edges and new signs on the platforms.

Additional improvements are currently being assessed to enhance passenger convenience at Amtrak's Elko facilities.

Adding stops would require a formal local or state request, an Amtrak evaluation of the revenue operating costs of adding the proposed stop(s), and the UPRR host railroad's evaluation of capacity effects on the line's throughput, including what additional capital costs may be required for improvements, such as mainline or siding, signal upgrades, or grade crossing improvements, to maintain the line's existing freight service level.

Amtrak's September 2010 PRIIA PIP presents Amtrak's proposed plan for improving the *California Zephyr*, including customer service, equipment inspections, and ADA access at stations. The PIP proposes to upgrade the *California Zephyr* to Premium Service, pending equipment availability; such service would require, at a minimum, an additional sleeping car and a dedicated First Class Lounge car.

Amtrak's comprehensive business plan calls for a consistent, sustainable annual fleet purchase plan to replace Amtrak's national fleet with new intercity equipment. In addition, Amtrak has entertained other options to enhance its *California Zephyr* service, including the Sparks Car Initiative, which would increase capacity between Emeryville, CA and Reno during the popular winter months. Extra cars would be added to the train for the Emeryville-to-Reno segment and the additional cars would then be detached in Sparks. However, the availability of extra cars and difficulties in being able to detach them in Sparks, given the track layout and freight traffic at the Sparks yard, have caused implementation of this initiative to be deferred.

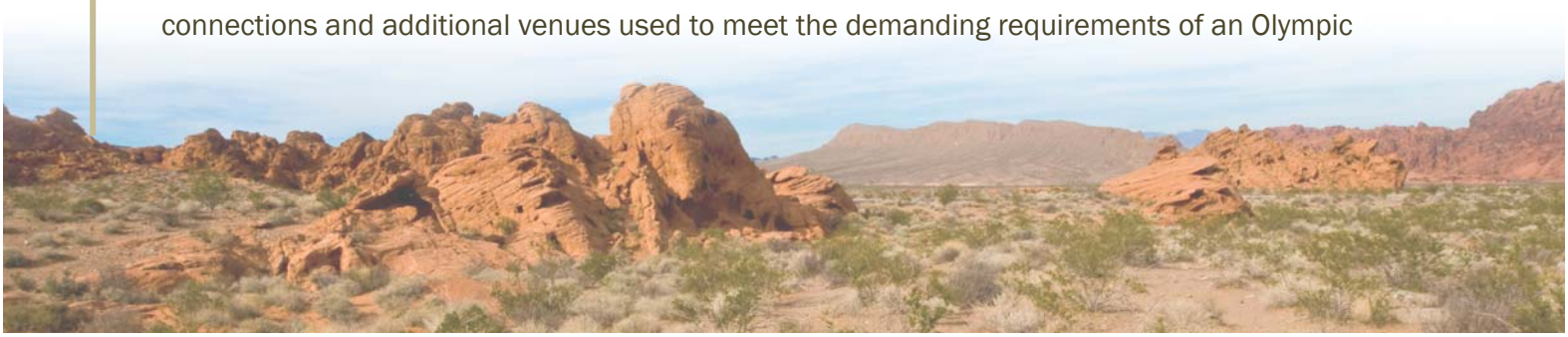
Adding a second daily train to Amtrak's national-network *California Zephyr* service would require Congressional approval and funding, as well as host railroad capacity evaluations, which could be expected to result in costly rail improvements.

Other Northern Nevada Improvements

- Operate rail service on the Feather River Corridor between Reno and Sacramento in lieu of Thruway Bus service.
- Add service between San Francisco, Sacramento, Salt Lake City, and Reno during proposed 2022 Reno-Tahoe Winter Olympic games, if the Reno-Tahoe Winter Games Coalition's bid is successful.

Amtrak favors operating on the UPRR Overland Route and is not interested in operating on the Feather River Corridor. UPRR primarily uses the Feather River line with its gentler grade and much slower curved alignment to move heavier bulk commodities. Thus, neither the passenger rail operator nor the track owner is inclined to use the Feather River Corridor for passenger rail service. UPRR has no plans to take the Reno Branch out of service, which connects Reno to the Feather River Corridor; it has a number of industrial customers on this branch line and its curving alignment provides for system redundancy when a detour of UPRR's core route is necessary.

The Reno-Tahoe Winter Games Coalition is just beginning to prepare a bid for the 2022 Winter Olympic Games at the time of publishing this report; Nevada and the US would like to host the 2022 Winter Games. Other Olympic games held in the US have used passenger rail to move participants and athletes to the host city and to other cities with international airport connections and additional venues used to meet the demanding requirements of an Olympic



event. San Francisco, Sacramento, and Salt Lake City passenger rail connectivity could enhance the potential of these cities to supplement a Reno-Tahoe bid. Further study will be required to determine the potential availability of passenger rail equipment in 2022 and the potential to use the privately-owned rail line to link these cities with passenger rail for the event.

2. Southern Nevada

Two privately-funded proposals have been advanced to provide conventional passenger rail service between Las Vegas and Los Angeles. One is the "X Train," a proposed Las Vegas Railway Express Company operation, and the other is a similar project that the Pullman Palace Car Company, Ltd. is pursuing. These proposals grew out of a 2007 Southern Nevada RTC study that projected numerous passengers desiring to travel between the Los Angeles area and Las Vegas. Both increasing I-15 traffic congestion on the Los Angeles-to-Las Vegas Friday trip and on the return Sunday trip and increasing gasoline prices have reinforced the attractiveness of capturing some of this market with rail. UPRR operated a similar "Las Vegas Holiday" service between the two cities in the early 1960s on a Streamliner with an all-expense package, including meals with advanced coupon purchase and coach seat reservations.

In addition, the state rail plan has elicited interest in reviving conventional passenger rail service between Salt Lake City and Las Vegas, which was formerly provided as part of Amtrak's *Desert Wind* service between Chicago and Los Angeles until it was discontinued in 1997. One state rail plan respondent suggested reviving a late 1999 proposal to use tilt-technology equipment on the Las Vegas-Los Angeles leg of such service as a way to improve conventional passenger rail operating speeds.

The three conventional-rail southern Nevada proposals are discussed below. **Figure 3-2** shows the location of the proposed X Train and Pullman Palace Car Company services and the location of the former *Desert Wind* Service.

X Train

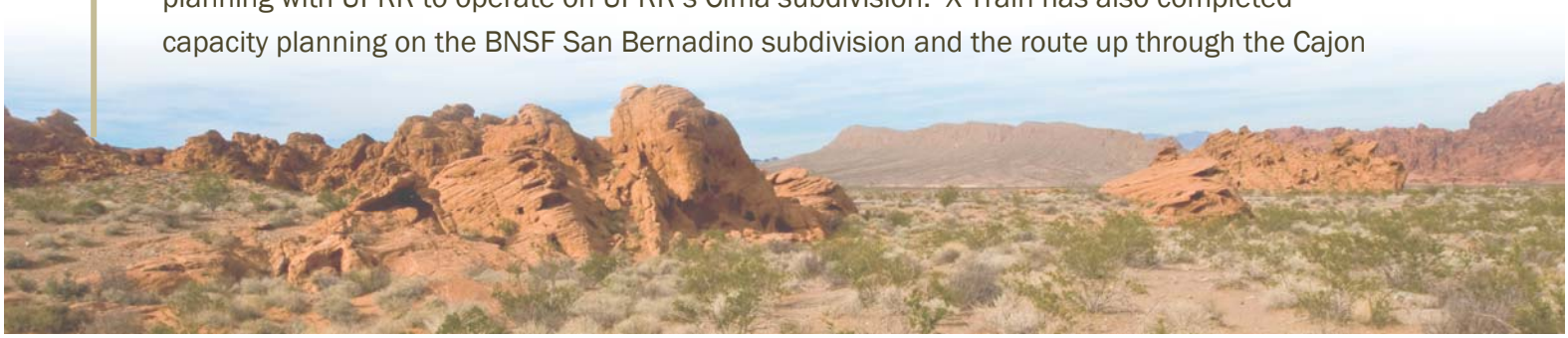
The Las Vegas Railway Express Company, developer of the X Train proposal, is a publicly-traded company, which is developing its themed-entertainment conventional passenger rail service with private funding. X Train is proposed to operate one train a day Thursday through Monday, initially with a 19-car consist, including 13 passenger cars and a capacity of 1,100 persons per train. First-year ridership is forecast at 237,000, which amounts to 2.6 percent of the 12 million persons who drive I-15 annually. X-Train is not targeting any of the air market. X Train looks to

grow the initial ridership, eventually offering up to eight daily trains Thursday through Monday with 40 round trips per week, bringing in excess of two million passengers per year from Los Angeles to Las Vegas.

Figure 3-2: Proposed Conventional Passenger Rail

X Train will contract with a licensed haulage company, such as Amtrak or other qualified company, to operate its trains on BNSF and UPRR mainlines between Fullerton, CA (28 miles from Los Angeles' Union Station) and Las Vegas. BNSF and UPRR will have final approval on the haulage agreement.

X Train executed a capacity planning agreement with UPRR and has completed capacity planning with UPRR to operate on UPRR's Cima subdivision. X Train has also completed capacity planning on the BNSF San Bernadino subdivision and the route up through the Cajon



Pass to the UPRR connection at Daggett, CA. Final UPRR and BNSF approvals are pending logistic details for the Daggett interchange.

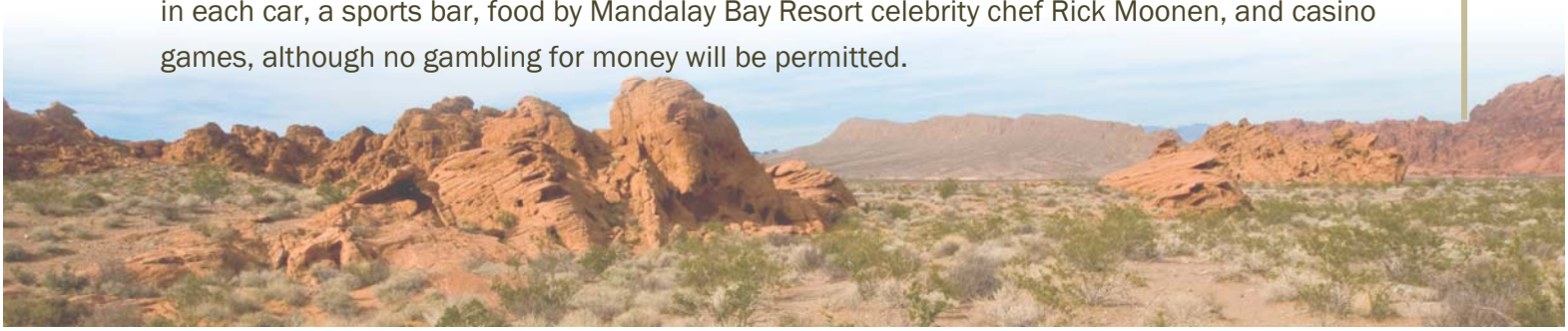
The BNSF trackage is generally triple track and can readily accommodate the X train with a two-hour-10-minute operation between Fullerton and Daggett, CA. The generally single-track UPRR trackage for the 175.8-mile distance between Daggett, CA and Las Vegas is expected to take two hours and 46 minutes to traverse. The X Train company is working to negotiate an on-time performance provision to its agreements with the railroads so that delays, which often adversely affect passenger rail ridership in the US, will not affect X Train ridership.

X Train will operate non-stop from Fullerton, where Metrolink's train service converges, to Las Vegas. The Fullerton-to-Las Vegas service is estimated to take about five hours with the initial train anticipated to leave Fullerton around noon and arrive in Las Vegas at about 5 pm. The train consists could operate at a top speed of 79 mph with an average speed of 64-66 mph, based on X-Train modeling for the 80-mph track classification, which has about 100 speed restrictions along the total length. Long-term, once PTC is installed, X Train expects to be able to operate at speeds of 100 mph on its route.

Fullerton is the largest nexus of trains in southern California; and Metrolink, which handles 12 million riders a year, could be used to feed riders into one of three collection points for the X Train. Fullerton has extensive surface parking plus a 700-car garage, and the community is building a 1,100-car garage. The Fullerton city council supports the project and its redevelopment authority has worked to make its transportation center fit well with the proposed X Train service.

The downtown Las Vegas terminal is proposed to include long, narrow platforms to accommodate unloading 700 persons in 15 minutes with cabs, limos, and shuttle vans taking them to their destination hotels. Pre-bookings and on-board concierge communications are the methods that the X-Train proposal has programmed to permit the operation to handle the scheduled arrivals smoothly.

The initial roundtrip fare is expected to be relatively modest with additional revenue generated from ancillary bookings for hotels, shows, golf, spas, and transfers. The trains are anticipated to offer Wi-Fi and to provide a Las Vegas atmosphere with interior décor, uniforms, drinks available in each car, a sports bar, food by Mandalay Bay Resort celebrity chef Rick Moonen, and casino games, although no gambling for money will be permitted.



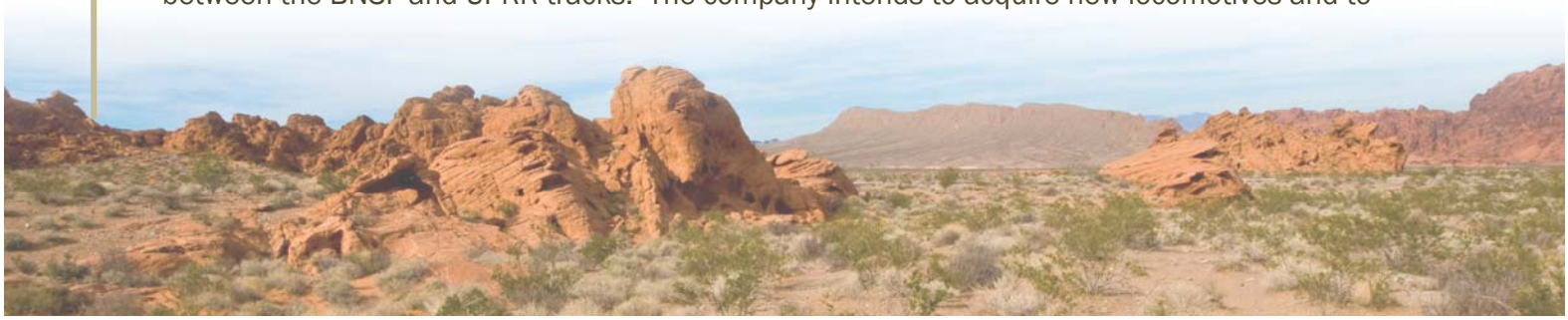
The X train has purchased equipment, and maintenance facilities have been programmed. The X Train anticipates beginning service as soon as late 2012.

Pullman Palace Car Company Train

Four individuals own the Pullman Palace Car Company, headquartered in Las Vegas, which is working to advance ten interrelated projects, including conventional passenger rail service between southern California and Las Vegas, using existing freight rail lines. The goal is to begin service in the first quarter of 2014 with a roundtrip train extending from Union Station in Los Angeles to an 11-acre site the company controls near the south end of the Strip in Las Vegas and return. This train is dubbed the City of Lights, is projected to require a capital investment of $115 million, and to draw 390,000 passengers annually. Then in the first quarter of 2016, the company proposes to launch a second roundtrip train extending from its Las Vegas terminus to Union Station in Los Angeles and return. This train is called the City of Angels and is expected to draw an additional 390,000 passengers. Finally, in the fourth quarter of 2018, the company proposes to launch its third roundtrip train, the City of Dreams, extending from its Las Vegas hub to Disneyland in Anaheim at the Anaheim Regional Transportation Intermodal Center (ARTIC), which is expected to open in 2014, and return with possible intermediate service to San Bernardino and Riverside, CA.

The service will be scheduled for non-peak mid-morning departures and mid-afternoon arrivals, operating six days a week, Wednesday through Monday, at an average speed of 52 mph and making the trip in five hours each way. The company is interested to market a range of multiclass services comparable to a luxury cruise line experience, including amenities catering to the Asian market. The company expects to draw new riders to its service, rather than draw from those making the existing I-15 trip. The cost of the passenger service will be dynamic, based on the class of service and the demand. The 11-acre south Las Vegas Strip hub site is programmed to include a 20,000 sq ft terminal and 700 parking spaces, plus other commercial development.

The Pullman Palace Car Company proposes to operate the service itself rather than use Amtrak, although the company plans to engage a third-party contractor as operator, acceptable to the railroads on UPRR San Gabriel, BNSF Riverside, and UPRR Yermo-to-Las Vegas trackage. The company is also interested to upgrade 18 miles of Cima/Kelso track to facilitate the transition between the BNSF and UPRR tracks. The company intends to acquire new locomotives and to



acquire and refurbish former Atchison, Topeka and Santa Fe Railway Hi-Level cars with both short and long domes, plus single cars, to create 16 to 26-car consists.

The Pullman Palace Car Company proposes to privately finance its train service and is working to secure letters of introduction from prominent persons to begin negotiations with the railroads to discuss operating on their trackage between Las Vegas and Los Angeles.

Salt Lake City-to-Las Vegas Service

Amtrak provided Las Vegas and Caliente, NV with direct rail trips to Salt Lake City and Los Angeles until 1997 when Congressional budget cuts required Amtrak to discontinue its *Desert Wind* service. *Desert Wind* service ran daily between Salt Lake City and Los Angeles between 1979 and 1995, when the service was modified to extend to Chicago with only three-day-a-week service, and interlined with four-day-a-week *California Zephyr* service. Prior to the discontinuation, only a *Desert Wind* through coach and sleeping car extended east of Salt Lake City to Chicago. After the discontinuation, *California Zephyr* service was restored to daily operations between Salt Lake City and Emeryville, which had been provided before 1995. (Changes in Amtrak's *Pioneer* service, linking Salt Lake City; Boise, ID; Portland, OR; and Seattle, WA, mirrored those of the *Desert Wind*.) Southern Nevada has not had any passenger rail service since the elimination of the route.

Variations on *Desert Wind* service restoration could involve providing connecting train service at Salt Lake City, extending to Las Vegas and Los Angeles, or providing connecting train service at Salt Lake City, extending to Las Vegas and linking with timed transfers to and from the X Train or other proposed service in Las Vegas. However, requiring transfers can result in significant losses in ridership. Also, the two states would likely need to pay to provide the Salt Lake City-Las Vegas service under contract to Amtrak. If cost is based on line length in each state, the bulk of the cost would fall to Utah, where the state constitution prohibits using gas tax receipts for non-highway expenditures. Utah may also be disinclined to fund such service because the UPRR mainline between Salt Lake City and Las Vegas is located away from the more populated areas in Utah lying between the two cities. Historically, I-15 travel has been greater between Salt Lake City and St. George, UT, than to Las Vegas; and Salt Lake City's airport is a hub for Delta and Southwest airlines, so that Salt Lake City residents would not be inclined to go to McCarran Airport to catch a flight. In addition, the Las Vegas-Los Angeles leg of the original *Desert Wind* service garnered higher ridership than the Salt Lake City-Las Vegas segment, and providing

service between Las Vegas and Los Angeles would compete with the X Train or other proposed services.

UPRR uses its South Central Route between Las Vegas and Salt Lake City to handle traffic between Los Angeles and Salt Lake City, as well as to accommodate Sunset Route traffic shifts in response to construction/maintenance and weather or other conditions. UPRR continues to upgrade its Sunset Route since the merger with the SPTC in 1997, because the Sunset Route offers a more favorable route east than the South Central Route and has taken some traffic off the South Central Route, especially within the last four years. However, the South Central Route continues to provide a viable mainline function for the railroad, which the company is interested to continue.

Amtrak's September 2010 PRIIA PIP suggests restoring Chicago-to-Los Angeles *Desert Wind* service in the long term to complement the existing *California Zephyr* service, pending host railroad negotiations and securing capital and operating funding, which would be expected to require federal appropriations to cover capital costs for equipment, stations, and freight capacity analysis improvements, as well as to cover operating losses. If and when such conditions could be realized, states along the route could opt to provide supplemental support for the line similar to California's contract with Amtrak on the *Capitol Corridor* line.

C. High Speed Passenger Rail

This section describes high speed rail proposals for northern and southern Nevada that are potential candidates for near- and long-term development. It also addresses the need for a multimodal passenger terminal at high speed rail destination Nevada cities. The just-initiated NDOT study of a multi-state multimodal corridor study, referenced in **Chapter 5 Section B**, will include consideration of rail service, which could potentially connect Las Vegas and Reno. Suggestions have been made to develop high speed rail between Las Vegas, Elko, and Boise, ID, among others that are not suitable as initial high speed rail projects because of the size of the markets to be served, the topography between the cities, the absence of existing rail or highway routes, etc.; and they are not discussed in detail here.

1. Northern Nevada

WHSRA has proposed providing high speed rail service across northern Nevada linking Denver and Salt Lake City through Reno to San Francisco, which is discussed below. FRA's Southwest Multi-State Rail Planning Study, noted in **Chapter 5 Section B**, includes consideration of high speed rail in this corridor.

WHSRA Proposal

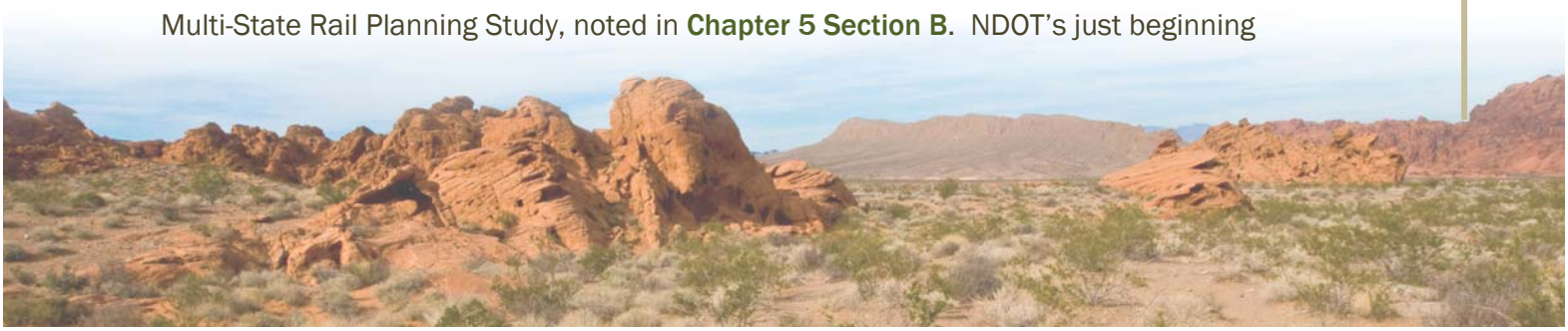
Four MPOs and a transit agency came together to establish WHSRA to address Intermountain West high speed rail needs. The five founding governmental entities are the RTC of Southern Nevada, the RTC of Washoe County, the Denver Regional Council of Governments (DRCOG), the Maricopa Association of Governments (MAG), and the Utah Transit Authority (UTA). WHSRA has worked with state officials, including NDOT, and with federal officials, including FRA.

Long term, WHSRA would like to see a high speed rail line linking Denver, Salt Lake City, Reno, and San Francisco. WHSRA acknowledges that the existing UPRR track between Reno and Sacramento would be difficult to negotiate at high speeds, notably the Donner Pass; and UPRR has significant capacity issues with this corridor. Widening the I-80 corridor through the mountains to accommodate high-speed rail would entail environmental issues. WHSRA has suggested that a lower plateau crossing, perhaps through Truckee, might be an alternative.

WHSRA takes the position that ridership, which varies between peak and non-peak, should not be the primary policy measure used to evaluate high speed rail. WHSRA suggests that other measures should be considered, such as, safety, quality of ride and stations, on-time performance delivery, interoperability, connectivity to other modes, and BCAs. Improvements in overall mobility and accessibility, as well as the value of additional transportation options could also be considered.

2. Southern Nevada

The high population metropolitan areas, including Los Angeles, Phoenix, and Las Vegas, and the high traffic links in and out of southern Nevada, notably the Los Angeles-Las Vegas connection, have generated multiple proposals for high speed rail. **Figure 3-3** shows the most significant proposals. They include: DesertXpress, California-Nevada Interstate Maglev, and the Golden Triangle, which WHSRA has promoted and FRA has included in its currently-underway Southwest Multi-State Rail Planning Study, noted in **Chapter 5 Section B**. NDOT's just beginning



Multimodal Multi-State Framework Study, also noted in **Chapter 5 Section B**, will address potential high speed rail routes. WHSRA has also proposed linking Las Vegas with Salt Lake City and Denver.

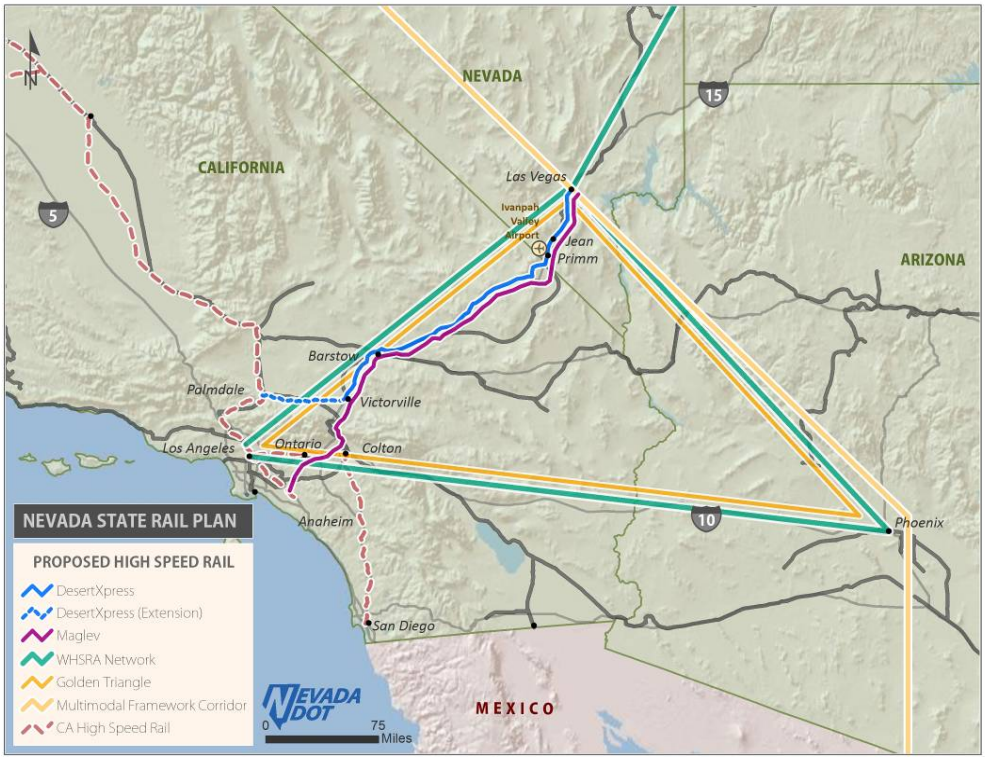
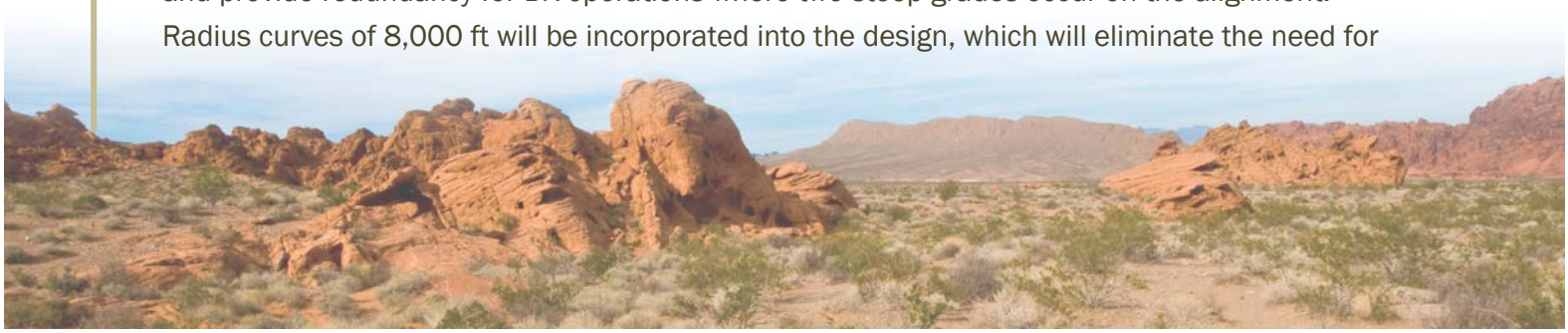


Figure 3-3: Proposed High Speed Rail

DesertXpress

DesertXpress Enterprises, LLC, a private company, is advancing the DesertXpress (DX) project. DX involves building a new standard-gauge double-track passenger-only rail line without any at-grade crossings for the approximately 185 miles between Las Vegas and Victorville, CA. The alignment will be built largely within the very wide right-of-way of I-15 and operate at a top speed of 150 mph, using steel-wheel-on-steel-rail fully-electric equipment.

Electric Multiple Unit (EMU) train sets will be used because they are environmentally preferred and provide redundancy for DX operations where two steep grades occur on the alignment. Radius curves of 8,000 ft will be incorporated into the design, which will eliminate the need for



tilt-train technology. Train suppliers currently engaged in DX's procurement process for equipment have agreed to meet FRA's Tier III guidance developed through the Railroad Safety Advisory Committee (RSAC). Similarly, DX will meet FRA track standards for operations above 125 mph, a draft rule for which was published in November 2011. Three substations will be used to power the line.

DX chose to operate at a top speed of 150 mph because this speed can comply with FRA track-class service requirements; because it will reduce environmental effects and energy costs compared with higher speed operations; and because higher speeds, such as 200-mph operations, would only provide a marginal travel time savings in the one-hour-20-minute trip.

Building standard gauge track was chosen to be able to accommodate interoperability with California high speed rail equipment for a future connection at Palmdale, CA, which the California High Speed Rail Authority chose over a Grapevine option after additional study in January 2012. Palmdale will yield a connection to the Metrolink commuter rail system and station stops throughout southern California, as well as achieve fully interoperable high speed service with the California high speed rail network or upgraded Metrolink system.

DX chose Victorville as the southern California terminus because all the southern California freeways funnel into Victorville at I-15 in advance of the leg to Las Vegas. Extending the line west of the Cajon Pass would require significant right-of-way and displacements because the I-15 right-of-way is narrower and numerous interchanges would need to be negotiated in the populated parts of southern California. A total of 17,000 parking spaces are programmed at Victorville with structured and valet parking options, plus discussions with Caltrans have considered transit interface in Victorville.

Two Las Vegas station options are under consideration: a south station at Hacienda and Russell and a Central B station south of Flamingo Road. Hotel shuttles, taxis, RTC bus, and rental car connections will interface at whichever station is selected; and ultimately the private monorail company might also connect with the DX station.

DX has completed necessary environmental clearances for its Las Vegas-to-Victorville project. A project-specific environmental impact statement (EIS) has been signed and circulated, which addresses use of the interstate right-of-way and a project description that avoids any residential displacements. FRA signed the project's Record of Decision (ROD) in July 2011, and the STB issued a Certificate of Public Convenience and Necessity in October 2011, conditional on

implementing the 146 environmental mitigation measures included in the project's EIS. FHWA signed its ROD in November 2011. BLM executed its ROD in October 2011, and the agency executed a lease agreement with DX for the federal land needed to build DX in December 2011.

Environmental work has been initiated to address the future 50-mile-long Palmdale-to-Victorville DX extension. California's High Desert Corridor Joint Powers Authority (comprising San Bernardino and Los Angeles counties and the cities of Adelanto, Hesperia, Palmdale, and Victorville) passed resolutions in support of DX in May 2010 and June 2011.

The DX project is estimated to cost some $6.5 billion. The EIS indicates that the forecasted ridership will be sufficient to cover operating expenses, debt service, and return on investment. DX submitted a Railroad Rehabilitation Improvement Financing (RRIF) loan application in 2010; the amount of the loan will be determined, according to FRA's financial review, and equity and additional debt will be used to cover any shortfall in project costs. RRIF is a federal loan program, which must be paid back; it requires National Environmental Policy Act (NEPA) clearance with state and local support, but it does not require that a project be included in the STIP. DX expects FRA's independent financial advisor hired to evaluate DX's application, including an investment grade ridership study, will complete its due diligence review in the second quarter of 2012.

The private company advancing the DX project projects that its high speed rail line will generate about 80,000 jobs, about half of which will be primary jobs and about half of which will be secondary jobs. DX anticipates beginning initial service in 2016.

California-Nevada Interstate Maglev

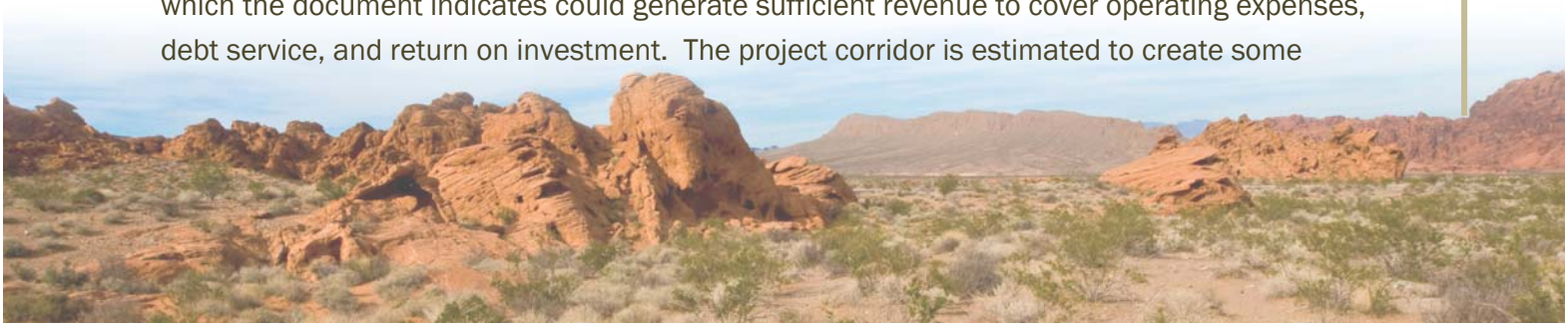
The California-Nevada Super Speed Train Commission is working to develop a 269-mile-long high-speed magnetically-levitated (maglev) ground transportation system between Anaheim, CA and Las Vegas via Primm, NV and Barstow, Victorville, and Ontario, CA. The maglev technology could permit the Anaheim-to-Las Vegas trip to be made in about one hour and ten minutes, a significant savings over conventional rail. The Nevada State Legislature initially enabled the Commission in partnership with the state of California; California subsequently established its own state high speed rail authority, which action calls for a review of Nevada's original agreement. The Commission is in partnership with the American Magline Group (AMG), which is a joint venture of companies working to adapt and deploy the proven, German Transrapid maglev technology in the US.

Maglev is energy-efficient and environmentally-friendly with, for example, low noise levels and reduced air emissions. Maglev vehicles can accelerate quickly, climbing up to a 10-percent grade, and they provide good capacity. Maglev is considered very safe because it operates on an elevated guideway without grade crossings and its vehicles wrap around the guideway, thereby avoiding derailment. Maglev vehicles glide over the guideway, which avoids steel-wheel-on-steel-rail friction and requires fewer moving parts, thus reducing operating and maintenance costs and yielding higher operating speeds up to 300 mph. Maglev will probably need to await new FRA guidelines for its operation or try to secure a waiver from FRA for its proposed Tier III operations, because the distinctive maglev technology does not fit with FRA's focus on interoperability of Tier III systems on Tier I and II tracks at speeds below 125 mph.

Anaheim expects to open ARTIC at the end of 2014, which will provide a strong distribution and connecting hub for the California-Nevada Interstate Maglev in southern California. ARTIC will accommodate local and express buses, Metrolink and Amtrak passenger rail, and the future California high speed rail plus the Anaheim Rapid Connection (ARC); it will have good interstate highway and arterial roadway access.

The Commission has spent almost $9 million in federal funding and $2 million in local match to advance the maglev option over the years, which the Commission believes could permit it to complete an EIS and design work in 18 months to two years. The Commission proposed advancing construction of a 40-mile starter segment between Las Vegas and Primm at the stateline as an initial project. This segment would cost some $1.8 billion and could provide a 12-minute trip, serving the proposed Ivanpah International Airport between Primm and Jean, NV, a project that is on hold because McCarran Airport retains adequate capacity in the current down economy. The Commission was designated to receive $45 million in federal funding in the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) to complete an EIS and preliminary design on this starter segment; and AMG subsequently committed matching funds in April 2009, but the federal funds have never been awarded. While the federal funds have not been rescinded at this time, given multi-year delays in reauthorization of the federal transportation funding bill, no significant action has occurred on the project since 2005.

FRA earlier approved the project's investment-grade ridership study, which called for 40 million persons to ride the Maglev line based on $110 roundtrip between Las Vegas and Anaheim, which the document indicates could generate sufficient revenue to cover operating expenses, debt service, and return on investment. The project corridor is estimated to create some



97,000 jobs and to require about $45 million per mile to build for a total estimated project cost of some $12 billion. An Export-Import Bank of China vice president signed a November 9, 2009 letter indicating the potential to loan the Commission $7 billion, provided that the Chinese government approves the deal potentially using Chinese suppliers or contractors and that the US government guarantees the loan. Additional funding sources could include a combination of federal rail sources, such as Transportation Infrastructure Finance Improvement Act (TIFIA) funding, and/or equity along with state or local sources.

The project advanced a number of cooperative agreements with multiple state and federal agencies and secured numerous local government and citizen endorsements along its alignment, reflecting its extensive public relations efforts, since its franchise was issued in 1996 and the public-private partnership was established in 1997. However, even the visual presence of elevated California high speed rail options designed to reduce right-of-way takings, have proved very controversial when the details were presented to the public. More significantly, the project has not advanced significantly since its Nevada starter line stalled after federal funding for it was originally included in SAFETEA-LU in 2005. An estimated project completion date has not been published.

Golden Triangle

WHSRA is advocating building high speed rail between Las Vegas, Phoenix, and Los Angeles, referred to as the Golden Triangle. This proposal is being addressed in FRA's Southwest Multi-State Rail Planning Study, and the Las Vegas-Phoenix leg is being addressed in a new multi-state multimodal NDOT study, both of which are discussed in **Chapter 5 Section B**.

3. High Speed and Conventional Rail Passenger Terminals

Each Nevada community with Amtrak, Thruway Bus, or Greyhound service should work to develop consolidated multimodal transfer centers to accommodate both their intercity services and their intracity transit services. Presently, Stateline/South Lake Tahoe is the only community with intercity and intracity bus service located in the same facility (Primm has no intracity bus service). Elko, Winnemucca, Sparks, Reno, Las Vegas, and Laughlin could each benefit from collocating their Amtrak Rail and Thruway Bus, Greyhound, and local bus service, as appropriate, at a single venue to facilitate passenger transfers between modes.

WHSRA is interested to address the first and last 25 miles on high speed rail lines, which is where WHSRA feels that the European high-speed rail projects provide valuable lessons learned.

WHSRA has noted that the European projects initially did not accommodate adequate ticketing; did not provide for future expansion of lines in cities, such as Paris, Madrid, and Amsterdam; did not provide enough room for luggage and kiosks; and did not provide for adequate retail to address the volumes of users in the changing marketplace.

WHSRA is also interested both to have sufficient multimodal connectivity at proposed high speed rail stations and to see a policy developed to provide for the grade separations that will be needed to accommodate high-speed rail operations.

Properly locating a future high speed rail terminal will be important, notably for Las Vegas. WHSRA has expressed interest in locating such a facility at the international airport; however, McCarran spatial constraints limit its capacity to accommodate this type of facility. Another long-term possibility is the proposed Ivanpah International Airport with direct linkages to the Las Vegas Strip. The location and layout of this facility will need to be studied carefully so that it can effectively accommodate the needed multimodal components. Such a facility will also be needed in Reno in the long term.

D. Excursion Train Facilities

Three of Nevada's excursion railroads have expansion plans, which are discussed below. The Nevada State Railroad Museum in Carson City does not have current plans for expansion. In addition, the Pullman Palace Car Company proposes to use some of the same trackage that the Southern Nevada Railway proposes to use in Henderson; and its hybrid proposal is also discussed below.

Nevada Northern Railway

The Nevada Northern Railway Museum and the White Pine Historical Railroad Foundation, which operates excursion trains in northeast Nevada, propose to rehabilitate the four miles of trackage from McGill Junction to McGill Depot in the near term and operate its McGill Junction Route on this extension. See **Figure 3-4.** Reopening the closed US93 at-grade crossing between McGill Depot and McGill Junction will require an evaluation of its traffic implications and inclusion of appropriate grade-crossing protection. An alternative one draft state rail plan reviewer suggested to avoid crossing US93 at the "Club 50" crossing and at the currently-paved-over Poleline crossing at McGill Junction, plus other at-grade street crossings near McGill Junction, is to extend the museum's existing "Hi-Line" about two miles on the abandoned roadbed into the mill site and depot.

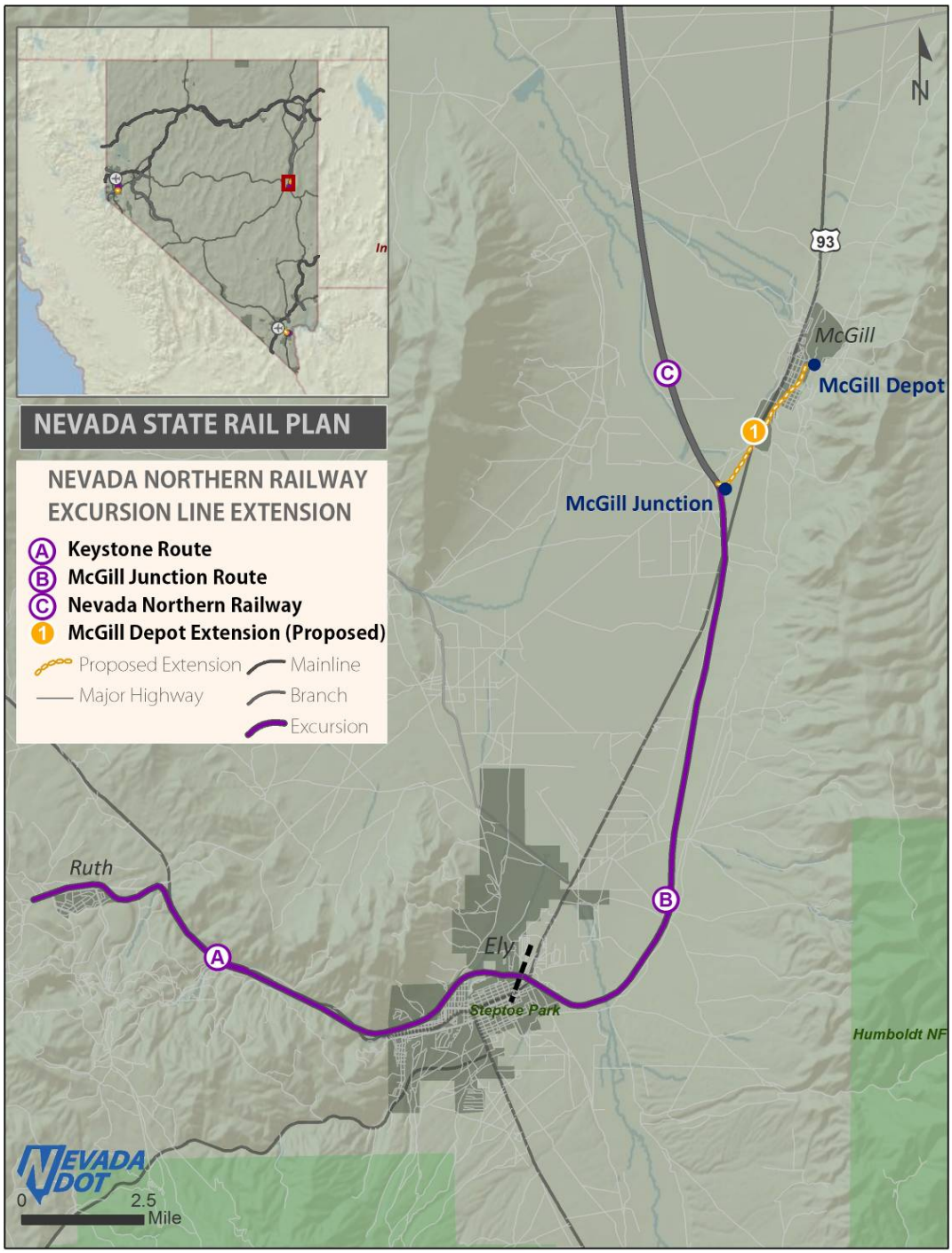


Figure 3-4: Nevada Northern Railway Excursion Line Extension

V & T Railroad Company

The V&T Railroad Company, which operates excursion trains in western Nevada, plans to extend its Sisters in History Route about five miles to the east side of Carson City. The company's Drako Way option is the currently preferred route, although other options have been considered, including both a Detroit Way terminus and an interim Flint Drive station site, all of which connect close to US50. The new service will include refurbished steam engines and passenger cars, plus updated stations along the route. **Figure 3-5** shows the planned extension. Long term, the V&T would like to connect closer into downtown Carson City, possibly with the Nevada State Prison grounds located about six and half miles away at 3301 E. 5th Street on the east side of Carson City, as an advocate suggested for turning the recently-closed prison into a museum. Such a connection would require evaluating alternate alignments, involving additional river crossings and environmental documentation, plus funding.

Nevada Southern Railway - Henderson

A grade separation structure over US93 will be built as Package 5 of Phase 1 of the Boulder City Bypass project, which will make the Nevada Southern Railway more visible (similar to the V&T overpass of US50). This improvement at Railroad Pass will also permit extending the Nevada Southern Railway operation about seven miles on the existing city of Henderson-owned trackage from US95 to the Fiesta Hotel at the UPRR-owned BMI Branch trackage. Providing a train platform, shelter, parking lot, and run-around track at the Fiesta Hotel will permit the Southern Nevada Railway to operate out of Henderson with Boulder City as the destination, creating a more attractive tourist package closer to the Las Vegas market (see **Figure 3-6**). Tourist train traffic will need to be coordinated to maintain existing UPRR freight operations on the city of Henderson trackage.

Pullman Palace Car Company Punter Train

The Pullman Palace Car Company proposes to establish a public private partnership (P3) with Henderson, Boulder City, Clark County, the state of Nevada, and the company to develop and operate a hybrid commuter-tourist train, (as well as a nightly luxury dinner train), between Las Vegas, Henderson, Hoover Dam, and Boulder City. This proposed service, called the Punter, would operate 12 hourly trains a day seven days a week. It would use the full length of the BMI Branch, which UPRR, the city of Henderson, and the Nevada Southern Railway in Boulder City own, to the company's hub near the south end of the Strip.

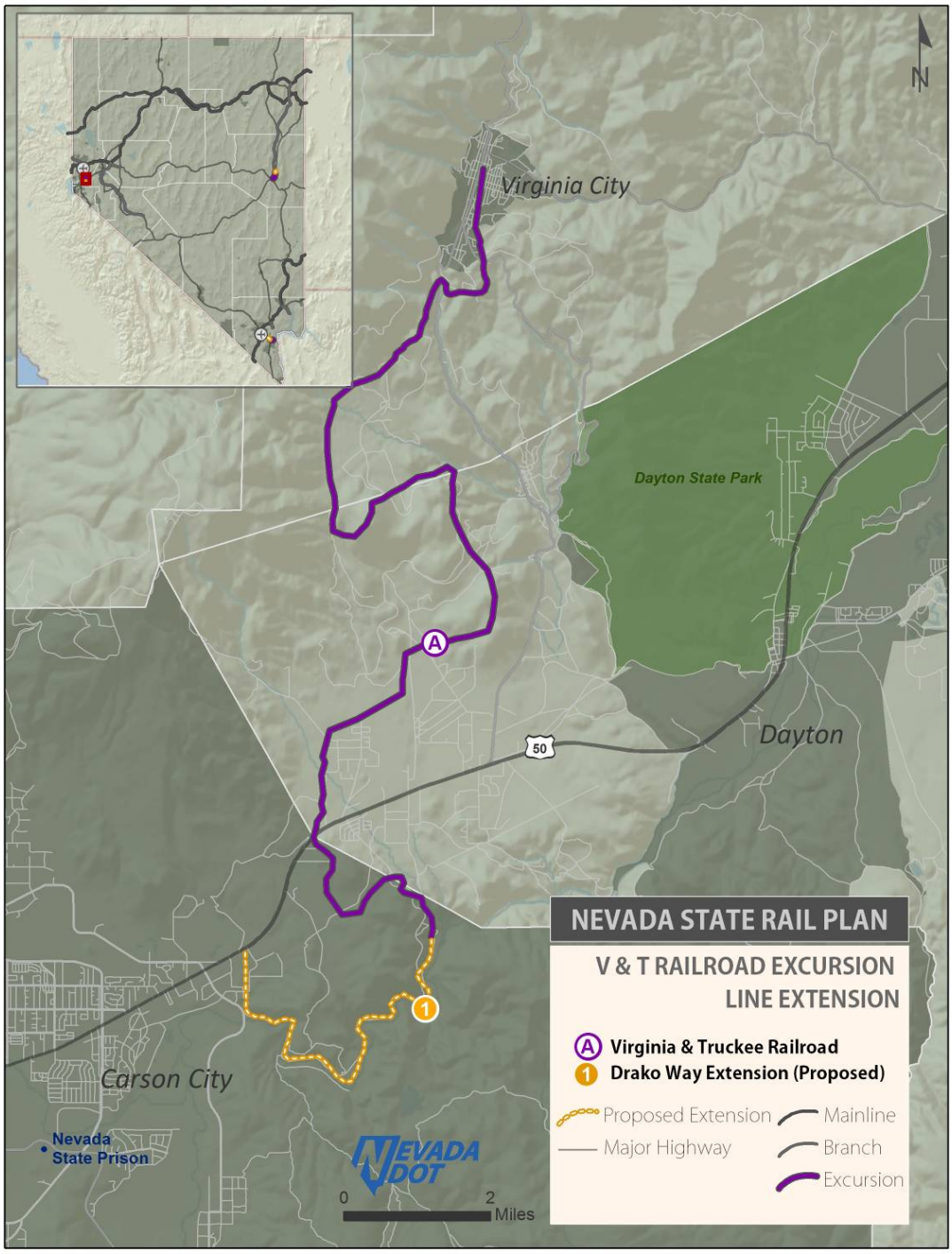


Figure 3-5: V & T Railroad Excursion Line Extension

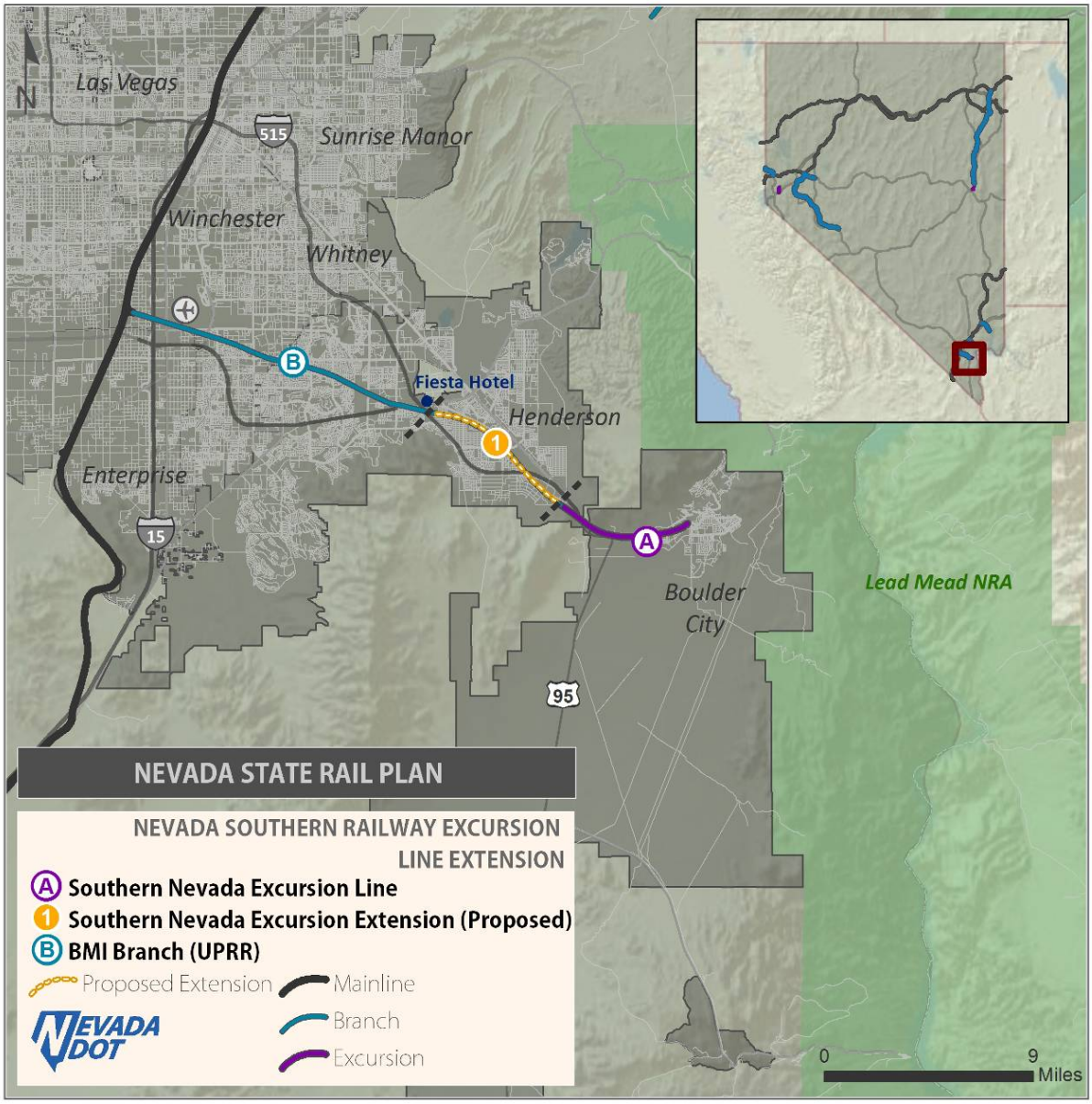


Figure 3-6: Nevada Southern Railway Excursion Line Extension

The company proposes to operate bi-level push-pull equipment, averaging 46 mph, to make the trip in 30 minutes each way with five-to-seven cars, accommodating 600-1,000 passengers. The company states that UPRR has indicated a willingness to assign its BMI trackage to the proposed P3, provided that UPRR will maintain freight rail access on the branch in perpetuity. The project's intent is to stimulate economic development along the line, which could include an industrial park, which may meet the state's needs for a downstate inland port. The company proposes to develop a rail maintenance facility on this line. Discussions among the proposed participants must advance to try to build a consensus for advancing this proposal, for which the company would consider using public funding.

E. Summary of Passenger and Excursion Rail Projects

Table 3-1 lists the future passenger and excursion rail projects suggested during the development of the state rail plan from the stakeholders, in the public meetings, from the website and survey comments, etc. These projects are grouped under the headings of conventional passenger rail, high speed rail, and excursion rail. Each project is briefly described under the heading of status description, which yields a check mark in one of four columns: *further study needed*; *implementation issues*; *contact RR (UPRR/BNSF) directly* (used for freight rail projects); or *advance to the evaluation matrix*. These boxes are checked as follows:

- *Further study* applies to a number of preliminary concepts or suggestions that have been offered, which will require further study to define or advance a project for evaluation.
- *Implementation issues* typically apply to projects that have been studied and may be on hold or are not ready to advance at this time.
- *Contact (UPRR/BNSF) RR directly* is applicable to requests for additional or different freight rail service for industry; these shippers and potential shippers should begin by contacting the railroads directly to discuss their shipping needs. (This box is used and further discussed in **Chapter 4**.)
- The last entry, *Advance to Evaluation Matrix*, is for those projects that should be further evaluated for NDOT support, which are discussed in **Chapter 5**.

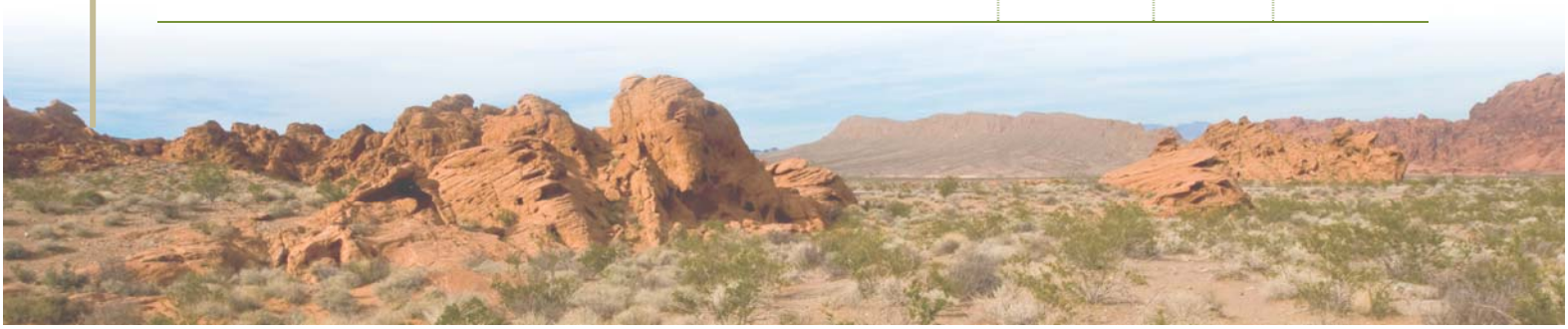
Table 3-1: Passenger and Excursion Rail Project List

Project	Status Description	Further Study Needed	Implementation Issues	Contact RR Directly	Advance to Evaluation Matrix
Conventional Passenger Rail					
1. Add passenger/commuter service in Reno, Sparks, Fernley, and Fallon	Commuter service on the main line would necessitate costly capital improvements to meet capacity requirements. Study needed to determine demand for service and to evaluate building new parallel track.	✓			
2. Add commuter service between Carson City and Reno	A study needs to be commissioned to determine the demand for service.	✓			
3. Add commuter service between Boulder City/Henderson and Las Vegas	General public strongly opposed in previous study, bus service now being pursued, plus Pullman Palace Car proposal.		✓		
4. Address passenger constraints at Elko *CA Zephyr* Amtrak facilities	Will require further study and coordination with Amtrak and UPRR.	✓			
5. Add *CA Zephyr* stops at Fernley, Lovelock, Wells, or W. Wendover, NV/ Wendover, UT	Requires Amtrak benefit/cost evaluation and UPRR capacity analysis. Local support needed.	✓			
6. Add sleeping cars and second daily train to *CA Zephyr* between Reno and Emeryville, CA	Amtrak has studied and decided to defer implementation because of funding and equipment issues, which will require multi-state congressional coordination/funding.		✓		

Project	Status Description	Further Study Needed	Implementation Issues	Contact RR Directly	Advance to Evaluation Matrix
7. Operate passenger rail service on Feather River between Reno and Sacramento in lieu of Thruway Bus	This rail route has a longer travel time than I-80 bus service and would necessitate significant capacity improvements. Also, Amtrak is disinclined to operate on this route and UPRR is not favorable.		✓		
8. Add service between Emeryville, Sacramento, Salt Lake City, and Reno during proposed 2022 Winter Olympic Games	Project concept is being considered as part of a potential bid for the 2022 event, which has strong support.				✓
9. Support X-Train effort between Fullerton and Las Vegas	BNSF and UPRR in final negotiations. Project is close to construction and implementation.				✓
10. Support Pullman Palace Car Company train proposals between southern CA and Las Vegas	Concept requires advancing negotiations with railroad companies, purchasing equipment, and funding	✓			
11.Restore *Desert Wind* service between Salt Lake City, Las Vegas, and Los Angeles and use tilt-technology equipment	Recommended in Amtrak PRIIA report. Needs funding.		✓		
12. Add north-south conventional passenger rail service between Reno and Las Vegas	NDOT's north-south multimodal multi-state study referenced in Ch. 5 Section B will consider this possibility for which the demand for service will need to be determined.	✓			
13. Add subway service in Las Vegas	Not an intercity passenger rail service to be addressed in the State Rail Plan.		✓		

Project	Status Description	Further Study Needed	Implementation Issues	Contact RR Directly	Advance to Evaluation Matrix
14. Develop consolidated multimodal terminals	A goal for each Nevada city with Amtrak Rail/Thruway Bus, or Greyhound and local bus service				✓
High Speed Intercity Passenger Rail					
1. Develop high speed rail service between Boise, Elko, and Las Vegas	A study needs to be commissioned to determine the demand for service and where such a high speed rail line would be built.	✓			
2. Add north-south high speed passenger rail service between Reno and Las Vegas	NDOT's north-south multimodal multi-state framework study referenced in Ch. 5 Section B will consider this long-term possibility.				✓
3. Support WHSRA long-term proposal for high speed rail between Denver, Salt Lake City, Reno, and San Francisco	Project is currently being studied as part of FRA Southwest Multi-State Rail Planning Study.				✓
4. Accommodate DesertXpress service between Las Vegas and Victorville, CA	Project is currently advancing, has gained environmental and STB approvals, and is in application review process for a federal loan.				✓
5. Accommodate California-Nevada Interstate Maglev between Las Vegas and Anaheim, CA	Total project is very costly, does not satisfy FRA interoperability goal, and would require potentially controversial encroachments in CA. Project has stalled since 2005 without significant advancement, losing key political support and failing to get federal funds released.		✓		

Project	Status Description	Further Study Needed	Implementation Issues	Contact RR Directly	Advance to Evaluation Matrix
6. Support long-term Golden Triangle high speed service between Las Vegas, Phoenix and Los Angeles, as well as service between Las Vegas and Salt Lake City	Project is currently being studied as part of FRA Southwest Multi-State Rail Planning Study.				✓
7. Multimodal hub at Nevada high-speed intercity passenger rail termini, notably Las Vegas	This project concept needs to be advanced as part of developing high speed rail service to define an effective solution.				✓
Excursion Rail					
1. Rehab track and extend Nevada Northern Railway operations four miles between McGill Junction and McGill Depot	Nevada economic development/ tourism opportunity				✓
2. Add excursion line between Reno and Truckee	Need approval of track owner	✓			
3. Extend the V&T about five miles to the east side of Carson City, plus refurbish equipment and update stations	Nevada economic development/ tourism opportunity				✓
4. Extend Nevada Southern Railway operations on city of Henderson trackage and reorient service	Nevada economic development/tourism opportunity				✓
5. Develop Punter commuter-tourist train between Las Vegas, Henderson, Hoover Dam, and Boulder City.	Proposal needs buy-in from proposed participants to create P3	✓			



Chapter 4:
Freight Rail Issues, Opportunities, and Potential Projects

Chapter 4 : Freight Rail Issues, Opportunities, and Potential Projects

Figure 4-1 shows the corridors where UPRR and other third-party freight rail improvements are proposed in Nevada and adjacent states. These improvements include projects scheduled to be accomplished over the next five years and projects to be completed in six to 20 years; no freight rail improvements beyond 20 years have been identified. BNSF does not currently have any proposed improvements scheduled in Nevada.

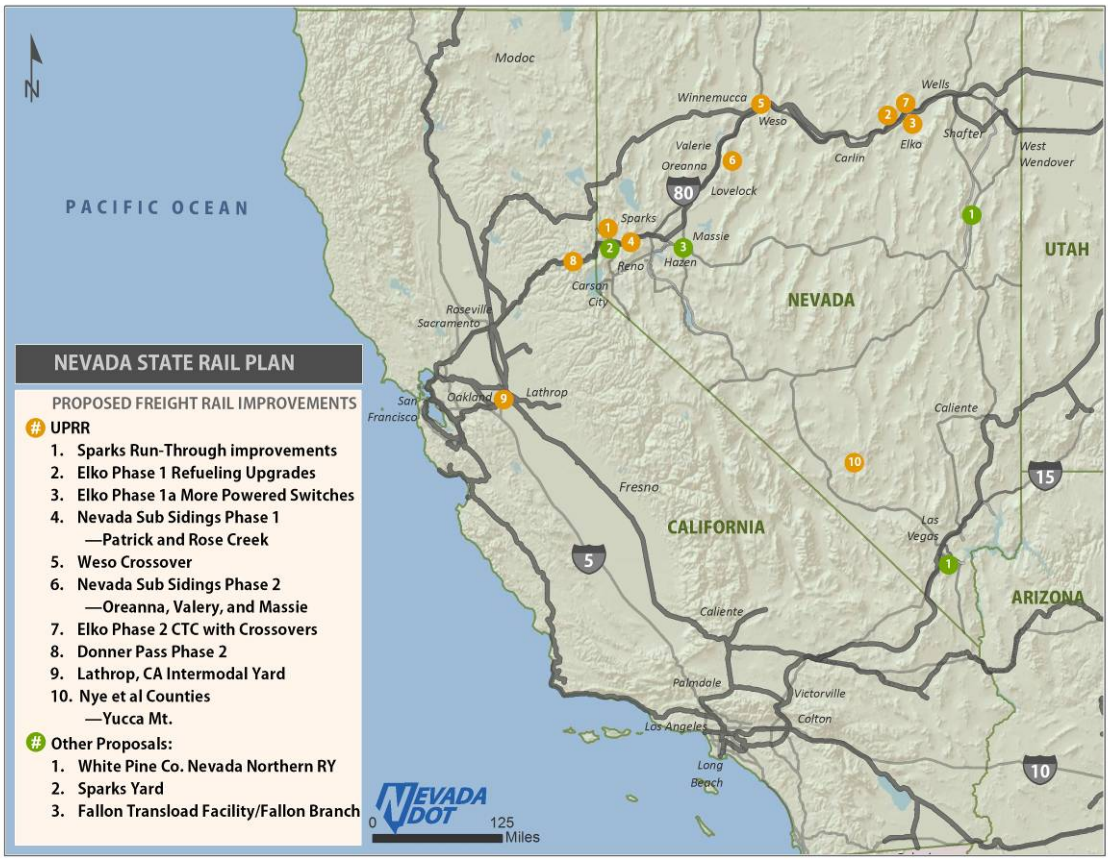


Figure 4-1: Proposed Freight Rail Improvements

This section also includes a discussion of rail-highway grade crossing improvement projects. In addition, a number of recently-completed or currently-underway multi-state transportation studies addressing freight rail shipments are discussed in **Chapter 5 Section B**, including inland port development.

A. Freight Rail Issues and Opportunities

A wide-ranging stakeholder coordination and public outreach effort, fully described in **Chapter 6**, was used to identify the freight rail issues and opportunities discussed in this chapter.

1. Freight Rail Issues

Nevada is basically a pass-through state with 96 percent of its mainline freight rail traffic consisting of through shipments traveling to and from the coastal ports of California, as discussed in **Chapter 2**. Only some three percent of the freight on the mainlines in the state is shipped into Nevada as its destination (primarily, coal, clay, concrete, and chemical products); and only about one percent of the rail freight on Nevada's mainline tracks is shipped from Nevada to an out-of-state destination (primarily, chemical or allied products, intermodal, and non-metallic minerals), based on 2009 data.

Through-shipments have declined on the Feather River Corridor and increased commensurately on the Overland Route across northwestern Nevada through Reno, following tunnel notching in 2009 to accommodate double-stacked container shipments over Donner Pass in California. Through-shipments have declined across southern Nevada, as UPRR has upgraded and shifted traffic to the more favorable Sunset Route, south of Nevada, following the railroad's 1996 SPTC merger.

A single carrier (UPRR) owns and maintains all of the mainline trackage in Nevada; BNSF has trackage rights on about three-quarters of the UPRR mainline routes, including the right to serve some existing and all new customers. All UPRR mainline trackage in Nevada, with minor exceptions, is single track; however, the Overland Route and the Central Corridor are operated as one directional double main for the roughly 180-mile-long distance between Wells and Winnemucca with one track assigned eastbound traffic and the other assigned westbound traffic. The UPRR mainlines are Class 5 tracks, accommodating 70-79 mph operations on generally 133-136-lb rail, with extensive, but not exclusive, CTC operations.

Freight traffic on the UPRR mainline through Reno has increased from 15 to 18 daily trains to 20 to 25 following Donner Pass improvements in California and could eventually reach 40 daily trains, according a UPRR spokesperson quoted in the Reno Gazette-Journal (April 15, 2010). Noise and vibration associated with the increased traffic has brought calls from Reno-area residents to close some crossings and to create a "quiet zone," involving four-quadrant guard arm crossings and warning sirens at grade crossings, among other improvements that will permit train engineers to refrain from blowing their horns in these areas. The RTC of Washoe County is evaluating this issue.

Rail-highway grade crossings present a potential for crashes. Eliminating at-grade crossings is desirable wherever possible through closures, where the crossings are not needed, or with grade separations, where traffic warrants. Some vehicles, such as school buses are required to stop at every rail crossing, and at-grade train crossings require all vehicles to stop, leading to delays in traffic flow and air pollution. On the other hand, if grade separation structures are no longer needed because of changed rail operations, removing the structures can eliminate the cost of maintaining them. In addition, pedestrian track crossing structures can enhance pedestrian safety, such as the proposed Smith Center pedestrian crossing for Symphony Park in Las Vegas. The RTC of Southern Nevada has, as a matter of policy, been opposed to allowing new at-grade crossings of the UPRR mainline in Clark County.

Existing freight rail operations and infrastructure in Nevada suggest a few key freight rail issues:

- Mainline capacity and operational improvements in Nevada can enhance rail efficiency, thereby attracting shipments from interstate truck traffic to more energy-efficient and environmentally-friendly freight rail and to relieve traffic congestion, air pollution, and wear-and-tear on the state's interstate highways.
- Nevada, its industry, and its shippers can increase their efforts to tap the substantial, existing freight rail infrastructure to grow and diversify the state's economy and to create jobs.
- Nevada can continue to address grade-crossing safety, including eliminating rail-highway grade crossings, where possible, through closure and grade-separation structures. In addition, NDOT can work with Nevada Operation Lifesaver to educate the public on the dangers associated with rail operations, particularly at grade crossings.

2. Freight Rail Opportunities

Nevada has opportunities to grow freight rail service both near- and long-term. UPRR has a substantial capital investment in Nevada that is part of a multi-state corporate commitment to move freight across the western and mid-western states. UPRR has near- and longer-term plans to enhance its operations in Nevada, which the state can support. Similarly, regional, county, and municipal entities appreciate the potential of rail to grow industry and create jobs. Inland port development, involving freight rail, is a state economic development initiative. All parties agree that enhancing rail-highway grade-crossing safety is important.

UPRR monitors and controls its rail traffic from the Harriman Dispatch Center in Omaha, NE. Manual on Uniform Traffic Control Devices (MUTCD) Section 8B.18 Emergency Notification Sign (I-13) requires posting a unique crossing identifier and the emergency contact number at each highway-grade crossing. Similarly, highway transportation and traffic management centers (TMCs), such as the RTC of Southern Nevada's Freeway and Arterial System of Transportation (FAST), should maintain communication with UPRR.

Among the more significant opportunities discussed in this chapter and in Chapter 5 are the following:

- UPRR proposals to add sidings, upgrade the Weso crossover, and add CTC technology along its Nevada mainlines; and a UPRR proposal to advance a second track upgrade to CTC on Donner Pass in California. (See **Chapter 4, Section B**.)
- Third-party proposals to modify and upgrade freight rail service, notably in White Pine County and at Fallon. (See **Chapter 4, Section C**.)
- The state's inland port initiative is discussed in **Chapter 5, Section B, Subsection 2**.
- State rail-highway grade crossing improvements are discussed in **Chapter 4, Section D**.

B. UPRR Planned Improvements

UPRR has a number of capital improvement projects now underway or programmed for its Central Corridor in northern Nevada, based on discussions held with the railroad.

UPRR is now advancing Nevada subdivision siding improvements. The Sparks run-through improvements, completed at the end of September 2011, permit fluidly removing distributed power unit locomotives at the Sparks yard and enhance CTC crossover capability between mainline Tracks 1 and 2. These extra locomotives are not needed on the rest of the eastbound

trip, but are needed to assist trains traveling over Donner Pass. (Distributed power units, DPUs, are locomotives placed intermittently in the middle or end of the train and remotely powered from the lead locomotive to assist in getting over significant grades, such as the Donner Pass.)

Elko run-thru improvements include: Phase 1—mainline fueling in both directions for four trains with four separate fueling locations, which was finished in October 2011; and a follow-on Phase 1a: more power-operated switch machines, scheduled to be completed in future years.

UPRR has programmed Phase I Nevada sub sidings in 2013 between Winnemucca and Sparks, involving extending the Patrick siding as a first priority to provide 10,000 feet of clear storage capacity for trains to pass, and constructing a new siding at Rose Creek. These siding extensions do not involve any at-grade highway crossings. Other future UPRR projects include upgrading the Weso crossover to increase speeds from 20 to 50 mph with remote-operated power switches within the next five years. Phase 2 sub sidings are programmed beyond five years and include constructing Oreanna and Valery and extending Massie, as well as providing CTC at Elko with crossovers.

In addition, UPRR is interested in two future projects in California. One is Donner Pass Phase 2: improving the Donner Pass crossing by notching all of the remaining un-notched tunnels and adding more crossovers, CTC, and a second main track. The second involves expanding an intermodal yard at Lathrop, CA, south of Stockton in the first quarter of 2012; a draft environmental impact report (EIR) has been prepared for these intermodal yard improvements.

C. Third-Party Freight Rail Proposals

Several northern and southern Nevada counties would like to see rail improvements to advance economic development for their communities. In addition, a number of miscellaneous freight rail suggestions were made; and a series of shippers and potential shippers have raised issues about service. These various proposals are discussed below.

1. White Pine County:

White Pine County would like to provide rail service for its existing Robinson Copper Mine, which currently ships by truck, and for its two start-up mines (Midway Gold's project and the Victoria mine near Currie), as well as be able to ship inbound loads of fuel, limestone, mill balls, and other mining supplies. Freight rail shipments can eliminate heavy ore truck usage, notably in Ely

at the Junior High School, improving public safety, and can reduce roadway deterioration. The County would like to improve its line for freight service as shown in **Figure 4-2**.

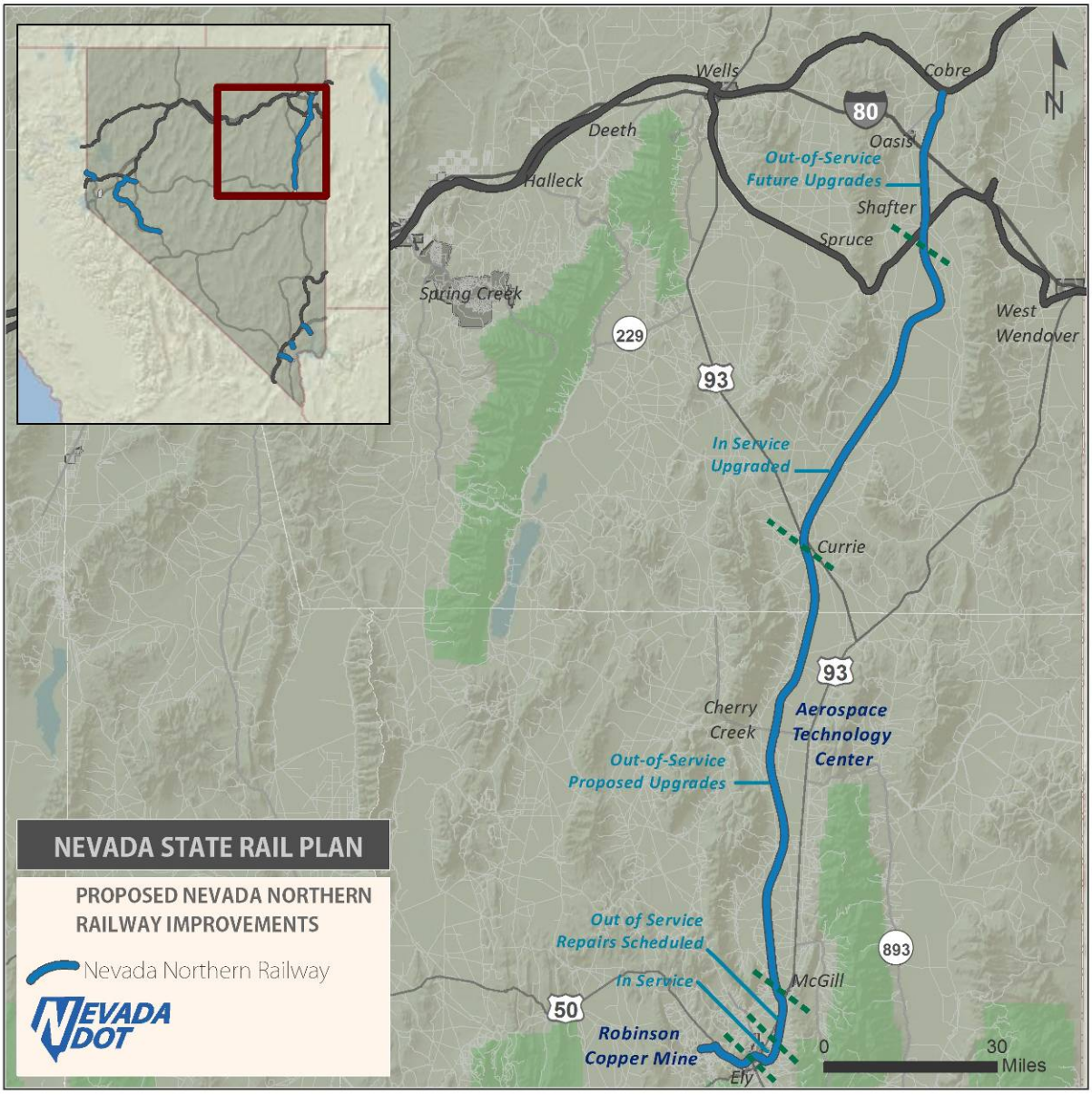


Figure 4-2: Proposed Nevada Northern Railway Improvements

The County has a donation of 150,000 pounds of ballast, which could be applied to rail improvements. Needed rail improvements include raising some low areas of track, rebuilding culverts, and uncovering the rail line at US93 in Currie, which the County would like NDOT to rectify. The County estimates that $40-50 million will be required to address its rail needs.

In addition, White Pine County is interested to gain jobs associated with the renewable energy sector and space aviation/aerospace technology and feels that rail improvements on the Nevada Northern Railway are needed to capture the economic development. Future plans for the Cobre-to-Shafter segment include hauling earth fill materials and shipping copper from the mine.

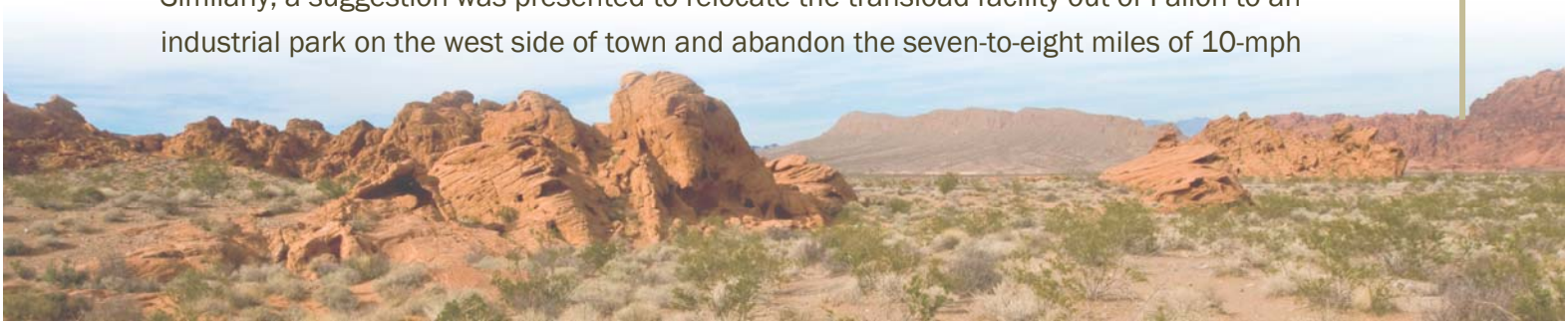
2. Nye et al Counties

Nye, Lincoln, and Esmeralda counties covering the Caliente corridor and Nye, Esmeralda, Mineral, Lyon, and Churchill counties for the Mina Corridor have expressed interest in gaining rail access to move nuclear waste to Yucca Mountain and to ship other freight in the counties. The November 2007 "Rail Transportation Economic Impact Evaluation and Planning Study for the Caliente and Mina Corridors" final report describes the economic gains that could result with the rail improvements. However, the stated policy of Nevada and the federal government at this time is opposed to transporting high-level waste and spent nuclear fuel to a geological repository at Yucca Mountain. Thus, this project is not being advanced in the Nevada state rail plan.

3. Miscellaneous Freight Line Changes

A number of suggestions for changes in freight rail lines were received during the development of the state rail plan. Sparks officials suggested expanding or relocating the Sparks yard, although this facility is adequate for UPRR's needs and the railroad has no need to relocate the facility. UPRR's operations are not constrained at the existing Sparks facility; the Sparks yard is not a destination for intermodal shipments, which are through movements; and trains are not refueled at the Sparks yard. In addition, UPRR has invested in the yard with electronic fencing and other improvements and would not be interested to move the facility much farther east, which would add grade and affect the crew change location and requirements on this route. A site-specific location and an identified funding source to pay for the relocation would be needed before this suggestion could advance.

Similarly, a suggestion was presented to relocate the transload facility out of Fallon to an industrial park on the west side of town and abandon the seven-to-eight miles of 10-mph



branchline operations extending into Fallon. This change is generally agreeable to the only user at the end of the line; to the UPRR, which will gain operational efficiency; and to the community, which will eliminate a half-dozen or more at-grade crossings in close proximity to US50, improving circulation and development potential in town. A funding source has yet to be identified to pay for the change, which was first advanced a number of years ago. FHWA is amenable to participating in the cost of closing the at-grade crossings in Fallon.

A transload facility could be developed in Wabuska (11 miles from Yerrington), or shipping facilities could be developed in Silver Springs, CERC in Fernley, Hazen, or Schurz, NV to meet the needs of the Nevada Copper Corporation. The company is considering shipping up to 450,000 tonnes of copper concentrate per year from the Pumpkin Hollow Mine in Yerington via the UPRR to a West Coast port, beginning in 2013.

A suggestion from a Carlin resident for UPRR to dispose of apparently unused property in the center of Carlin will require additional study. The ReTRAC project in Reno required Congressional approval because it involved railroad property involved in the original transcontinental railroad, which might similarly complicate a change in Carlin.

The Reno-Stead Airport, a reliever airport for the Reno-Tahoe International Airport, has US395 access and an on-site UPRR spur, which could readily serve key sites within the most-developable of the 3,000 acres that the Airport Authority has available for third-party development. Such development is compatible with the Airport Authority's Regional Center Plan and with the Reno Master Plan, which designates the site as an emerging employment center. The site might also be a candidate for the state's inland port initiative, referenced in **Chapter 5, Section B, Subsection 2**.

The Pullman Palace Car Company has proposed developing a 10-million-cubic-foot rail- and truck-served automated 50,000-pallet frozen, cold, and dry storage facility in Las Vegas, called Railport Las Vegas. This facility would be served from the UPRR's South Central Route and BMI Branch and located adjacent to the company's proposed passenger rail hub alongside I-15 near the south end of the Las Vegas Strip. The company estimates that this proposed facility could add 60 railcars daily to the underutilized South Central Route. The Pullman Place Car Company will need to develop its on-site rail access in agreement with UPRR to effect this proposed terminal.

4. Freight Rail Shipping Improvements

A number of respondents to the state rail plan survey expressed interest in gaining new or improved shipping services in northern and southern Nevada for their products. These current and potential freight rail shippers should first contact UPRR or BNSF directly. UPRR, for example, is working with the developer on rail service for the Fernley industrial development.

UPRR classifies access on its rail lines, much like roadway classifications, as allowable, controlled, or restricted, depending on the line's traffic. The classification provides industry access guidelines. UPRR has a committee, which meets every two weeks, to review industrial service requests. Also, UPRR markets door-to-door service, using trucks to ship to and from rail. Customers can find information in the "Industrial Development" section of UPRR's website at: http://www.uprr.com/customers/attachments/industry_guidelines.pdf.

Additionally, BNSF provides competitive freight shipping services in northern Nevada and may also be contacted with potential shipping requests at: http://www.bnsf.com/customers/how-can-i-ship/.

NDOT may be able to assist a shipper if additional service is needed.

D. Rail-Highway Grade Crossings

The NDOT Railroad Safety Program contained 412 public crossings in its railroad database in 2011, of which 131 are public grade-separated crossings and 281 are public at-grade crossings, of which 151 are active and 130 are passive crossings. Active crossings are those that are equipped with crossing signals to detect the presence of trains and activate lights, alarms, and often gates, whereas passive crossings are marked only by stationary signing, such as crossbucks. One third of these public crossings is fully inventoried every year so that all crossings are evaluated every three years per FRA guidelines. While a few at-grade crossings have been closed in recent years, notably in downtown Reno and Las Vegas, these closures do not represent a significant trend in the total number of crossings in the database.

Nevada had an average of 2.6 highway-rail incidents in each of the last five years (2007-2011) on its rail lines, according to FRA's Office of Safety Analysis. These incidents involved an average of less than one injury per year, except in 2011 when a single incident, involving a vehicle running through a grade crossing in a remote area and hitting an Amtrak train, caused

six deaths and 101 injuries, FRA inventories a total of 523 public (284), private (234), and pedestrian (five) at-grade highway-rail crossings in Nevada.

Nevada receives about $1.1 million annually in Federal Railroad Safety Improvement Program funding, half of which is applied to hazard elimination and half of which is applied to signal improvements to achieve MUTCD compliance. The projects can be funded with up to 90-percent federal Section 130 funding with a minimum match of ten percent local funding. UPRR funding is applied for the local match; the state does not contribute to the capital cost of the grade-crossing improvements.

Exhibit 4-1: UPRR Locomotive

UPRR accomplishes some rail crossing improvements without waiting for Section 130 funding. Some 99 percent of the state's public crossings are located on UPRR owned or operated lines; the museum lines, the Truckee industrial spur east of Sparks, the Hawthorne Army Depot line, and the Pabco Gypsum Branch are among the few exceptions. UPRR rail-highway grade crossing project areas of consideration include:

1) siding extension projects, which involve extending a siding through an existing grade crossing and a need to eliminate the crossing;
2) elimination of existing crossings within the limits of existing siding tracks;
3) upgrade of existing pre-emption crossings; and
4) parallel roadways, which result in reduced storage at crossings.

Projects are selected each fall, based on annual inspections and regularly scheduled evaluations. NDOT's Railroad Safety Coordinator conducts the inspections, involving NPUC, railroad representatives, municipal officials, and district-level highway personnel in northern and southern Nevada.

Five rail-highway grade crossing improvement projects are currently approved for implementation during FY2011; they are shown in **Figure 4-33**, along with additional locations discussed below.

Additional rail crossing issues surfaced during the preparation of the state rail plan in addition to the above-described NDOT Railroad Safety Program projects, as follows.

Fernley has suggested that grade-separated crossings of the UPRR mainline in town for Main Street and for the Nevada Pacific Parkway would be desirable. These suggestions will require additional study to define the need and to identify funding.

FRA's Office of Safety Analysis data shows an average of 2.8 deaths and 3.4 injuries have occurred in each of the last five years (2007-2011) as a result of persons trespassing on railroad property in Nevada. Children have been trespassing across the UPRR mainline track near the new Arden School in Las Vegas; no roadway crossing is located at the school so the location is not part of the state's rail-highway crossing program. A proposed solution to build a grade-separated crossing one-quarter mile away at Cactus Road has been delayed with the economic downturn. Nevada Operation Lifesaver has been made aware of this problem so that the organization can educate the Arden School children about rail safety, especially until a grade separation can be built.

Long term, the Wyoming and Oakey crossing in downtown Las Vegas is currently programmed for grade separation as part of the Project Neon I-15 improvements, which have an approved ROD and are programmed for implementation by 2030. Las Vegas has recently suggested building another grade separation structure nearby as part of connecting the Grand Central Parkway with Industrial Road; the Wyoming traffic could be diverted to this structure and then the Wyoming and Oakey crossing should be closed.

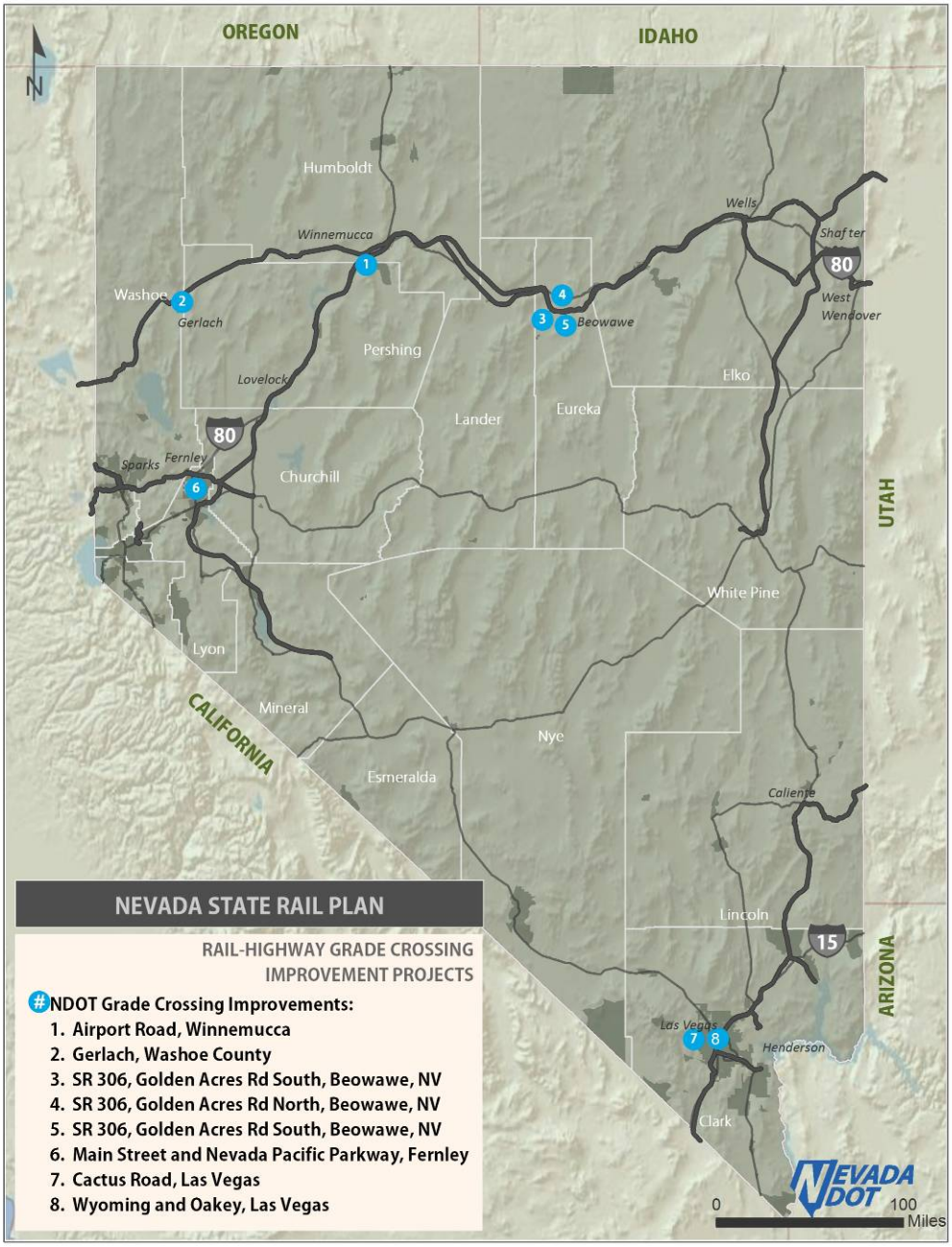


Figure 4-3: Rail-Highway Grade Crossing Improvement Projects

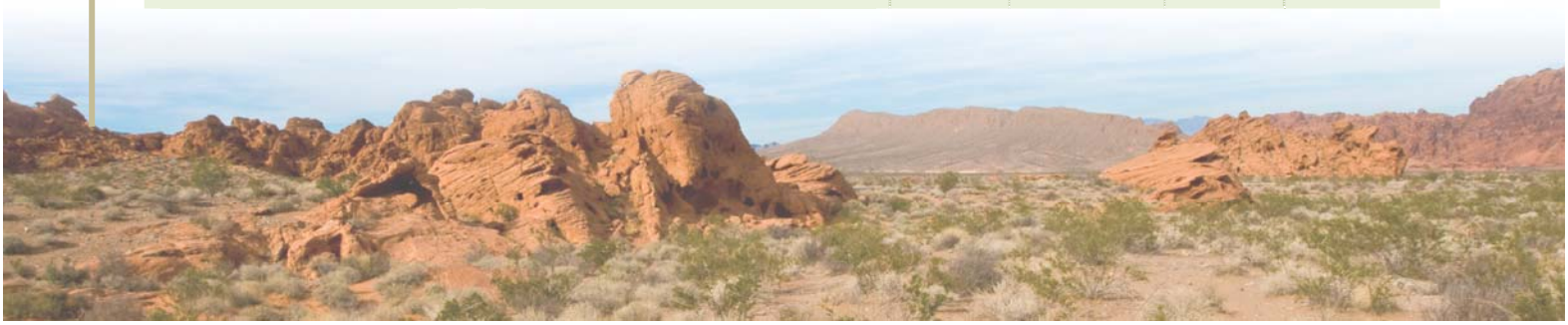
E. Summary of Freight Rail and Grade Crossing Projects

Table 4-1 lists future freight rail and rail-highway grade crossing projects suggested during the development of the state rail plan from the stakeholders, in the public meetings, from the website and survey comments, etc. These projects are grouped under the headings of freight rail and rail-highway grade crossings. Each project is briefly described under the heading of status description, which yields a check mark in one of four columns: *further study needed*; *implementation issues*; *contact RR directly*; or *advance to the evaluation matrix*. These boxes are checked as follows:

- *Further study* applies to a number of preliminary concepts or suggestions that have been offered, which will require further study to define or advance a project for evaluation.
- *Implementation issues* typically apply to projects that have been studied and may be on hold or are not ready to advance at this time.
- *Contact (UPRR and BNSF) RR directly* is applicable to requests for additional or different freight rail service for industry; these shippers and potential shippers should begin by contacting the railroads directly to discuss their shipping needs (see **Section C.4** above).
- The last entry, *Advance to Evaluation Matrix*, is for those projects that should be further evaluated for NDOT support, which are discussed in **Chapter 5**.

Table 4-1: Freight Rail and Grade Crossing Project List

Project	Status Description	Further Study Needed	Implementation Issues	Contact RR Directly	Advance to Evaluation Matrix
Freight Rail					
1. Northern and southern Nevada inland port projects	Project is currently being studied.				✓
2.. Phase 1 Nevada sub sidings between Winnemucca and Sparks—extend Patrick and add Rose Creek	Project on UPRR list of future improvements.				✓
3. Upgrade the Weso crossover from 20 to 50 mph with power switches	Project on UPRR list of future improvements.				✓
4. Advance Phase 2 UPRR Nevada Sub sidings - construct Oreanna and Valery; and extend Massie	Project on UPRR list of future improvements.				✓
5. Add Elko CTC-UPRR Phase 2	Project on UPRR list of future improvements.				✓
6. Replace second track and upgrade to CTC on Donner Pass in CA	Project on UPRR list of future improvements.				✓
7. Improve White Pine (Nevada Northern Railway) Shortline	Some rail improvements have been advanced. Portions of the project may be eligible for federal funding.				✓
8. Add service to Yucca Mountain nuclear waste repository	Would require a change in national and state nuclear storage decisions.		✓		
9. Expand or relocate Sparks Yard	The Sparks yard meets UPRR needs and is well located for crew changes. Moving it will require additional study to address UPRR needs/funding.	✓			
10. Relocate transload facility and associated trackage out of Fallon	Implementable project needs funding				✓
11. Relocate Chemical Co. requires 6,200-ft siding +1,500-ft spur	This suggestion should be presented directly to UPRR for a business decision.			✓	



Project	Status Description	Further Study Needed	Implementation Issues	Contact RR Directly	Advance to Evaluation Matrix
12. The railroad appears to have abandoned its property in the center of Carlin, which needs to be reincorporated into Carlin.	This suggestion should be presented directly to UPRR for a business decision. Might require Congressional authorization.			✓	
13. Improved sidings and access to main line in Caliente	This suggestion should be presented directly to UPRR for a business decision.			✓	
14. Add second track and improve spurs in Lovelock	This suggestion should be presented directly to UPRR for a business decision.			✓	
Rail-Highway Grade Crossings					
1. Airport Road, Winnemucca	Included in 2011 NDOT Railway-Highway Crossing Report				✓
2. Gerlach, Washoe County	Included in 2011 NDOT Railway-Highway Crossing Report				✓
3. SR 306, Golden Acres Rd South, Beowawe, NV--crossing surface	Included in 2011 NDOT Railway-Highway Crossing Report				✓
4. SR 306, Golden Acres Rd North, Beowawe, NV	Included in 2011 NDOT Railway-Highway Crossing Report				✓
5. SR 306, Golden Acres Rd South, Beowawe, NV--gates	Included in 2011 NDOT Railway-Highway Crossing Report				✓
6. Main Street in downtown Fernley	Additional study needed.	✓			
7. Nevada Pacific Parkway, Fernley	Additional study needed.	✓			
8. Cactus Rd.--Arden School grade separation	Agreement and funding needed.		✓		
9. Wyoming and Oakey, Las Vegas	Long term project, programmed to be completed by 2030 or alternative solution to be implemented with closure of Wyoming and Oakey crossing.				✓

Chapter 5:
Nevada Rail Service and Investment Program

Chapter 5 : Nevada Rail Service and Investment Program

A. Vision, Goals & Objectives for Near and Longer-Term Plans

1. Vision, Goals & Objectives

Vision statements reflect the role of rail and what rail infrastructure will be like in the future, incorporate stakeholder desires, and recognize challenges and opportunities. NDOT developed separate vision statements, tailored to the distinctive needs of passenger and freight rail, to describe the additional potential for future rail development and growth in the state, and to inspire stakeholders to take the actions necessary to implement the state rail plan.

Passenger Rail Vision

The vision for passenger rail transportation in Nevada is to develop a passenger rail system that provides the traveling public with an attractive, energy-efficient, cost-effective, and reliable alternative choice to auto, bus, and air transportation, with intermodal connectivity that enhances economic and environmentally sustainable travel within, to, and through the state.

Freight Rail Vision

The vision for freight rail transportation in Nevada is to have an economically-competitive freight rail system that moves goods efficiently and expeditiously across the state and is fully integrated with interstate and intrastate shipping modes, thereby relieving highway congestion and improving the overall safety and quality of life for the traveling public and the citizens of Nevada.

In addition, a series of goals and objectives were developed to provide big-picture strategic guidance for developing rail in the state, as follows:

- Goal 1 – Enhance the safe operating efficiency of the state's rail transportation system.
    - Objective a: Work with adjacent states to achieve a regional transportation solution.

    - Objective b: Provide enhanced rail system connectivity to other modes of transportation, especially in the state's major transportation hubs of Las Vegas, Reno, and Elko.
    - Objective c: Promote congestion relief on the state's rail lines and on its interstate highway network
    - Objective d: Enhance rail safety and security, including accommodating Positive Train Control (PTC) measures

- Goal 2 – Optimize Nevada's rail potential to effectively address social, economic, environmental, and energy effects.
    - Objective a: Plan for high-speed passenger rail services
    - Objective b: Address the potential for trade and economic development
    - Objective c: Realize positive air quality gains and reduce energy consumption with effective passenger and freight rail operations
    - Objective d: Maximize sustainability
- Goal 3 – Develop an organizational structure and strategies yielding a streamlined process for implementing Nevada's rail transportation improvements.
    - Objective a: Identify and prioritize rail infrastructure improvements.
    - Objective b: Identify funding strategies for rail improvements
    - Objective c: Prepare an organizational chart and legislative procedures to accomplish rail improvements

Other considerations for Nevada's state rail plan are that it:

- enhance overall statewide transportation system connectivity and safety; and
- improve the state's transportation system operational efficiency; and be consistent with the Strategic Highway Safety Plan.

2. Near- and Longer-Term Plans

Table 5-1 lists and presents an evaluation of the near-term (zero-to-five year) projects included in the Nevada state rail plan; and **Figure 5-1** shows where these projects are located. Similarly, **Table 5-2** lists and presents an evaluation of longer-term (six-to-20-year and beyond) projects included in the Nevada state rail plan; and **Figure 5-2** shows where these projects are located. These near- and longer-term projects are the product of the **Chapters 3** and **4** considerations of all projects presented for inclusion in the state rail plan. Projects may be completed sooner or later without jeopardizing their standing in the state rail plan.

NDOT supports each of the near- and longer-term projects as a matter of policy. NDOT policy support can include letters of support, assistance in filing for grant applications, coordinating with other state transportation activities, administering the rail-highway grade crossing safety program, etc. Some projects may secure state funding, depending on availability of funds the state legislature might allocate for rail projects.

The near- and longer-term projects in the two tables are described, according to the following considerations:

- whether implementing the projects involves a private business decision;
- their rough order-of-magnitude cost (under $10 million; $10 million to $100 million; or greater than $100 million);
- how well the proposed projects rank against the state rail plan's applicable goals and objectives, for which an average score is calculated; (Each of the projects included in the state rail plan meet a threshold average score of 2.0)
- whether the proposed project requires Congressional, Amtrak, or UPRR approval to be implemented; and
- a brief discussion of the evaluation factors influencing the project's listing in the state rail plan.

Additional projects that become more developed and advanced may be added to the state rail plan when the plan is updated, or by an NDOT amendment in the interim.

Table 5-1: Five-Year-Plan Evaluation Matrix

Criteria Score: 0 - N/A, 1 - minimally addresses goals/objectives, 2 - partially addresses goals/objectives, 3 – fully addresses goals/objectives

		Cost Range			Goal 1: Enhance the safety and efficiency of the state's rail transportation system				Goal 2: Optimize Nevada's rail potential to effectively address social, economic, environmental and energy effects				Project Objective Scores		Requires Approval (s)			
Project	Private Business Decision	Under $10 million	$10 million to $100 million	Over $100 million	Objective A: Work with adjacent states to achieve a regional transportation solution	Objective B: Provide enhanced rail system connectivity to other modes of transportation	Objective C: Promote congestion relief on the state's rail lines and on its interstate highway network	Objective D: Enhance rail safety and security, including Positive Train Control (PTC) measures	Objective A: Plan for high-speed passenger rail services	Objective B: Address the potential for trade and economic development	Objective C: Realize positive air quality gains and reduce energy consumption with effective passenger and freight rail operations	Objective D: Maximize sustainability	Total	Average	US Congress	Amtrak	UPRR	Evaluation Factors
A. Passenger Rail																		
A1. Conventional Passenger Rail																		
Support X-Train efforts--Fullerton to Las Vegas	Y			✓	3	3	3	2	3	3	3	3	23	2.9			✓	BNSF and UPRR in final negotiations. Project is close to construction and implementation.
A2. High Speed Intercity Passenger Rail																		
Support DesertXpress service--Las Vegas to Victorville, CA	Y			✓	3	3	3	3	3	3	3	3	24	3.0				Project has environmental clearance with FRA Record of Decision and STB route approval. The project has funding approach and is advancing.
B. Freight Rail																		
Upgrade the Weso cross-over from 20 to 50 mph	Y		✓		N/A	N/A	3	3	N/A	3	3	3	15	3.0			✓	UPRR Projects
Nevada Sub Sidings Phase 1—Patrick and Rose Creek	Y	✓			N/A	N/A	3	3	N/A	3	3	3	15	3.0			✓	UPRR Projects
C. Rail-Highway Grade Crossings																		
Airport Road, Winnemucca	N	✓			N/A	2	3	3	N/A	1	2	3	14	2.3			✓	Included in the 2011 NDOT Railway-Highway Crossing Report
Gerlach, Washoe County	N	✓			N/A	2	3	3	N/A	1	2	3	14	2.3			✓	Included in the 2011 NDOT Railway-Highway Crossing Report
SR 306, Golden Acres Rd South, Beowawe, NV – Crossing surface	N	✓			N/A	2	3	3	N/A	1	2	3	14	2.3			✓	Included in the 2011 NDOT Railway-Highway Crossing Report
SR 306, Golden Acres Rd North, Beowawe, NV	N	✓			N/A	2	3	3	N/A	1	2	3	14	2.3			✓	Included in the 2011 NDOT Railway-Highway Crossing Report
SR 306, Golden Acres Rd South, Beowawe, NV – gates	N	✓			N/A	2	3	3	N/A	1	2	3	14	2.3			✓	Included in the 2011 NDOT Railway-Highway Crossing Report
D. Excursion Rail																		
Extend Nevada Northern Railway four miles--McGill Junction to McGill Depot	?	✓			N/A	1	N/A	2	N/A	3	1	3	10	2.0				Nevada economic development/tourism opportunity
Extend the V&T about five miles to the east side of Carson City, plus refurbish equipment & update stations	?	✓			N/A	1	N/A	2	N/A	3	1	3	10	2.0				Nevada economic development/tourism opportunity
Extend Nevada Southern Railway operations on city of Henderson trackage and reorient service	?	✓			N/A	1	N/A	2	N/A	3	1	3	10	2.0				Nevada economic development/tourism opportunity

Figure 5-1: Five-Year Plan

Table 5-2: Six-to-20-Year-and-Longer-Plan Evaluation Matrix

Criteria Score: 0 - N/A, 1 - minimally addresses goals/objectives, 2 - partially addresses goals/objectives, 3 – fully addresses goals/objectives

		Cost Range			Goal 1: Enhance the safety and efficiency of the state's rail transportation system				Goal 2: Optimize Nevada's rail potential to effectively address social, economic, environmental and energy effects				Project Objective Scores		Requires Approval (s)			
Project	Private Business Decision	Under $10 million	$10 million to $100 million	Over $100 million	Objective A: Work with adjacent states to achieve a regional transportation solution	Objective B: Provide enhanced rail system connectivity to other modes of transportation	Objective C: Promote congestion relief on the state's rail lines and on its interstate highway network	Objective D: Enhance rail safety and security, including Positive Train Control (PTC) measures	Objective A: Plan for high-speed passenger rail services	Objective B: Address the potential for trade and economic development	Objective C: Realize positive air quality gains and reduce energy consumption with effective passenger and freight rail operations	Objective D: Maximize sustainability	Total	Average	US Congress	Amtrak	UPRR	Evaluation Factors
A. Passenger Rail																		
A1. Conventional Passenger Rail																		
Add service--Emeryville, Sacramento, Salt Lake City, and Reno for proposed 2022 Winter Olympic Games	N	✓			3	3	3	2	N/A	3	3	3	20	2.9	✓	✓	✓	Will require Amtrak, UPRR, and multi-state involvement. Project depends on a successful bid.
Consolidate conventional passenger rail, Thruway Bus, and/or Greyhound service with local bus service	?	✓			N/A	3	3	2	N/A	3	3	3	17	2.8				Will require local study and cooperation
A2. High Speed Intercity Passenger Rail																		
Support WHSRA long-term proposal for high-speed rail between Denver, Salt Lake City, Reno and San Francisco (20-year-plus project)	?			✓	3	3	3	3	3	3	3	3	24	3.0				Long-term project subject of FRA's current Southwest Multi-State Rail Planning Study. Funding source not identified.
Support long-term Golden Triangle high speed service between Las Vegas, Phoenix and Los Angeles (20-year-plus project)	?			✓	3	3	3	3	3	3	3	3	24	3.0				Long-term project subject of FRA's current Southwest Multi-State Rail Planning Study. Funding source not identified.
Advance multimodal transportation hub at Nevada high-speed intercity passenger rail termini, notably Las Vegas (20-year-plus project)	N		✓		N/A	3	3	N/A	3	3	3	3	18	3.0				Long-term project requiring additional study. Funding source not identified.
Multimodal Framework Study Las Vegas-Reno (20-year-plus project)	?			✓	3	3	3	3	3	3	3	3	24	3.0				Long-term project subject of unfunded NDOT study.
B. Freight Rail																		
Northern and southern Nevada/Inland/Port projects	Y		✓		N/A	3	3	2	N/A	3	3	3	17	2.8			✓	Long range state objective.
Advance Phase 2 UPRR Nevada Sub sidings – construct Oreanna; construct Valery; and extend Massie	Y		✓		N/A	N/A	3	3	N/A	3	3	3	15	3.0			✓	UPRR projects.
Add Elko CTC-UPRR Phase 2	Y		✓		N/A	N/A	3	3	N/A	3	3	3	15	3.0			✓	UPRR projects.
Replace second track and upgrade to CTC on Donner Pass in CA			✓		3	3	3	3	N/A	3	3	3	21	3.0			✓	UPRR project out of state. Could reduce I-80 truck traffic.
Support White Pine (Nevada Northern Railway) Shortline	N		✓		N/A	3	3	3	N/A	3	3	3	18	3.0				In-state business opportunity.
Relocate transload facility and associated trackage out of Fallon	Y	✓			N/A	2	2	3	N/A	3	3	3	16	2.7			✓	Implementable project needs funding.
C. Rail-Highway Grade Crossings																		
Wyoming and Oakey, Las Vegas or alternative	N	✓			N/A	2	3	2	N/A	1	2	3	14	2.3				Included in Project Neon I-15 ROD

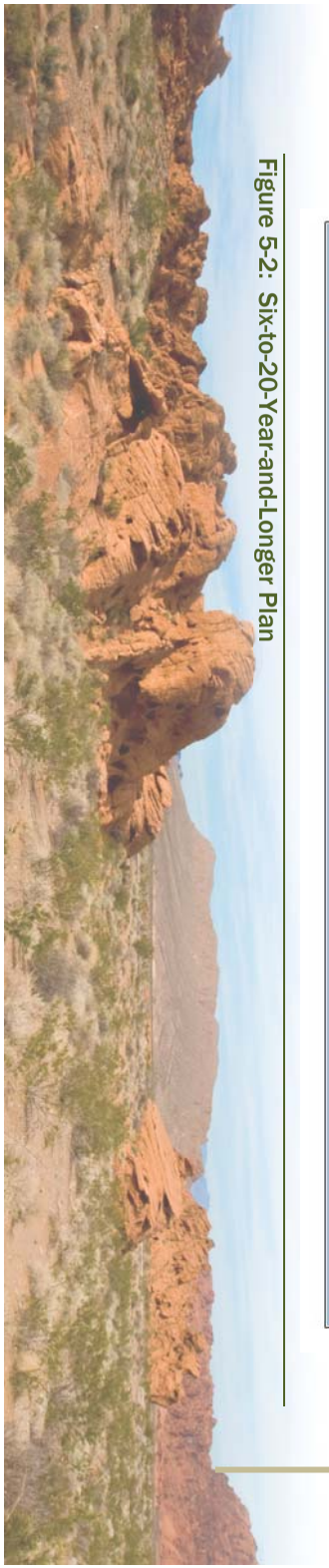
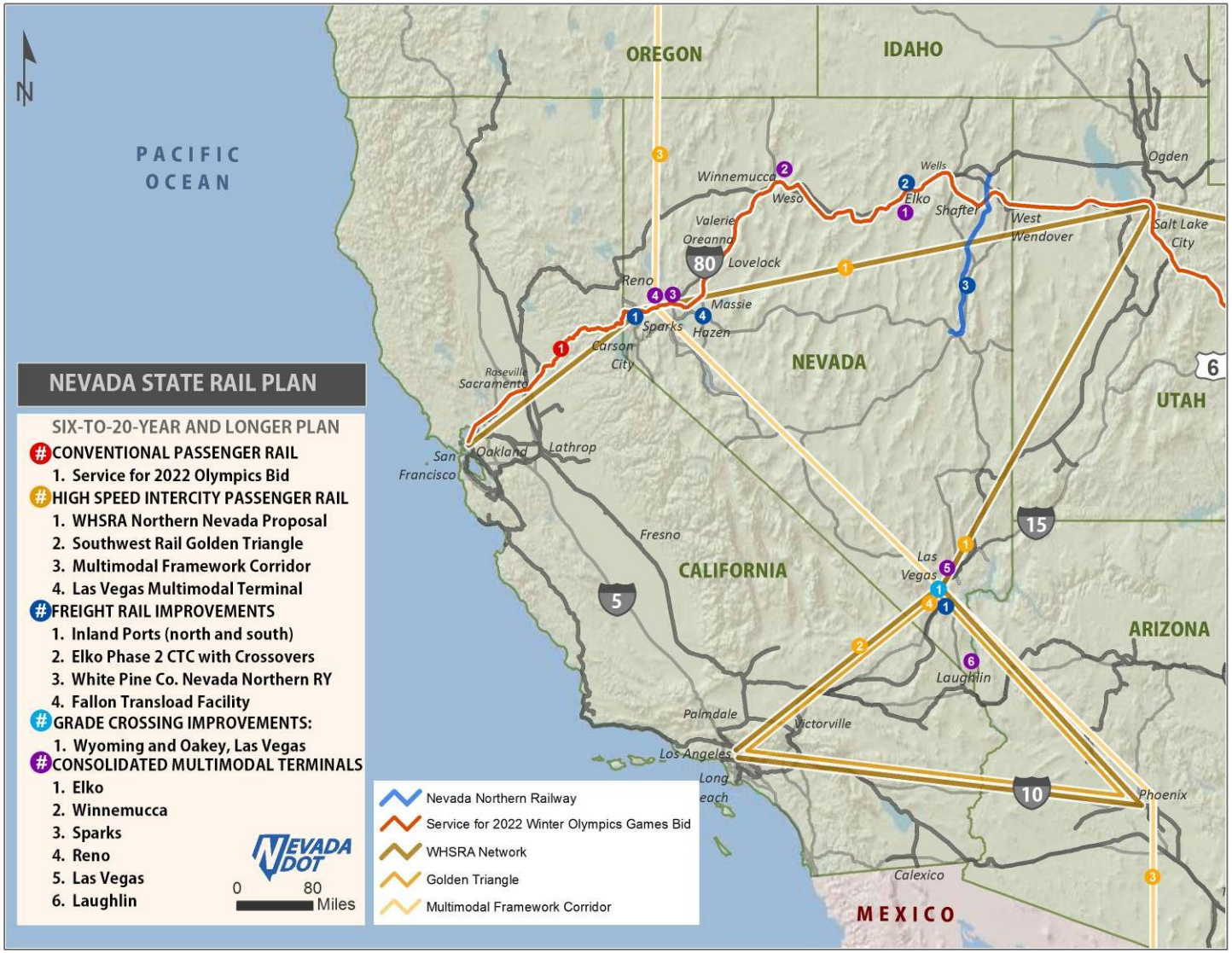


Figure 5-2: Six-to-20-Year-and-Longer Plan



B. Program Coordination with National and Multi-State Regional Plans

FRA is currently conducting a multi-state rail study, involving Nevada, called the Southwest Multi-State Rail Planning Study; and NDOT has taken the lead on just-completed and just-begun multi-state studies, including the I-15 Mobility Alliance Study, Connecting Nevada Study, a new multimodal framework study, and an inland port study. The national Strategic Rail Corridor Network is also discussed in this section.

1. FRA Southwest Multi-State Rail Planning Study

FRA has begun a $3 million Southwest Multi-State Rail Planning Study, which is scheduled to be completed in late summer 2012. This study is a regional network planning study, covering three states (AZ, CA, and NV). It will consider both northern Nevada and southern Nevada links, such as the Golden Triangle proposed to connect Phoenix, Las Vegas, and Los Angeles with high speed rail. It is focused on intercity passenger rail, both conventional and high speed. It is intended as a test case to yield a regional rail planning model or guideline with national supporting data, rather than individual corridor considerations. This study will not generate detailed corridor-level evaluations. The study will investigate ridership and revenue, as well as operating and capital costs to evaluate the total potential market demand with operations occurring in multiple corridors. FRA chose the three-state area because of the variety of its different projects and timelines. FRA wants to analyze both national and regional markets and to address long-term potential 40 to 50 years out so that specific projects do not preclude future opportunities.

2. NDOT Studies

NDOT completed a multi-state I-15 Mobility Alliance Study in July 2011, which addresses air, rail, and highway passenger and freight movements in the I-15 corridor between Salt Lake City and Los Angeles. This study did not generate specific passenger rail recommendations.

The Connecting Nevada Study, scheduled to be completed in October 2012, is developing a statewide multimodal evaluation looking out as far as 2060 and will incorporate projects from this state rail plan. NDOT is also looking for the Connecting Nevada Study to focus on prioritizing projects that are well-enough identified over a five-year horizon.

NDOT is separately advancing a multimodal framework study for what could become a new interstate highway and passenger/freight rail corridor between Mexico and Canada. This corridor will extend through Las Vegas and northern Nevada and involve Arizona, Oregon, and Washington and potentially affect California. A key component of this study, which will follow the completion of this state rail plan, will consider upgrading US93 between Phoenix and Las Vegas, the only two proximate US cities of more than a million persons each that do not have a direct interstate connection between them. The 2010-completed US93 Pat Tillman Memorial Bridge over the Colorado River south of the Hoover Dam could accommodate the interstate trucks, buses, and automobiles; however, a separate connection(s), perhaps located in the US95 corridor in Nevada, would be required for passenger and freight rail links. Phoenix-Las Vegas connectivity is also part of the proposed Golden Triangle high speed rail proposal, linking Los Angeles, Phoenix, and Las Vegas, which FRA is currently studying in its Southwest Multi-State Rail Planning Study, referenced in **Subsection 1** above.

In addition, Nevada passed inland port legislation and is exploring developing intermodal freight terminals at sites that offer air, highway, and/or rail modes in northern and southern Nevada. These Nevada terminals would provide for break-bulk activities, allowing containers to be quickly off-loaded at crowded West Coast ports and then shipped inland via efficient rail with sorting and distribution occurring in northern and southern Nevada for products to then be shipped farther inland. NCED is advancing a state plan for inland ports to be completed by June 2012. Once specific sites are identified and development concepts are created, then potential freight rail projects can be advanced, as required.

3. NDOT Strategic Rail Corridor Network (STRACNET)

The US Department of Defense's (DOD) Military Traffic Management Command (MTMC) determined the Department's needs for rail service in a defense emergency. MTMC selected these corridors in the 1970s to form a DOD Strategic Rail Corridor Network (STRACNET), involving 38,000 miles serving over 170 defense installations.

Hawthorne Army Depot is the only DOD installation located in Nevada that requires rail service. Additionally, MTMC has identified the UPRR Overland Route mainline through northern Nevada and the South Central Route mainline through southern Nevada as elements of STRACNET.

C. Proposed Organizational and Legislative Changes

1. Organizational Changes

NDOT's job is to address the transportation needs of the state, including rail; the agency could be better structured to be able to address the rail transportation issues, opportunities, and potential projects discussed in this state rail plan. NDOT's role in implementing the state rail plan calls for the agency to coordinate with other agencies of government and other states and the US DOT agencies, as well as the private sector to advance the state rail plan projects. NDOT may facilitate dialogue among interested and involved parties to advance projects, host meetings, conduct studies, maintain a dialogue with passenger and freight rail interests, and write grants for funding. NDOT needs to be appropriately structured and staffed to accomplish these rail-related tasks.

The Rail Safety Coordinator and staff (an assistant and one temporary employee) were recently transferred from NDOT's Engineering Division to the Planning Division; however, reassigning this function to the Aviation/Freight/Rail group may help achieve a more robust and integrated rail focus within NDOT. This grade crossing program, which is closely aligned with FRA, UPRR, and related interests can form the basis for future growth in the state's rail capabilities and services, and thus warrants consolidation with NDOT's rail activities. Effective interface with staff for federal programs, for other state operations (such as NPUC), and for major railroad entities is essential to improving Nevada's rail facilities and services in the future. Enhancing the working relationships between these participants can help foster public-private partnerships to achieve this plan's stated goals.

In addition, NDOT needs to take a few other steps to successfully advance the state rail plan. The first is to hire a Rail Lead for the Aviation/Freight/Rail group with industry knowledge whose primary and largely exclusive responsibility will be to advance the state rail plan projects. This individual will become the go-to person for all rail issues that arise at NDOT. Secondly, this person will need to be supported with a staff of rail-experienced persons with specific project responsibilities.

Making these organizational changes will permit NDOT to better coordinate with other agencies of government and other states and the US DOT agencies, as well as with the private sector.

These changes will help NDOT to facilitate dialogue among interested and involved parties to advance projects, host meetings, conduct studies, maintain a dialog with passenger and freight rail interests, and write grants for funding. Even though a project may be listed as mid- or long-term, based on when it may be completed, studies and other activities should be advanced in the short-term to be able to reach the longer-term implementation objective.

2. Legislative Changes

The following text describes recent legislative changes of interest followed by a discussion of some proposed legislative changes that could be helpful in implementing the state rail plan. A discussion of public-private partnerships, which presents a special funding option, concludes this subsection.

Recent Legislative Changes in Nevada

The Nevada State Legislature, which meets every other year, enacted a number of pieces of legislation during the FY09 and FY11 legislative sessions that potentially affect the development and construction of passenger and freight rail projects. A number of these recently enacted statutes may increase funding and financing opportunities.

1. 2009 Legislative Session

- *SB 55* expands the potential for foreign entities to domesticate in Nevada and outlines the filing requirements and shareholder liability for those entities. *SB 55* allows a partnership to register as a limited-liability limited partnership.
    - Potential impact: May encourage greater private participation (e.g., from foreign entities) to invest in rail infrastructure.
- *ACR 30* directs the appointment of a subcommittee to conduct an interim study on developing and promoting Nevada as a logistics and distribution center. The study is to include identification of barriers to developing logistics and distribution systems; delineation of future foreign trade zones; prioritization of infrastructure needs, including energy, water, and mass transportation; infrastructure for transportation systems; formation of P3s to facilitate new business creation; funding options for the expansion of transportation systems, including mass transit systems and light rail corridors; and identification of strategic public policy actions to expedite private investment for developing logistics centers in the state. Finally, the measure

authorizes the subcommittee to solicit input from various state and local agencies as it deems appropriate.

  - Potential impact: May increase investment opportunities, as well as enhance the eligibility for federal funding for inland ports and distribution centers.

- *AB 360* authorizes the creation of a special district to manage money the federal government pays to the state or to a county for use within the special district. The bill expires on June 30, 2013

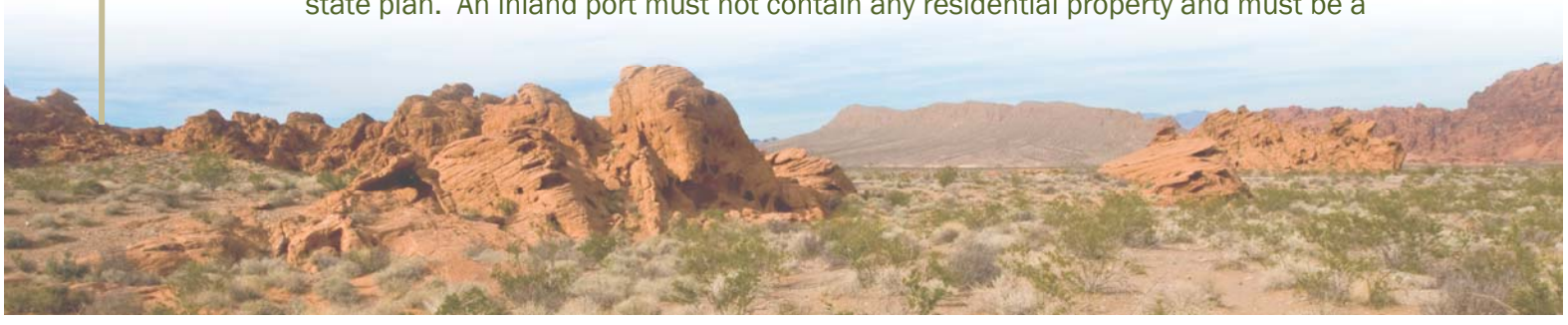
  - Potential impact: The creation of special districts may create new vehicles for the development and construction of rail infrastructure. Provision expires in 2013.

2. 2011 Legislative Session

- *SB 506* requires the RTC of Southern Nevada to enter into a P3 to plan, design, construct, improve, finance, operate, and maintain a demonstration project for a toll road in connection with a proposed bypass around Boulder City. The RTC may establish a schedule of fees, fines, and penalties related to the use of the facility. The bill subjects contracts to several conditions, including requirements that all money that the RTC receives be deposited in the State Highway Fund and separately accounted for to ensure it is used only on that facility and that prevailing wages be paid to workers engaged in construction on the demonstration project. The RTC must report periodically to the Legislature on the status of the demonstration project.

  - Potential impact: Provides for a direct opportunity for encouraging private entities to invest in transportation infrastructure in Nevada. This statute may indirectly attract new private equity and debt capital to the passenger and freight rail projects.

- *AB 182* is enabling legislation that permits participating entities to seek approval for creation of inland ports and public bodies known as inland port authorities, the purpose of which is to promote, encourage, and aid in economic development and employment opportunities in Nevada. A participating entity can be either a county or a city. NCED must develop a State Plan for Inland Ports and may only approve an application if the proposed inland port and authority are in conformance with the state plan. An inland port must not contain any residential property and must be a



contiguous area that contains at least two of the following: (1) a municipal airport; (2) a highway within the National Highway System; or (3) operating assets of at least one Class I railroad. Authorities may not condemn property and may not alter highways, railroads, or airports without the consent of the entity controlling or owning those facilities. The powers of an inland port authority include: receiving property from a governmental entity; entering into agreements with other entities and persons; operating facilities; and accepting public and private funding.

  - Potential impact: Creates new opportunities to fund and finance inland ports.

- *SB 151* requires a regional transportation commission in a county of 700,000 or more (currently only Clark County) to establish a regional rapid transit authority. The authority is required to analyze the development of a regional rapid transit system, to develop a plan for such a system, and to report annually to the Legislature on its progress.

  - Potential impact: Creates new opportunities to attract federal and local funding for rail transit and multimodal stations in Clark County.

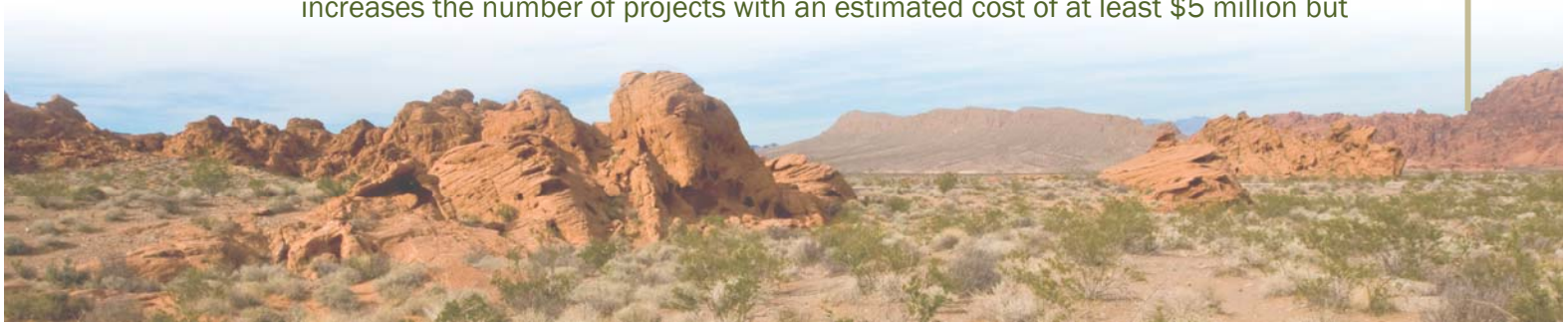
- *SB 432* allows RTCs in Clark and Washoe counties to enter into an inter-local agreement with the county, allowing the RTC to issue revenue bonds and other revenue securities for street and highway construction and maintenance, and establishment and maintenance of a public transit system.

  - Potential impact: Expands the potential availability of debt capital to finance transit projects and multimodal stations in Clark and Washoe counties.

- *AB 376* authorizes the city of Reno to create by ordinance a special improvement district to finance capital improvement projects for publicly-owned facilities, relating to tourism and entertainment. If adopted, such an ordinance must impose a $2-per-night surcharge on hotel rooms in the district that are located on gaming properties.

  - Potential impact: A Reno passenger rail project that relates to tourism and entertainment may be eligible to access this source of funds.

- *AB 212* decreases the threshold at which NDOT is authorized to enter into a design-build contract for a project to $10 million from $20 million. The statute also increases the number of projects with an estimated cost of at least $5 million but



less than $10 million for which NDOT is authorized to enter into such contracts to twice a year from once each fiscal year.

- Potential impact: Expands potential opportunities to enter into design-build contracts with a private entity for passenger and freight rail projects.

3. Proposed Legislative Changes in Nevada

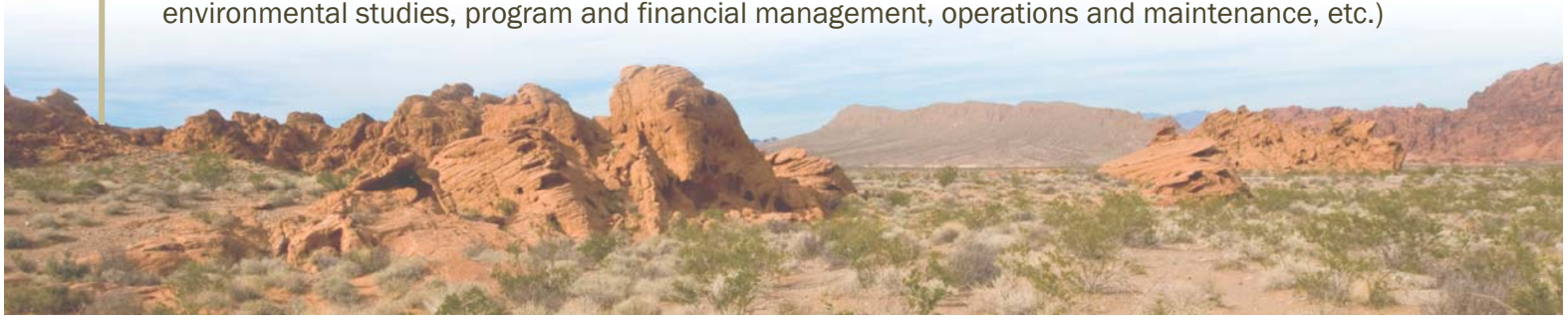
The following selected legislative changes could be considered/need to be confirmed to address expanded funding and financing opportunities for passenger and freight rail projects:

- The maximum allowable maturities for revenue bonds backed by sales and gas tax revenues could be extended to a term longer than 20 years. This change may require a change in the state's constitution.
- Nevada could consider permitting NDOT to establish state infrastructure banks (SIB), as 32 other states have permitted, according to the National Highway System Designation Act of 1995. A SIB can provide flexible, short-term financing to public entities and public-private partnerships for the purpose of accelerating the delivery of transportation projects.
- Confirm that existing state statutes permit NDOT to receive TIFIA, as well as RRIF loans; previous TIFIA loans used for projects in Nevada have been made to a municipal government and a private entity.
- Existing state statutes and supporting guidelines should be reviewed to confirm the state's capability to use Private Activity Bonds (PABs) for transportation projects.
- Existing state statutes should be reviewed to confirm that each of the multiple public-private partnership approaches can be implemented as discussed below.

4. Public Private Partnerships (P3)

A number of different P3 agreements are possible. They vary with respect to the services to be provided under contract, the level of risk transferred, and the financial commitment of the private-sector partner. A list of P3 agreements is provided below:

Private Contract Fee, Services Contract, Operations & Maintenance (O&M) Contract. These are agreements with private companies for services typically performed in-house (planning and environmental studies, program and financial management, operations and maintenance, etc.)



- Construction Manager@Risk (CM@R). A contracted construction manager (CM) provides constructability, pricing, and sequencing analysis during the design phase. The design team is contracted separately. The CM stays on through the build phase and can negotiate with construction firms to implement the design. Nevada's CM@R authority (NRS338) sunsets in July 2013, although it could be extended.
- Design-Build (DB) combines the design and construction phases into a single fixed-fee contract, thus potentially saving time and cost, improving quality, and sharing risk more equitably than the DB Bid method.
- *Design-Build with a Warranty* is a DB project for which the design builder guarantees to meet material workmanship and/or performance measures for a specified period after the project has been delivered.
- *Design-Build-Operate-Maintain (DBOM), Build-Operate-Transfer (BOT), or Build-Transfer-Operate (BTO).* The selected contractor designs, constructs, operates, and maintains the facility for a specified period of time meeting specified performance requirements. These delivery approaches increase incentives for high-quality projects because the contractor is responsible for operation of the facility after construction. The public sector retains financial risk, and compensation to the private partner can be in the form of availability payments.
- *Design-Build-Finance (DBF), Design-Build-Finance-Operate (DBFO), or Design-Build-Finance-Operate-Maintain (DBFOM).* These delivery mechanisms are variations of the DB or DBOM methods for which the private partner provides some or all of the project financing. The project sponsor retains ownership of the facility. Private-sector compensation can be in the form of tolls (both traffic and revenue risk transfer) or through shadow tolls (traffic risk transfer only).
- *Long-Term Lease Agreements, Concessions*. Publicly-financed existing facilities are leased to private-sector concessionaires for specified time periods. The concessionaire may pay an upfront fee to the public agency in return for revenue that the facility generates. The concessionaire must operate and maintain the facility and may be required to make capital improvements.
- *Long-Term Lease Agreement, Concession with Availability Payments. T*he sponsoring governmental entity in an availability concession offers a stream of maximum

payments, generally indexed to inflation, to a private concessionaire in return for delivering a service. The payments are subject to appropriation and to downward adjustment, based on the concessionaire's performance in making the asset "available." Availability and performance payments put into financial effect the public policy and operational standards of the public entity: timely project delivery, maintenance, service, safety, etc.

- *Build-Own-Operate (BOO)/Build-Own-Operate-Transfer (BOOT*). Design, construction, operation, and maintenance of the facility are the responsibility of the contractor. The contractor owns the facility and retains all operating revenue risk and surplus revenues for the life of the facility. The BOOT method is similar, but the infrastructure is transferred to the public agency after a specified time period.
- *Asset Sale*. The public entity fully transfers ownership of publicly-financed facilities to the private sector indefinitely.

Projects that are potential candidates for private-sector involvement have the following characteristics:

- Projects with construction cost beyond the capacity of public owners/operators, or local/regional governments;
- Viable revenue stream, either through user fees and/or availability payments;
- Likely availability and cost of financing in the private credit markets to fund the projects;
- Lack of eligibility for funding through established federal or state programs.

NDOT has the authority to enter into 3Ps pursuant to NRS 408.5473—Transportation Facilities Agreement (TFA). NDOT also has the authority to receive unsolicited proposals for a 3P. A "transportation facility" is defined in NRS 408.5471 to mean a road, railroad, bridge, tunnel, overpass, airport, mass transit facility, parking facility for vehicles, or similar commercial facility used for the support of or for the transportation of persons or goods, including, without limitation, any other property that is needed to operate the facility. The definition permits tolling the Boulder City Bypass as a demonstration, according to FY11 legislation, but it otherwise excludes toll bridges and toll roads. A Southern Nevada RTC-led tolling study for the Boulder City Bypass is set to begin shortly after the publication of the state rail plan.

NDOT may approve a request or proposal submitted by a private entity, if NDOT determines that the transportation facility serves a public purpose. The Department must consider the following in determining whether the transportation facility serves a public purpose: (i) if a public need exists for the type of transportation facility proposed; (ii) if the proposed interconnections between the transportation facility and existing transportation facilities and the plans of the person submitting the request for the operation of the transportation facility are reasonable and compatible with any statewide or regional program for the transportation improvement and with the transportation plans of any other governmental entity in the jurisdiction where some part of the transportation facility will be located; (iii) if the estimated cost of the transportation facility is reasonable by comparison with similar facilities; and (iv) if the plans of the person submitting the request will result in the timely development, construction, or improvement of the transportation facility or its more efficient operation.

D. Near- and Longer-Term Plan Effects

This section describes key benefits resulting from implementing the short- and long-term plans. Investments in improving the state's rail infrastructure are expected to directly benefit the state's transportation system, the environment, and the economy.

1. State Transportation System Effects

Nevada's rail system provides an important mode within the framework of passenger and freight transportation. A multimodal approach improves efficiencies in the transportation network, resulting in a more comprehensive system, allowing for greater mobility and an overall higher level of service.

2. Rail Capacity and Congestion Effects by Corridor

The freight rail mode share has been increasing nationally over the past 10 to 15 years. Railroads accounted for 42 percent of intercity freight shipments in 2010, as measured in ton-miles—more than truck and air modes. Rail traffic in Nevada experienced a 14 percent increase in shipments (net tons) between 1996 and 2009, and then declined after that when the UPRR shifted some traffic from the South Central Corridor in southern Nevada to the Sunset Route from California through Arizona, New Mexico, and Texas. Nevada does not have any current capacity constraints. Future projections forecast a six percent increase in rail shipments from Nevada to other states and a nine percent increase in shipments from other states to Nevada by

2040. UPRR improvement projects referenced in this document's short- and long-term plans will allow for greater flexibility and efficiency to accommodate the projected growth in rail traffic.

3. Highway and Aviation Capacity, Congestion, and Safety Effects

Rail investments will benefit the state's transportation system, reducing traffic and congestion on highways and freight rail lines. Introducing two new passenger rail services connecting Las Vegas to southern California within the next five years will restore a rail link that was discontinued in 1997 with elimination of Amtrak's *Desert Wind* service. Both the conventional-rail X Train and the high speed rail DesertXpress are projected to divert automobile traffic from I-15. Early model forecasts have shown that the DesertXpress may divert over three million auto trips per year by 2018.[1] The greatest automobile shift will most likely occur during the peak weekend leisure travel times of Thursday-Friday eastbound from southern California to Las Vegas and returning Sunday-Monday westbound trips. Roadways on weekends and throughout the week will benefit from a reduction in traffic, improved travel speeds, and faster travel times, which will ultimately result in a higher level of service. Fewer cars on I-15 and other Las Vegas area roadways will reduce the vehicle miles traveled (VMT) and vehicle hours traveled (VHT), as well as improve regional mobility. Longer-term WHSRA high speed rail projects would improve connections and reduce congestion in the I-80 and I-15 corridors where the improvements are proposed.

The multiple near- and longer-term UPRR improvements described in this document for Nevada and over the Donner Pass in California will improve the efficiency of freight rail, reduce delays, and increase overall speeds, thus making rail a more attractive option for shippers. An increase in freight rail traffic will help to keep shipments off already congested highways, enhancing the movement of freight in Nevada.

Safety is a key element of Nevada's rail transportation program, which this state rail plan reconfirms as a key priority. Nevada will continue making its prioritized project improvement projects, spending half of its approximately $1.1 million annual allocation of Federal Rail Safety Improvement Program funding on hazard elimination and half on signal improvements to achieve MUTCD compliance. Nevada has historically ranked lowest in the nation for rail incidents and fatalities, realizing a 58 percent reduction in train incidents between 2004 and

[1] DesertXpress Ridership Forecast Review, Cambridge Systematics, February 2008

2007. Nevada had an average of 2.6 highway-rail incidents in each of the last five years (2007-2011) on its rail lines, involving less than one injury per year, except in 2011 when a single incident caused six deaths and 101 injuries (see **Chapter 4 Section D**).

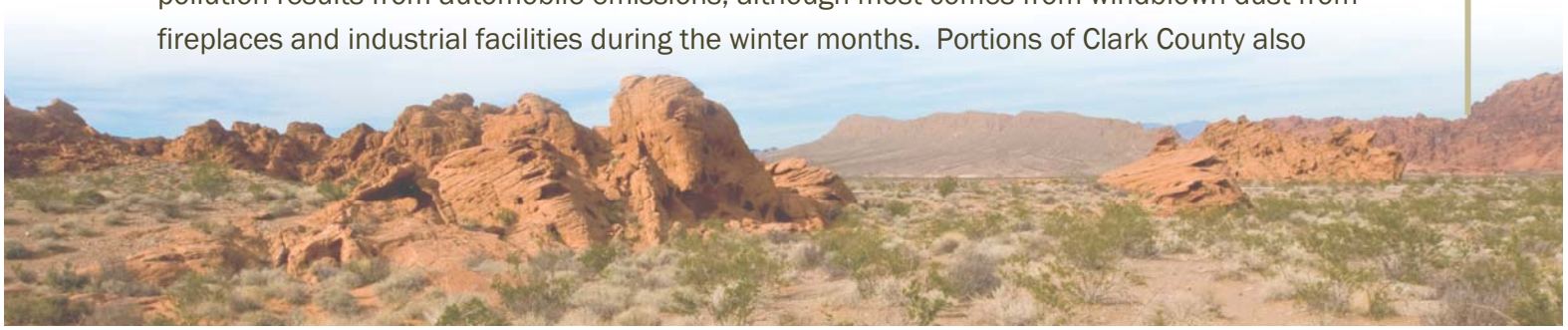
In addition, proposed rail line improvements can enhance safe rail operations, thereby reducing the chance for derailments that could cause spills, potentially adversely affecting the state's water quality.

4. Energy Consumption and Greenhouse Gas Emission Effects

Rail is the most efficient mode of transportation when compared to truck, car, and air travel. Railroads on average are about three times more fuel efficient than trucks. Railroads moved a ton of freight an average of 404 miles per gallon of fuel in 2002. Passenger trains average about 20 percent less energy use per passenger mile than the automobile. This document's short- and long-range plans outline a number of projects that will shift auto and truck traffic from highways onto more fuel efficient rail lines. New passenger service in southern Nevada and improvements in northern Nevada mainlines are expected to attract more riders and shippers to rail, and thus reduce the consumption of petroleum in Nevada.

The introduction of new passenger rail service and the planned UPRR improvements across northern Nevada are expected to improve Nevada's air quality. The new passenger rail service in southern Nevada is projected to divert millions of auto trips annually, resulting in reduced VMT in the Las Vegas area and in other communities along the I-15 corridor. Similarly, increased shipments on Nevada's freight rail lines will reduce the VMT for highway-based shipments along the I-80 corridor in northern Nevada. Lower VMT and less congestion on Nevada roadways will reduce carbon monoxide (CO) emissions and other greenhouse gas air pollutants associated with automobile and truck usage, such as hydrocarbons, oxides, and nitrogen.

The reduction in CO emissions is important to the Las Vegas Valley because EPA recently re-designated the region to be in attainment for air quality standards after over 20 years as a nonattainment region. Reducing auto and truck transportation will also help to reduce PM10 in Clark and Washoe counties, both of which were designated non-attainment in PM10 and for which maintenance plans were developed to lower the levels of PM10. Some particulate matter pollution results from automobile emissions, although most comes from windblown dust from fireplaces and industrial facilities during the winter months. Portions of Clark County also



remain in non-attainment for ozone (eight-hour standard), pending EPA review, and a decrease in auto and truck usage will help to lower overall ozone levels.

5. Environmental, Economic, and Employment Effects

Implementing this plan's recommended rail projects is expected to provide a number of environmental benefits for the state of Nevada. Improved passenger and freight service will create greater access and mobility, resulting in a transportation system that is more efficient and attractive to businesses and residents. Improvements in the freight rail lines and the introduction of new passenger service will likely result in a reduction in congestion, fuel consumption, and air pollution.

Environmental, economic, and employment impacts of a passenger or freight rail project can be estimated by developing a BCA. BCA analyses should be transparent and reproducible to the extent possible with clearly delineated assumptions, methodology, data, and data sources. BCA analyses typically include a year-by-year forecast of each benefit and cost. Forecast horizons for BCA analyses can range from 20 to 30 years, but should not exceed the usable life of the asset without capital improvement. The beginning point for the BCA analysis is the first year in which the project will start generating costs or benefits. Project costs and benefits should be discounted using a discount rate that reflects the opportunity cost of capital net of inflation. Federal guidance suggests using a discount rate of seven percent. The following text outlines the types of impact that can be examined.

Impacts of Passenger Rail

Passenger rail can provide travel times that are competitive with and, in the case of high speed rail, exceed trips made using highway travel. Additional potential benefits of passenger rail facilities include the following:

- A safe, secure, alternative for short-to-medium distance air trips, which reduces congestion on highways and airports.
- Trip reliability regardless of weather conditions.
- Intermodal connectivity with other transportation systems.
- High speed rail stations can be catalysts for economic development and centers for intermodal connectivity; and

- Decreased fuel consumption and reduced vehicle emissions, e.g., CO, Hydrocarbons (HC), Nitrous Oxide (NOx), Sulfur Oxides (SOx), as a result of a diversion of automobile trips to passenger rail and a reduction in VMT.

Federal guidance for estimating travel time savings is given in the following document: http://ostpxweb.dot.gov/policy/reports/vot_guidance_092811c.pdf

Impacts of Freight Rail

Railroads have a number of unique characteristics that contribute to the efficient movement of goods and provide a positive economic impact. The potential benefits from freight rail include:

- Freight rail transport is about three times more energy efficient compared to trucks;
- Freight rail has the capability to transport a large variety of materials, particularly commodities, over long distances at relatively low cost;
- Increased safety and security of freight movements;
- Increase capacity and reliability of freight movements;
- Reduced highway congestion, highway user costs, and highway maintenance and improvement needs; and
- Decreased fuel consumption and reduced vehicle emissions.

Federal guidance for reducing congestion and vehicle emissions can be found in the following document: http://ostpxweb.dot.gov/policy/reports/Costs%20of%20Surface%20Transportation%20Congestion.pdf

Potential Evaluation Criteria for Passenger and Freight Rail Projects

The potential impacts of passenger and freight rail projects are typically evaluated through the benefits generated from improved safety conditions, increased operational efficiency, reductions in fuel consumption and vehicle emissions, and the direct and indirect impact on economic growth.

Safety. Projects must enhance public safety and the safety of railroad personnel and operations through one or more of the following:

- Elimination or upgrading of at-grade highway/railroad crossings;
- Improvement in railroad track structure (track, bridges, culverts, drainage);
- Trespass prevention measures, including public education programs; and
- Enhanced hazardous cargo-handling measures.

Federal guidance for estimating the potential safety benefits of a transportation project can be found in the following documents:
http://ostpxweb.dot.gov/policy/reports/vsl_guidance_072911.pdf
http://ostpxweb.dot.gov/policy/reports/qaly_injury_revision_pdf_final_report_02-05-10.pdf
http://ostpxweb.dot.gov/policy/reports/techreport-ost-submission.pdf

Operations. Projects must increase the utilization of a rail line or route segment as measured by:

- Increase in carloads (or tons) handled (freight only);
- Upgrading by at least one level of FRA Class of Track (freight only);
- Increases in passenger miles/boardings (passenger only)
- Increases in actual and/or forecasted revenue;
- Average speed;
- Improved reliability, based on time performance;
- Increased speed, resulting in reductions in transit times;
- Enhancements to, or development of, new intermodal terminals and transloading facilities;
- Improved connectivity to the national and regional rail network;
- Improved intermodal connectivity through improved connections and interface with highway, air, and port facilities;
- Utilization of design standards that extend the life cycle of improvements; and
- Cost savings through more efficient operations, technology upgrades, and/or shared asset use.

Economic Growth. Passenger and rail projects can directly and indirectly support economic growth in Nevada by:

- New investment in plant and/or equipment;
- Increased employment and income;
- New investment in properties adjacent to passenger stations;

- Increased sales and property tax revenues;
- Growth of exports;
- Increase in economic output; and
- Increase in employment and income.

Economic growth is somewhat more challenging to quantify because two different models can be used to estimate increases in output, income, and employment. A commonly-accepted framework is the RIMS-II, which the Bureau of Economic Analysis (BEA) within the US Department of Commerce has developed. Additional information on the RIMS-II model is given at: https://www.bea.gov/regional/rims/index.cfm

Environmental. Environmental benefits are related to the potential decrease in vehicle emissions and fuel consumption as a result of a reduction in VMT, including one or more of the following:

- Decrease in metric tons of CO;
- Decrease in metric tons of CO_2;
- Decrease in metric tons NO_x;
- Decrease in metric tons of SO_x;
- Decrease in metric tons of Particulate Matter (PM); and
- Decrease in gasoline and diesel consumption in gallons.

Federal guidance on estimating the potential environmental benefits for a transportation project is given in the following documents:

http://www1.eere.energy.gov/buildings/appliance_standards/commercial/pdfs/sem_finalrule_appendix15a.pdf

http://www.nhtsa.gov/DOT/NHTSA/Rulemaking/Rules/Associated%20Files/CAFE_Final_Rule_MY2011_FRIA.pdf

6. Distribution of Benefits to Regions and Community Effects that Influence Livability

Programmed private investment in passenger and freight rail infrastructure and new and expanded service over the next 20 years is expected to create thousands of new temporary construction jobs. In addition, the freight rail upgrades will also bring new jobs to the state. Third-party freight rail investments will lead to economic growth, such as White Pine County's proposed investment in the Nevada Northern Railway Shortline to serve the Robinson Copper mine and attract new business to the area and the city of Fallon's proposed transload relocation and line truncation, which will permit the city to redevelop core area properties with development that is more consistent with the community's core-area retail and residential uses.

Nevada's new inland port legislation establishes the framework for developing inland ports in Nevada, and inland port projects are specifically identified in the long-term rail plan for Nevada. Inland ports, which are linked by rail to traditional coastal ports, function as primary distribution centers for container shipments to other modes, such as air and highway, as well as rail. Inland ports in other states have created successful manufacturing centers and regional transportation facilities. NCED's inland port study is anticipated to identify a northern and a southern Nevada inland port opportunity.

Consolidated intercity and intracity multimodal terminals in Nevada cities can provide for seamless travel and create a focus for development in those communities. A future multimodal high speed rail passenger terminal in Las Vegas can provide the necessary multimodal connections needed to make high speed rail proposals work. The proposed Ivanpah International Airport, south of Las Vegas, might be a good candidate to realize the needed connectivity, as well as capitalize on the economic development opportunities created by bringing large numbers of people together at a single location.

Proposed excursion line extensions, such as those identified for the Nevada Northern Railway, the V&T, and the Nevada Southern Railway, which together draw about 85,000 riders annually, will create new jobs and enhance tourism in the Ely, Virginia City, and Las Vegas areas of Nevada. Similarly, a proposed 2022 Reno-Tahoe Winter Games Coalition initiative has the potential to yield significant economic benefits for the state. Passenger rail connections to international airports and other venues in major cities in adjacent states could help in securing the winter games and warrant additional study.

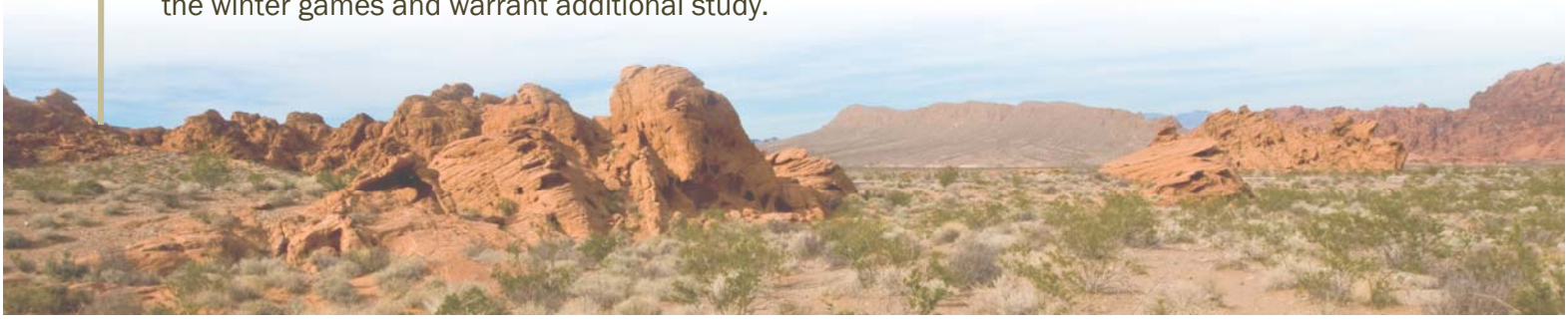


Exhibit 5-1: Nevada Southern Railway Excursion Locomotive

E. Passenger and Freight Funding Sources

The following discussion first presents detailed descriptions of: (1) potential funding sources applicable to both passenger and freight rail projects; then (2) sources exclusive to funding passenger rail projects; followed by (3) sources exclusive to funding freight rail projects. Each of these three funding-source discussions first lists federal agencies and their respective programs, followed by state and local agencies and their respective funding programs. Funding for 3P projects is discussed above in this chapter's **Section C.2 Legislative Changes**. Funding restrictions and comparisons with other states are included in the discussions. Two additional subsections are provided at the end of this text, namely a description of the eligible uses of federal funding programs and a description of potential funding sources particularly suited to funding the projects included in the near- and longer-term plans for this state rail plan.

1. Financing for Both Passenger and Freight Rail Improvements

SAFETEA-LU originally came into effect in 2005 and originally expired in September 2009. SAFETEA-LU was subsequently extended through various legislative actions and currently runs through March 31, 2012. A number of key issues are anticipated to drive the next authorization, including: relieving congestion, increasing safety, maintaining infrastructure preservation, encouraging greater livability and sustainability, and expanding funding mechanisms. Key themes are likely to include federal funding levels, freight and economic development, performance measurement, the consolidation of federal programs, and high speed rail.

SAFETEA-LU has continued many of the policies and programs established with the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA21). SAFETEA-LU, for example, specifically cited and has provided funding for Operation Lifesaver, Inc. SAFETE-LU has allowed states and MPOs to tap various federal funding sources that support the development, construction, and/or rehabilitation of passenger and freight rail projects. FHWA, FRA, and other federal agencies administer existing grant and loan programs. This section describes the potential funding and financing sources from these federal sources, as well as the state and local governmental sources, plus private debt and equity, which can be used to develop and construct passenger and freight rail projects.

FHWA

CMAQ

The CMAQ program was created in 1991 as part of ISTEA to provide innovative funding for transportation projects that improve air quality and help achieve compliance with national air quality standards that the Clean Air Act established. SAFETEA-LU (Sections 1101, 1103, and 1808) authorized funding through CMAQ for projects in areas not meeting national air quality standards. The CMAQ program pays for transportation projects or programs that will contribute to attainment of national ambient air quality standards. The program encompasses projects and programs that reduce traffic congestion and help meet federal Clean Air Act requirements. CMAQ funding may be used for freight and passenger rail projects that accomplish the program's air quality goals. Grant funds are formula-based with the federal share ranging from 80 to 100 percent, depending on project type, and they require MPO approval.

STP

The Surface Transportation Program allocates federal funds under SAFETEA-LU (Section 1122) to complete a variety of rural highway improvements (STP-R) and for federal-aid-eligible roads and streets in urban areas (STP-U). STP funds are available for railroad relocations and consolidations, intermodal terminals, and the acquisition of abandoned railroad rights-of-way.

Transportation Enhancements (TE) Program

The TE program's purpose is to fund projects that allow communities to strengthen the local economy, improve the quality of life, enhance the travel experience, and protect the environment. TE funds can be used to rehabilitate and operate historic transportation buildings, structures, or facilities and to convert abandoned rail corridors to trails. The TE program has the following requirements and restrictions:

- TE funds may not be used for the sole purpose of replicating a historic transportation building or facility.
- Private sponsors should have a public co-sponsor. Sponsors should plan for the future use and maintenance of the property in their proposal.
- A legal document, developed in conjunction with the state DOT and the FHWA division office, should describe the protection of property rights for the use of a facility for a specific time period. The document should identify the responsible entity for managing, operating, and maintaining the facility, as well as outline conditions for changes in these terms and/or sale or lease of the property (including possible payback of TE funds).
- Project sponsors should coordinate with appropriate historic agencies (e.g., State Historic Preservation Office).
- If part of a facility is to be leased for a fee, then federal funds should be used only for the portion of the facility open to the public.

Transportation, Community, and System Preservation Program Grant (TCSP).

The TCSP grant program is jointly developed and administered with FTA, FRA, the Office of the Secretary, and the Research and Innovative Technology Administration within the US DOT and EPA. The TCSP Program was designed to examine how transportation, community, and system preservation plans interact. Grants are provided to states and local entities and potential

private partners to fund projects that will integrate transportation, community, and system preservation plans and practices that address one or more of the following:

- Improve the efficiency of the US transportation system;
- Reduce the environmental impacts of transportation;
- Reduce the need for costly future investments in public infrastructure;
- Provide efficient access to jobs, services, and centers of trade; and
- Examine community development patterns and identify strategies to encourage private-sector development that accomplishes the above.

TIFIA Loans and Credits

The TIFIA program provides federal credit assistance in the form of direct loans, loan guarantees, and standby lines of credit to finance surface transportation projects of national and regional significance. TIFIA credit assistance provides improved access to capital markets, flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments. TIFIA can help advance qualified, large projects that otherwise might be delayed or deferred because of size, complexity, or uncertainty over the timing of revenues. Each dollar of federal funds can provide up to $10 million in TIFIA credit assistance and leverage $30 million in transportation infrastructure investment. TIFIA is not a funding source, but a method of financing projects through assisted borrowing.

TIFIA loans can be used for both passenger and freight projects. TIFIA funding assistance has been granted in most instances to large-scale toll projects of "national significance." TIFIA funding allows for potentially more competitive financing terms and longer maturities compared with bonds issued in the municipal finance market. The interest rate for a 35-year TIFIA loan was 3.07 percent as of January 10, 2012. The major requirements for a TIFIA loan are:

- Large surface transportation projects with eligible project costs that are reasonably anticipated to equal or exceed the lesser of $50 million or 33-⅓ percent of the amount of federal highway assistance funds apportioned during the most recent fiscal year to the state in which the project is located;
- Intelligent transportation systems projects with eligible project costs of at least $15 million;

- TIFIA contribution is limited to 33 percent of the project value;
- Senior debt must be rated investment grade;
- Dedicated revenues for repayment;
- General obligation pledges or corporate promissory pledges may be accepted; and
- Compliance with all applicable federal requirements, e.g., Civil Rights, NEPA, Uniform Relocation, and Titles 23/49.

Eligible passenger rail projects include the design and construction of stations, track and related infrastructure, as well as the acquisition of intercity or transit vehicles. Public freight rail facilities, private facilities providing public benefit for highway users, intermodal freight transfer facilities, projects that provide access to such facilities, and service improvements (including capital investments for intelligent transportation systems) at such facilities are also eligible for TIFIA assistance.

Eligible project costs include the following: (i) development phase activities, including planning, feasibility analysis, revenue forecasting, environmental review, permitting, preliminary engineering and design work, and other pre-construction activities; (ii) construction, reconstruction, rehabilitation, replacement, and acquisition of real property (including land related to the project and land improvements), environmental mitigation, construction contingencies, and equipment acquisition; and (iii) capitalized interest necessary to meet market requirements, reasonably required reserve funds, capital issuance expenses, and other carrying costs during construction. However, capitalized interest on TIFIA credit assistance may not be included as an eligible project cost.

Additionally, TIFIA administrative charges, such as application fees, transaction fees, loan servicing fees, and credit monitoring fees are not eligible project expenses. Additional information on eligibility requirements can be obtained through http://www.fhwa.dot.gov/ipd/pdfs/tifia/03_tifia_chapter_3.pdf. **Table 5-3** summarizes the selection criteria and weighting for TIFIA loans.

Table 5-3: TIFIA Selection Criteria

Factor	Weight
Private Participation	20.0%
Environmental Impact	20.0%
National or Regional Significance	20.0%
Project Acceleration	12.5%
Credit Worthiness	12.5%
Use of New Technologies	05.0%
Reduced Federal Grant Assistance	05.0%
Consumption of Budget	05.0%

A letter of interest, using US DOT's required form, must be submitted for a project to be considered eligible for TIFIA assistance. The letter of interest must include a detailed description of the project and an outline of the proposed financial plan, including the amount of the credit assistance requested. USDOT will review this preliminary submission to determine whether the project meets the basic requirements for TIFIA participation. TIFIA guidelines, letter of interest, and application forms can be accessed through the following link: http://www.fhwa.dot.gov/ipd/tifia/guidance_applications/tifia_applications.htm.

Three relevant TIFIA loan examples include: ReTRAC, the Las Vegas monorail, and the Denver Eagle P3 projects. ReTRAC involved constructing a 2.25-mile, $264-million below-grade transportation corridor through downtown Reno. The city of Reno obtained $73.5 million in TIFIA financing, which accounts for roughly 28 percent of total project cost. The TIFIA loans were secured by hotel room tax and sales tax receipts, prior to a restructuring executed in 2006, which enhanced the leverage and improved the all-interest cost while extending the payback period. The city repaid the original $50.5 million loan with interest in 2006.

The Las Vegas monorail project represents the first urban grade fixed guideway system to be privately financed in the US. The Las Vegas Monorail Corporation (LVMC), a nonprofit entity formed to develop, own, and operate the facility, purchased the original monorail system from the original developer in 2000. Revenues are generated from transit fees and advertising. The project was partially financed with the issuance of over $600 million in tax-exempt revenue bonds. The Clark County Board of Commissions approved a 75-year franchise agreement and land use permit, allowing the Las Vegas Monorail Company to extend the existing system into

McCarran International Airport to address future demand. This TIFIA loan project has been less successful.

The Denver Regional Transportation District (RTD) received a federal loan for up to $280 million to advance construction on the 30-mile Eagle P3 commuter rail project, which will significantly expand transportation choices in the greater Denver area. The project is a two-pronged effort. The western segment of Eagle P3, known as the Gold Line, will serve the suburbs of Arvada and Wheat Ridge. The East Line will run from Denver's historic Union Station nearly 23 miles east to Denver International Airport and will connect to existing light rail and bus service.

RRIF

The RRIF program provides direct federal loans and loan guarantees to finance development of railroad infrastructure. TEA-21 established this program and SAFETEA-LU amended it. The program authorizes the FRA Administrator to provide direct loans and loan guarantees up to $35 billion. Up to $7 billion is reserved for projects benefiting freight railroads other than Class I carriers. This program has primarily funded freight railroads to date. The funding may be used to:

- Acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings, and shops;
- Refinance outstanding debt incurred for the purposes listed above;
- Develop or establish new intermodal or railroad facilities;
- Provide direct loans to fund up to 100 percent of a railroad project, with repayment periods of up to 35 years and interest rates equal to the government's cost of borrowing; and
- Eligible borrowers include railroads, state and local governments, government-sponsored authorities and corporations, joint ventures that include at least one railroad, and limited option freight shippers that intend to construct a new rail connection.

FRA requires that the project has fulfilled its NEPA obligations, as well as related laws, regulations, and orders for it to be eligible for the RRIF program. Compliance with NEPA may require preparing detailed environmental assessments, consultation with federal and state authorities, publication of documents, and public review and comment on these documents. Additionally, applicants must demonstrate the availability of a revenue stream or other

mechanism sufficient to cover interest and principal payments. Congress has never appropriated funding to offset the cost to the federal government for extending this credit to the railroad industry, nor has the government appropriated any funding to provide for federal consideration of the funding applications. As a result, RRIF loan applicants must pay a credit risk premium to offset the cost of borrowing from the government, and pay an application fee that reimburses the cost for the federal consideration of the loan application itself. The application fee and costs of loan application analysis can range from $50,000 to $100,000 per loan; and the credit risk premium, which depends on the creditworthiness of the applicant, could range from one to 12 percent of the total loan amount.

Office of the Secretary, US DOT

Transportation Investment Generating Economic Recovery (TIGER) Grants.

TIGER grant funding is awarded through a competitive selection process included as part of the 2009 ARRA. Applicants must demonstrate potential project benefits for multimodal connections, economic competitiveness, readiness, travel time efficiencies, safety, reductions in fuel consumption, and decreases in vehicle emissions. Each applicant can provide up to three separate applications. A total of 51 projects were awarded TIGER grants, for a total $1.5 billion awarded in FY09; 42 recipients received capital grants and 33 recipients were awarded planning grants, for a total of $0.6 billion in FY10. FY11 saw 46 projects selected, divided roughly equally among urban and rural projects, involving a total award of $0.5 billion.

US Department of Commerce

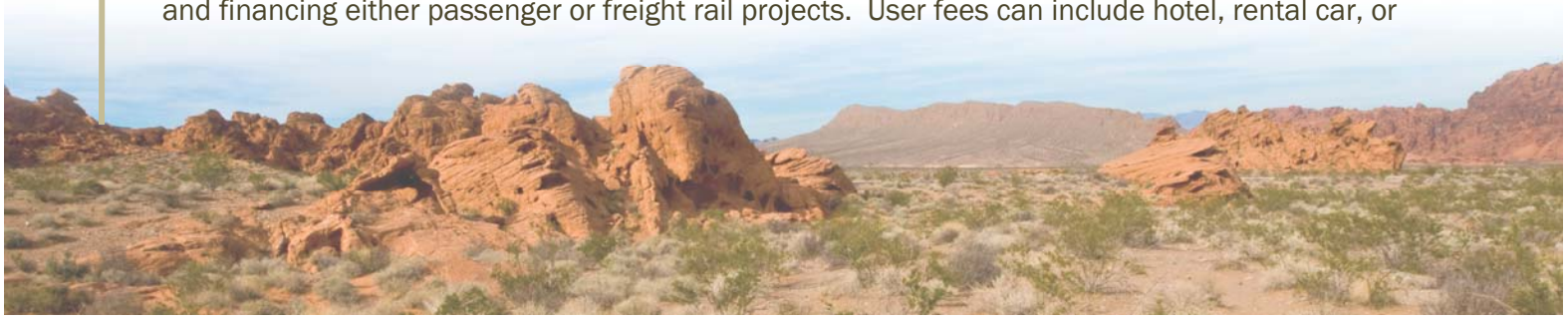
Economic Development Administration (EDA) Grants

Another federal funding possibility, EDA of the US Department of Commerce, administers two project grant programs, Grants to Public Works and Economic Development Facilities and Economic Adjustment Assistance. These programs are intended, respectively, to promote long-term economic development in areas experiencing substantial economic distress, and to assist states and local interests with strategies to bring about a change in the economy, focusing on areas under serious economic damage.

State

User Fees

State funding, particularly through user fees, may be a potentially viable approach for funding and financing either passenger or freight rail projects. User fees can include hotel, rental car, or



parking, and vehicle registration. Hotel fees were used to support the development and to secure TIFIA funding for Reno's Re-TRAC project. User fees can also be used to secure Nevada state–issued bonds.

Bond Funding

Current statutes limit maturities for revenue bonds backed by sales and gas tax revenues to 20 years. Funding can be derived from the following:

- State-issued debt can include: general obligation bonds and revenue bonds backed by gas or sales tax revenues. These instruments cannot have maturities longer than 20 years;
- State-issued debt for revenue bonds backed by user fees. State Securities Law permits maturities up to 50 years;
- State lease-purchase agreements;
- Federal TIFIA bonding: no express state legislation permits TIFIA, although NRS 405.549 may allow it under general authority;
- Federal PABs administered through the Department of Business and Industry. Guidelines may be different from FHWA's. PABs are subject to IRS Code 26, Section 142m; and
- Privately-issued bonds, or bank loans.

State-Funded Passenger and Freight Rail Programs in the U.S.

The majority of funding and loan programs in other states are dedicated to freight rail, although some states have developed a limited number of funding programs for both project types. **Table 5-4** lists the programs in other states, which illustrate the differing strategies used to support developing, building, and rehabilitating passenger and freight rail.

Neighboring-state Oregon's program offers a good example for Nevada. Oregon selects its projects based on a review of: whether the project reduces transportation cost for Oregon businesses; whether it benefits or connects two or more modes; whether it is a critical link in a statewide or regional transportation system; how much of the cost can be borne by applicants; whether the project creates construction and permanent jobs in the state; and whether the project is ready for construction.

Table 5-4: State-Funded Passenger and Freight Rail Programs

State	Program Name	Program Information	Program Details
Florida	Florida Department of Transportation (FDOT) Work Program	Funds for rail projects are channeled through the FDOT Work Program. Roughly $16.43 billion in funding is generated from fuel tax receipts, vehicle registration, aviation, and rental car fees, which are deposited into the State Transportation Trust Fund. Federal contributions account for 15 to 35 percent of FDOT's Work Program funds, depending on the fiscal year allocation.	Funding is administered through FDOT's Office of Work Program (OWP) http://www.dot.state.fl.us/programdevelopmentoffice/Development/PDFInstructions/PARTII.pdf
New York	Passenger & Freight Rail Assistance Program (PFRAP)	Funds are made available to build and improve passenger and freight rail projects, including acquiring, constructing, reconstructing, improving, or rehabilitating any railroad capital facility. Funds are allocated according to specified objectives.	Counties, cities, towns and villages, public authorities, or public benefit corporations may apply for publicly-owned rail and port facilities, or they may sponsor projects for privately-owned facilities. Common-carrier or tourist railroad corporations are also eligible. Local match varies.
Oregon	Connect Oregon	Oregon created a program for allocating $100 million in lottery-backed bonds to connect the highway system to other modes, including rail, air, marine, and transit. The program is administered through a performance-based application review process.	At least 10 percent of ConnectOregon funds must be distributed to each of the five regions of the state, provided that each region has qualified projects.
Virginia	Rail Enhancement Fund	The Rail Enhancement Fund, which was created in 2005, is the first dedicated revenue stream for investment in rail infrastructure in Virginia's history. The fund supports improvements for passenger and freight projects. At least 90 percent of program funds must be spent on capital improvements.	The program goals are to accelerate construction, encourage competition and economic development, limit the state's long-term liability, optimize public benefits, and improve the effectiveness of the transportation system. Passenger rail operators, freight rail operators, businesses, local governments, and non-profit organizations are eligible to apply.

Local

Local funding sources are used primarily for improving the mobility of local residents, which largely involves passenger rail projects, although they can be used for freight projects (e.g., grade-crossing improvements, rail relocation projects, etc.). Potential sources of local funding can include the following:

- Bonds, which can be backed by general fund revenues, property taxes, sales taxes, or impact fees that are charged to developers, and other user fees;
- Tax Increment Financing (TIF), which is a local economic development financing tool used at the discretion of the municipality in conjunction with other local taxing authority, e.g. county governments, community college districts, school, and hospital districts, etc.; and
- Donation of land and/or buildings that local governments own, which are located on or adjacent to a rail facility. In particular, public agencies have been able to use this land to encourage commercial and residential development in close proximity (¼ to ½ mile from the station area), which can generate property and sales tax revenues.

2. Financing for Passenger Rail Improvements

This section discusses the grant programs and other potential funding and financing sources that are only applicable for passenger rail projects.

FRA

PRIIA

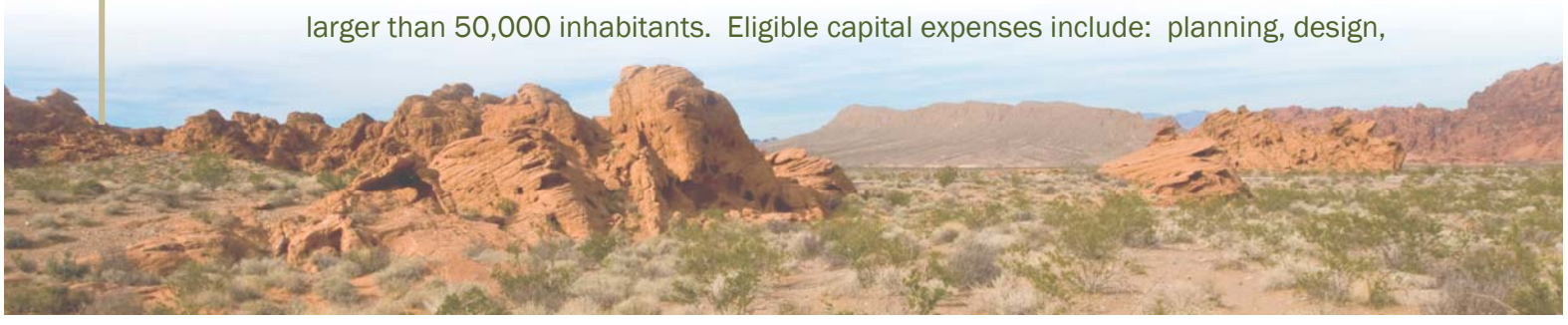
PRIIA authorized $1.9 billion over a period of five years, beginning in 2009, for capital grants to states for facilities and equipment required for new and improved passenger rail along with $2 million annually for small capital projects. PRIAA authorized $325 million in "congestion grants" to be made available to Amtrak and states during FY09 to FY13 for high-priority rail corridors, which will help increase capacity along certain lines, reduce congestion, and facilitate ridership. Amtrak and the states can also apply for capital project grants from the $1.5 billion authorized for the high-speed rail corridor development program. PRIIA includes two sections: (i) Division A, which focuses on the FRA's reauthorization and rail safety (Rail Safety Improvement Act of 2008); and (ii) Division B, which reauthorizes the National Passenger Railroad Corporation (Amtrak) among other purposes. Relevant Division B sections include:

- **State Grant Programs for Rail Projects (Section 105 of PRIIA).** This funding is intended to support projects that increase railroad safety and public awareness of railroad safety. It is not yet appropriated for FY10 to FY13.
- **State Capital Grant for Intercity Passenger Rail (Section 301 of PRIIA).** A total of $380 million per year is authorized for grants to states for the capital costs of facilities and equipment necessary to provide new or improved passenger rail service. The US Secretary of Transportation will administer these grants, which provide a federal share of up to 80 percent of the total capital costs, through FRA.
- **Congestion Grants (Section 302 of PRIIA).** An average of $65 million is authorized out of the intercity passenger rail program for projects to reduce congestion in bottlenecks on high-priority corridors. These grants will support projects to reduce congestion, facilitate ridership growth, or improve on-time performance and reliability of intercity passenger rail services.
- **High-Speed Rail (Section 501 of PRIIA).** $1.5 billion over five years ($300 million/year) has been authorized for grants to states to develop high-speed rail (reasonably expected to reach speeds of up to 110 mph) in federally-designated corridors. FRA awards these grants on a competitive basis. The states are required to provide a 20-percent match for the federal funding.
- **Public-Private HSR Concepts (Section 502).** Although PRIIA does not directly fund P3s, PRIIA encourages P3s through a call for proposals for the financing, design, construction, operation, and maintenance of high speed rail services operating within one of the designated high speed rail corridors, or the Northeast Corridor. FRA initiated the process with a Request for Expressions of Interest published in the Federal Register on December 16, 2008. PRIIA states that eligible projects are to be advanced to commissions for review; and that meritorious projects are to be recommended to the DOT Secretary and subsequently to Congress for action.

FTA

SAFETEA-LU also authorized transit funding, and FTA currently has 19 grant programs, which are named in accord with their USC Title 49 section number. Major transit programs include:

- Section 5307 grants, which cover capital and operating expenses for urban areas larger than 50,000 inhabitants. Eligible capital expenses include: planning, design,



and construction of fixed guideway systems and passengers stations, and the acquisition of rolling stock and buses. Funds are apportioned directly to designated local recipients in urbanized areas with a population greater than 200,000. Operating assistance is not an eligible expense in these areas. Funds are apportioned to the governor of each state for distribution in urbanized areas with fewer than 200,000 residents. Section 5307 grants fund 80 percent of eligible projects and require a 20-percent local match.

- Section 5309 grants provide funding for: (i) new and replacement buses and facilities; (ii) modernization of existing rail systems; and (iii) new fixed guideway systems. Funds are allocated on a discretionary basis to eligible public agencies. New transit initiatives include: heavy and light rail, commuter rail, monorail, automated fixed guideway system, busway, high occupancy vehicle lanes, or an extension of any of these facility types.

Passenger Rail Funding Programs in Other States

Other state's grant and loan programs specific to passenger rail are presented in **Table 5-5** as illustrations of the strategies used to support passenger rail improvements.

Table 5-5: Passenger Rail Funding Programs in Other States

State	Program Name	Program Information	Program Details
California	California High-Speed Rail Authority	Proposition 1A, which was enacted in November 2008, approved issuing $9.95 billion in general obligation bonds to partially fund a $40-billion, 800-mile high speed train under the supervision of the California High-Speed Rail Authority.	N/A
Florida	Florida New Starts Program (NSTP)	The primary purpose of the Florida New Starts Program (NSTP) is to provide funding support to position Florida transit projects competitively compared with other projects in the country and to capture federal transit funding for expensive projects. NSTP provides transit agencies with up to a 50-percent match of the non-federal share of project costs for transit fixed guideway (rail transit and bus rapid transit) projects and facilities that qualify under the FTA New Starts Program. This program also allows a 50-percent match of local funds towards projects funded with state and local funds.	NSTP considerations in transit project funding decision-making include: (i) compliance with federal and state policies and guidelines; (ii) coordination with regional projects and programs; (iii) consistency with local, regional, and state plans and programs; (iv) local financial, land use, and growth management policy commitments; (v) potential to leverage federal transit discretionary funding; and (iv) location on dedicated right-of-way.
Ohio	Ohio Rail Tourism	The Ohio Rail Development Corporation (ORDC) within ODOT works with other state agencies to help provide needed funds to acquire, build, and rehabilitate rail infrastructure.	The goals of the program are to promote local economic development through rail tourism activities and to support scenic railroads and museums.
Pennsylvania	Rail Passenger Capital Program	This program administers both state and federal funds for intercity passenger rail service. It involves reimbursement for capital costs. Both federal and state funding sources are utilized.	Capital projects currently administered under this program include: the Keystone Corridor Improvement Project, which focuses on providing faster passenger rail travel speeds between Philadelphia and Harrisburg, and the Lackawanna Cut-Off Restoration Project.

3. Financing for Freight Rail Improvements

This section outlines the federal grant programs and other potential funding and financing sources that are only applicable to freight rail improvements.

FRA

Railroad Rehabilitation and Repair Program (RRR)

This program authorizes the US DOT Secretary to provide $20 million in grants to states applying for FRA RRR funding to cover up to 80 percent of the cost of a project to repair and rehabilitate Class II and Class III railroad infrastructure that hurricanes, floods, and natural disasters damage, provided that the infrastructure is located in a county that the President designates as a Disaster Declaration for Public Assistance county. Class II and Class III railroad infrastructure eligible for repair and rehabilitation consists of railroad rights-of-way, bridges, signals, and other infrastructure that are part of the general railroad system of transportation and primarily used to move freight traffic. Non-federal sources in the form of cash, equipment, or supplies must cover at least 20 percent of the cost of eligible repair and rehabilitation projects.

Rail Line Relocation and Improvement Capital Grant Program (RLR)

States, political subdivisions of states (such as a city or county), and the District of Columbia are eligible for RLR grants. Most of this program's funds are earmarked for specific projects, with the remainder available for competitive grants. Pre-construction activities (e.g., preliminary engineering, design, and costs associated with project-level NEPA compliance), are considered part of construction and, are therefore eligible for funding; however, activities, such as planning studies and feasibility analyses, are not eligible for funding. Grants may only be awarded for construction projects that improve the route or structure of a rail line and: (i) are carried out for the purpose of mitigating the adverse effects of rail traffic on safety, motor vehicle traffic flow, community quality of life, or economic development; or (ii) involve a lateral or vertical relocation of any portion of the rail line.

FHWA Discretionary Grants

Railway-Highway Crossing Hazard Elimination in High-Speed Rail Corridors

This program provides funding exclusively for improvements in highway-rail grade crossings on federally-designated high speed rail corridors. Proposed projects are expected to improve the safety of or to eliminate a hazard at a public or private rail-highway grade crossing. SAFETEA-LU (Section 1103) authorized $15 million in FY09; and Congress extended $15 million in funding

for this program in FY10 and in FY11. Potential projects must achieve at least one of the characteristics or activities listed below:

- Improvements at public or private grade crossings;
- Installation of or upgrade to crossing signal equipment;
- Crossing closure;
- Grade separation;
- Pedestrian crossing improvements;
- Development or evaluation of a crossing safety plan;
- Track circuitry improvements to activate warning devices;
- Integration of crossing warning systems with advanced train control, signal preemption, and intelligent highway traffic control systems; and
- Other civil or utility improvements, such as improved lighting and sight distance.

Ineligible activities under this program include resurfacing grade crossings for maintenance purposes, upgrading grade crossing signal equipment for maintenance purposes, and implementing quiet zones. FHWA and FRA review the applications and select projects, based on the following criteria:

- Improves safety at a crossing that has recent activity or high potential for accidents between pedestrian and/or vehicular traffic and high speed rail or intercity passenger rail operations;
- Upgrades a crossing or a series of crossings to create a "sealed corridor" segment, using advanced warning technology, four-quadrant gates, or median separators with preference for crossing closures;
- Supports a high speed rail corridor Service Development Plan;
- Is included on a corridor with active high speed rail or intercity passenger rail service;
- Improves existing high speed rail or intercity passenger rail service, as measured by additional service frequencies, estimated increases in ridership, operational reliability, average and/or top operating speeds, or reductions in trip times, and other related factors; and
- Demonstrates support from key project partners, including the infrastructure owning railroad, local governments, and other relevant stakeholders.

FHWA and FRA may also take into account the extent to which the proposed project is integrated with high speed rail investments, corridor location, project delivery and implementation, and any other potentially relevant factors.

Section 130 Highway-Rail Grade Crossing Program

The FHWA Section 130 Highway Railroad Grade Safety Crossing program provides grants to improve rail-highway grade crossings that enhance safety, including: (i) separating or protecting grade crossings; reconstructing existing railroad grade crossing structures; (ii) and relocating highways or rail lines to eliminate grade crossings. FHWA Section 130 Program funds can be used for freight rail projects, provided that the projects improve safety at grade crossings. This may include a variety of methods, such as installing warning devices, eliminating at-grade crossings by grade separation or consolidation, and closing crossings. Work may also include replacing crossing surfaces, improving road approaches, installing new gates/flashers, and installing other safety signal equipment, as well as for eliminating crossing hazards. For example, any repair, construction, or reconstruction of roads and bridges that a project affects would be eligible. In general, federal funding is available for up to 90 percent of project costs, with a 10-percent local match. The federal share may amount to 100 percent for certain projects, such as active warning devices and crossing closures.

NDOT receives approximately $1.1 million per year in Section 130 funds for its Railroad Safety Program. Available and obligated funds for Nevada were:

- 2009: $1,100,000 available with $1,782,607 obligated;
- 2010: $1,100,000 available with $2,382,109 obligated; and
- 2011: $1,486,670 available with $1,361,092 obligated.

Freight Intermodal Distribution Pilot Program

The freight intermodal distribution pilot program was enacted under SAFETEA-LU (Section 1306) and provides grants of up to one million dollars per project per year to develop intermodal freight facilities. The grants provide capital funds to address freight distribution and infrastructure needs at intermodal freight facilities and inland ports. Grant funds from this $30 million program have been authorized for six projects to date. Applicants for funds under this program need to provide the following information to the FHWA Division Office:

- **Statement of Purpose** - A detailed project description, including an explanation of how the project will help relieve congestion, improve transportation safety, facilitate international trade, and encourage P3s, along with contact information for the project's primary point of contact. The statement of purpose should also identify ways in which the project will establish or expand intermodal facilities to encourage the development of inland freight distribution centers.
- **Scope of Work** - Complete list of activities to be funded through the grant.
- **Project Map** - Schematic depicting the project and connecting transportation infrastructure.
- **Cost Estimate** - Detailed quantification of project costs by activity, including contingency.
- **Stakeholder Identification** - List of all public and private project partners and the role each will play in executing the project.
- **Funding Disclosure** - Identification of all funding sources that will supplement the grant and that are necessary to fully fund the project, plus the anticipated dates on which the additional funds are to be made available.
- **Timeline** - Delineation of project timeline, including work to be completed and anticipated funding cycles.
- **Project History** - Results of any preliminary engineering done to date.
- **Transportation Planning** - State DOT validation that the project is or will be included in the appropriate planning documents (TIP/STIP).

- **Coordinated Planning** - Demonstration that the TIP/STIP conforms to the State Implementation Plan for projects in air quality maintenance and non-attainment areas.
- **Environmental Process** - Status and timeline for the environmental process, including NEPA.

US Department of Agriculture (USDA) Community Facilities Direct and Guaranteed Loans

The USDA Rural Housing Service's Community Facility Program offers loans to: construct, enlarge, extend, or improve community facilities; provide essential services; and/or improve safety in rural areas and towns with a population of 20,000 or less. Eligible transportation-related community facilities include transportation infrastructure for industrial parks and railroads. Applicants must have the legal authority to borrow and repay loans, to pledge security for loans, and to construct, operate, and maintain the facilities. They must also be financially sound and able to organize and manage the facility effectively.

US Internal Revenue Service (IRS) Railroad Track Maintenance Tax Credit

The Railroad Track Maintenance Credit authorized under Section 45G of the Internal Revenue Code provides tax credits to qualified taxpayers for expenditures on railroad track maintenance on trackage that Class II or Class III railroads own or lease. The amount of the tax credit provided can equal up to 50 percent of the qualified railroad track maintenance and rehabilitation expenditures. Qualified railroad track expenditures include all expenditures for maintaining and rehabilitating railroad track, involving roadbed, bridges, and related track structures. Eligible taxpayers qualifying for this credit include any Class II or Class III railroad and any person transporting property on a Class II or Class III railroad facility, or furnishing railroad-related property or services to a Class II or a Class III railroad on miles of track that the railroad has assigned to that person. The maximum credit allowed under this program is $3,500 per mile of railroad track owned, leased, or assigned to an eligible taxpayer. This credit program was made available in 2004 for a three-year period from December 31, 2004 to December 31, 2007. The credits can be carried forward for a 20-year period for eligible taxpayers who do not have enough taxable income to make full utilization of the credit.

Freight Programs in Other States

Grant and loan programs from other states that are specific to freight rail projects are presented in **Table 5-6** as illustrations of the strategies used to support freight rail improvements.

Table 5-6: Freight Programs in Other States

State	Program Name	Program Information	Program Details
Maine	The Industrial Rail Access Program (IRAP)	IRAP offers 50/50 matching funds to private businesses that are looking to upgrade sidings, switches, and other rail infrastructure to use rail to move their products.	Projects are rated in terms of: (i) job creation; (ii) new investment; (iii) intermodal efficiencies; (iv) private percentage of cost; (v) decrease in air emissions; (vi) decrease in highway congestion; (vii) decrease in highway maintenance costs; (viii) logistics cost savings; (ix) rail service improvements; and (x) benefit-cost ratio.
Michigan	Michigan Rail Loan Assistance Program (MiRLAP)	MiRLAP is a revolving loan program designed to contribute to the stability and growth of the state's business and industries by helping to preserve and improve rail freight infrastructure. The program awards no-interest loans on a competitive basis to fund rail infrastructure preservation projects, such as track rehab and bridge/culvert repair projects.	Up to 90 percent of a project's eligible costs can be covered, with a repayment period of up to 10 years
Mississippi	Local Government Revolving Loan Program	Low interest loans up to 15 years at one percent less than the Federal Reserve Discount Rate. Loans are made from the Mississippi Development Authority to counties or municipalities.	Program requires official certification that the project meets American Railway Engineering and Maintenance-of-way Association (AREMA) and FRA standards and other compliance requirements.
North Carolina	Rail Industrial Access Program	The North Carolina Department of Transportation (NCDOT) helps to fund the cost of constructing rail tracks (up to 50 percent of total project costs), provided that the project supports a new business or a business expansion.	Eligible recipients include local governments, community development organizations, and railroads. Eligible projects involve building or rehabilitating railroad spur tracks.
Ohio	Ohio Rail Development Commission Rail Safety Programs	The Ohio Department of Transportation (ODOT) allocates $15 million per year in Hazard Elimination and Surface Transportation Program funds for highway-railroad grade crossing safety improvements, or corrective activity designed to alleviate a highway-railroad safety problem.	Eligible projects include: warning device improvements, crash reduction, eliminating flashing light signals on highways, eliminating cross bucks, circuitry upgrades, grade crossings, and grade separations.

State	Program Name	Program Information	Program Details
Pennsylvania	Rail Freight Assistance Program (RFAP)	The Pennsylvania DOT's Rail Freight Assistance Program provides financial assistance for rail freight infrastructure projects that preserve essential rail freight service and/or stimulate economic development through improved or new rail services. Pennsylvania allocated $10.2 million for investment in freight infrastructure in March 2008.	Maximum funding for an eligible RFAP project is up to 70 percent of total project cost, not to exceed $700,000. Funding for the new construction portion of a RFAP project cannot exceed $250,000. Final grant award is based on the actual bid costs.
Tennessee	Short Line Railroad Rehabilitation Program	The Short Line Railroad Rehabilitation Program is funded by a tax on diesel fuel that aeronautics, railroads, and towboats use. The program is split into track rehabilitation and bridge rehabilitation with initiatives requiring a 10 percent match. The program has awarded $66.87 million over the past ten years.	N/A
Texas	Texas Rail Relocation and Improvement Fund	This Texas RRIF program was created in 2005 and helps share the cost of relocating and improving public and private rail facilities. The fund can be used to improve freight mobility and relieve congestion. The state and the railroads share the cost of relocation in proportion to the benefit each entity receives for improvements.	N/A
Virginia	Rail Industrial Access Program	More than $20 million has been distributed through this program since 1986.	N/A
Virginia	Rail Preservation Grant Program	This grant program provides grants or loans for short line operations and requires a 30-percent match.	Local government, authorities, agencies, and the non-public sector are eligible. Loans are only available to large railroads.
Wisconsin	Freight Railroad Infrastructure Improvement Program (FRIIP)	FRIIP provides funding for the following types of railroad projects: (i) connecting an industry to the national railroad system; (ii) making improvements to enhance transportation efficiency, safety, and intermodal freight movement; (iii) rehabilitating a rail line; and (iv) completing rail-related projects in a timeframe that would not otherwise be possible. Grants account for 80 percent of total project costs.	FRIIP provides low interest loans to government agencies, railroads, or directly to businesses, and must be repaid within 10 years. Projects are subjected to a BCA. Reductions in highway maintenance cost from the diversion of traffic to rail can be considered as a benefit.

4. Eligible Uses of Federal Funding Programs

Table 5-7 summarizes the restrictions on the use of federal funds, which vary by program. Federal grant and lending programs primarily encourage the use of federal funds for project management and capital improvements. Federal funding programs that allow for planning activities are limited to HSIPR grants and FY10 TIGER grants. This table includes funding and financing programs that are used for passenger projects, freight improvements, or both types of projects.

Table 5-7: Eligible Uses of Federal Funding Programs

Funding Source	Planning	Project Development	Project Management	Capital Improvements	Operations
Fixed Guideway Modernization			✓	✓	
New Starts		✓	✓	✓	
AMTRAK			✓	✓	✓
HSIPR	✓	✓	✓	✓	
RRR			✓	✓	
Grade Crossings		✓	✓	✓	
TIGER[1]	✓		✓	✓	
RRIFs		✓	✓	✓	
TIFIA			✓	✓	

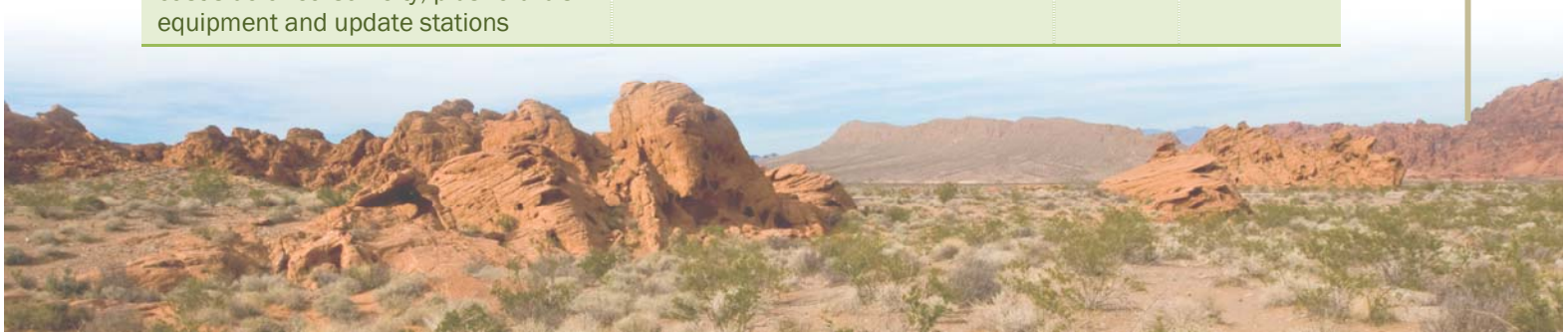
Source: USDOT
1. Appropriations for FY10 allowed TIGER grants to be used for planning purposes.

5. Potential Funding Sources for Planned Passenger and Freight Rail Projects in Nevada

Table 5-8 identifies potential sources of funds for significant projects discussed in this document. Funding information has been drawn from publicly-available information. Certain federal grant and loan programs for which projects may potentially be eligible are identified as a possible funding source.

Table 5-8: Potential Funding and Financing

Project	Possible Funding and Financing Sources	Time Frame (years)	Estimated Cost ($M)
Conventional Passenger Rail/High Speed Rail			
X-Train between Fullerton and Las Vegas	Equity: Listed on the NASDAQ and Private Offering; Bonds	0–5	N/A
DesertXpress service between Las Vegas and Victorville, CA	Federal loan and bond issues. Farebox revenue estimate is $200 million in Year 1, $720 million in Year 10, and $1.1 billion in Year 20.	0–5	$6,500
Restore *Desert Wind* service between Salt Lake City, Las Vegas, and Los Angeles	Farebox revenues estimated to $18.7 million per year (2006$), PRIIA	6–20 +	$3,472
Rail service between Emeryville, Sacramento, Salt Lake City, and Reno for 2022 Winter Olympic Games bid	N/A	6–20 +	N/A
Develop consolidated Amtrak/Thruway Bus/Greyhound/local bus terminals in Elko, Winnemucca, Sparks, Reno, Las Vegas, and Laughlin	FTA grants, TIGER grants, and revenues from concessions, leases, and advertising	6–20 +	N/A
California-Nevada Interstate Maglev between Las Vegas and Anaheim, CA (269 miles)	Farebox revenues, High Speed Intercity Passenger Rail (HSIPR) Grants, PRIAA, and TIFIA Loans	6–20 +	$12,105
California-Nevada Interstate Maglev between Las Vegas and Primm/ Ivanpah Airport/CA state line (40miles)	Farebox revenues, HSIPR Grants, PRIAA, and TIFIA Loans	6–20 +	$1,800
WHSRA long-term proposal for high speed rail between Denver, Salt Lake City, Reno, and San Francisco	N/A	6–20 +	N/A
Golden Triangle high speed service between Las Vegas, Phoenix, and Los Angeles	N/A	6–20 +	N/A
Multimodal transportation hub at Nevada high-speed intercity passenger rail termini, notably Las Vegas	Federal STP and TCSP grants, private capital	6–20 +	N/A
Excursion Rail			
Extend Nevada Northern Railway four miles between McGill Junction and McGill Depot	Private capital; farebox revenues	0–5	N/A
Extend the V&T about five miles to the east side of Carson City, plus refurbish equipment and update stations	Private capital; farebox revenues	0–5	N/A



Project	Possible Funding and Financing Sources	Time Frame (years)	Estimated Cost ($M)
Extend Southern Nevada Railway seven miles in city of Henderson	Private capital; farebox revenues	0–5	N/A
Freight Rail			
Upgrade the Weso crossover from 20 mph to 50 mph with power switches	N/A	0–5	N/A
Nevada Sub Siding, Phase 1—Patrick and Rose Creek	N/A	0–5	N/A
Phase 2 UPRR Nevada Sub sidings - construct Oreanna; construct Valery; and extend Massie	N/A	6–20 +	N/A
Elko CTC-UPRR Phase 2	N/A	6–20 +	N/A
Replace second track and upgrade to CTC on Donner Pass in CA	FRA RLR grants	6–20 +	N/A
Advance White Pine (Nevada Northern Railway) Shortline	STB granted S&S Shortline Leasing, LLC an exemption in 2009. Revenues must be less than $5 million annually.	6–20 +	N/A
Northern and southern Nevada inland port projects	Private capital; local government agency easements and leasing of right-of-way; issuing of franchises. US Department of Commerce EDA grants.	6–20 +	N/A
Relocate transload facility and associated trackage out of Fallon	Private capital; USDA Community Facilities Loans	6–20 +	N/A
Rail-Highway Grade Crossings			
Airport Road, Winnemucca	Federal Section 130 funds.	0–5	N/A
Gerlach, Washoe County	Federal Section 130 funds.	0–5	N/A
SR 306, Golden Acres Rd South, Beowawe, NV–crossing surface	Federal Section 130 funds.	0–5	N/A
SR 306, Golden Acres Rd North, Beowawe, NV	Federal Section 130 funds.	0–5	N/A
SR 306, Golden Acres Rd South, Beowawe, NV–gates	Federal Section 130 funds	0-5	N/A
Wyoming and Oakey, Las Vegas or related crossing improvement	STP, Clark County, Federal Section 130 funds.	6–20 +	$78

F. Needed Rail Planning Studies

1. Recent and Current Passenger and Freight Rail Studies

NDOT completed a multi-state effort evaluating air, rail, and highway passenger and freight movements in the I-15 corridor between Salt Lake City, Las Vegas, and Los Angeles in July 2012. This study, called the I-15 Mobility Alliance, did not focus on specific potential passenger or freight rail improvement projects in this corridor. Amtrak completed an evaluation of the former *Desert Wind* passenger service in this Salt Lake City, Las Vegas, Los Angeles corridor as part of its September 2010 PRIIA PIP and determined that reinstating service would complement *California Zephyr* ridership, but would require host railroad negotiations and federal funding to cover the capital and operating funding required to reinstate the service. Accordingly, Amtrak elected not to move forward at this time.

While the above recently-completed studies address passenger rail movement in the Salt-Lake-City-to-Las-Vegas corridor for the near term, a number of other studies are currently under way or just beginning that will address passenger rail connecting Reno, Las Vegas, Phoenix, Sacramento/San Francisco Bay area, and Los Angeles among other large-city destinations.

FRA and NDOT are currently conducting transportation studies involving existing and proposed passenger and freight rail corridors in Nevada and adjacent states. These studies are addressing both passenger and freight rail services affecting Nevada; they are briefly described in this Chapter's **Section B**. They include the following:

- FRA Southwest Multi-State Rail Planning Study: This study is a regional network planning study, covering three states Nevada, California, and Arizona, where several passenger rail projects are in operation, development, or proposed, involving northern and southern Nevada. It is focused on intercity passenger rail, both conventional and high speed, addressing ridership and other factors that are affected by a multi-corridor multi-state service operation, as opposed to a single corridor study. It is scheduled to be completed by late summer 2012.
- Connecting Nevada Study: This study is developing a statewide multimodal evaluation, including both passenger and freight rail in the short- and long-range. It is scheduled to be completed in October 2012.

- Multimodal Multi-State Framework Study: NDOT is advancing a multimodal framework study for a potential multimodal transportation corridor between Mexico and Canada. The framework study includes consideration of passenger and freight rail, along with a new interstate highway, and could potentially connect Las Vegas and Reno with one or more of these modes. A key component of this study will focus on connecting Phoenix and Las Vegas with highway and potentially with separate or combined passenger and freight rail. The study is just being structured and does not yet have a scheduled completion date.
- Inland ports: NCED is advancing a state plan for inland ports scheduled to be completed by June 2012. This study is anticipated to address providing such facilities, likely including freight rail, in both northern and southern Nevada.

2. Potential Passenger and Freight Rail Studies

Some of the projects considered in this plan are candidates for further study and preliminary planning, notably, the Reno-Tahoe bid for the 2022 Winter Olympic Games and the multimodal passenger hub near Las Vegas.

Reno-Tahoe Bid for 2022 Winter Olympic Games - Transportation Study

The Reno-Tahoe Winter Games Coalition is in the early stages of preparing a bid to host the 2022 Winter Olympic Games. Transportation is a key component to the success of getting selected and successfully hosting a large-scale event, such as the Winter Olympic Games. Amtrak's *California Zephyr* currently operates one trip per day in each direction between Salt Lake City, Reno, Sacramento, and Emeryville. Additional passenger rail service could be used to move participants and athletes to the host city and to other cities with international airport connections and additional venues that could be used to meet the demanding requirements of an Olympic event. San Francisco, Sacramento, and Salt Lake City passenger rail connectivity could enhance the potential of these cities to supplement a Reno-Tahoe bid. Further study will be required to determine the needed amount and potential availability of passenger rail equipment in 2022 and to determine what rail line infrastructure improvements will be needed to be able to use the privately-owned rail line linking these cities intensively for a short period of time, including operating agreements.

Multimodal Hub Study

As the multiple studies currently underway begin to better define the requirements associated with accommodating high speed rail services in Las Vegas and as the DesertXpress project progresses, Nevada should take the opportunity to develop a plan for a single optimally-cited hub that can accommodate all of the needed modes, including air, high speed intercity passenger rail, transit (including potentially the Las Vegas monorail), etc. The proposed Ivanpah International Airport has been suggested for this role. Planning for this proposed airport has currently stalled because of the down economy. With better definition of needs from the currently underway studies and an advancing DesertXpress project, the Ivanpah site should be revisited to confirm if it is the best choice, and if so, then planning for its true multimodal role should be advanced. The study should address the feasibility of the hub and evaluate key components of the project, including:

- Site location and area
- Point of access for a rail line(s)
- Types of modes needed to serve the site
- Managing agency for the hub
- Capital and operating cost estimates
- Funding plan.

This initial study is intended to flesh out the details of the project so that a site can be secured and gain support from the public/stakeholders early in the process.

Elko Platform Evaluation

The separate east- and westbound platforms at Elko have occasionally caused some confusion among late night passengers. NDOT is working to enhance signage, although additional improvements may be needed. This small-scale issue could warrant a small-scale investigation to see if Amtrak operations, if very carefully coordinated with the host railroad, might be capable of being adjusted to improve the situation without adversely affecting freight operations in any way. This investigation should consider accommodating Greyhound with local transit service into a consolidated facility with Amtrak.

G. Implementation Strategy for Passenger and Freight Rail Capital Projects

Nevada's largest markets, which have the potential to support passenger rail, are in the Reno area, which has passenger service on Amtrak's *California Zephyr* (along with Elko and Winnemucca across northern Nevada), and Las Vegas in southern Nevada, which does not have passenger rail service today. The Reno passenger rail market is connected most directly with Salt Lake City to the east and Sacramento to the west. The Las Vegas passenger rail market could and eventually should be connected with the most proximate larger-market cities that surround it, notably, Salt Lake City, Phoenix, and Los Angeles. Connecting the state's two largest passenger rail markets remains a long-term goal. Excursion rail projects can offer economic development opportunities.

UPRR dominates Nevada's freight rail; BNSF also provides service for large parts of the state. Improving freight rail operational efficiency can increase more energy-efficient rail shipments, reducing highway truck requirements and air pollution, as well as improving on-time passenger rail performance. Rail-highway grade crossing improvements reduce crashes and fatalities.

The 2012 Nevada State Rail Plan calls for the state to assist in advancing a number of projects to address passenger rail, excursion rail, freight rail, and rail-highway grade crossings. The 2012 state rail plan projects are categorized as short, mid-, and long-term projects, based on when they may be implemented. These recommended projects are detailed in this document and summarized below as follows:

Short-term (0-5 years) Projects:

1. X-Train efforts
2. DesertXpress
3. UPRR Weso crossover improvements
4. Nevada Sub Sidings, Phase 1—Patrick and Rose Creek
5. Excursion rail extensions – Nevada Northern Railway, V&T Railroad, and Southern Nevada Railway
6. Annual rail-highway grade crossing program

Mid-term (6-20-years) Projects:

1. Developing consolidated intercity and intracity bus/rail terminals in Elko, Winnemucca, Sparks, Reno, Las Vegas, and Laughlin
2. Rail service for bid to host 2022 Winter Olympic Games, pending further study
3. UPRR Phase 2 improvements, involving Oreanna, Valery, and Massie sidings; Elko CTC; and California Donner Pass second track replacement and CTC upgrade
4. White Pine (Nevada Northern Railway) Shortline track upgrades
5. Fallon transload facility relocation
6. Northern and southern Nevada inland port projects

Long-term (20+ years) Projects:

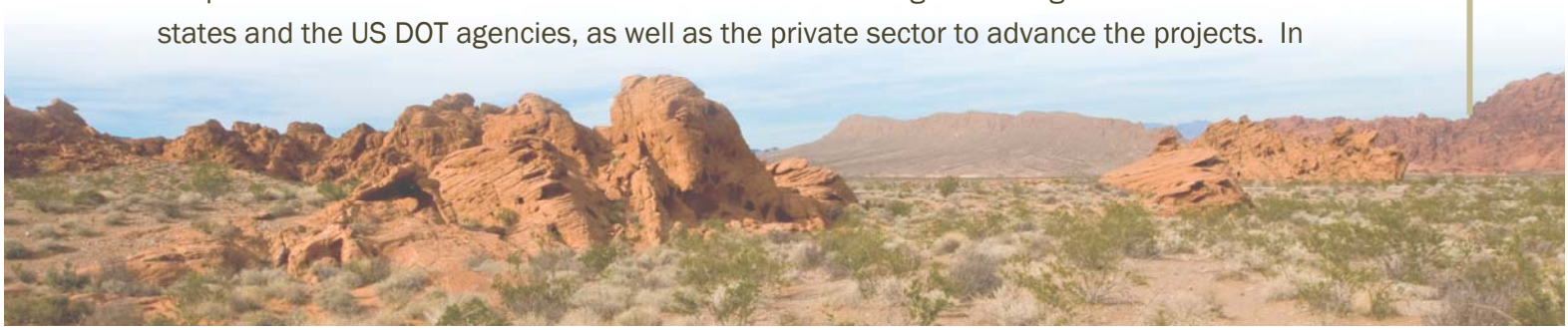
1. WHSRA northern Nevada and Golden Triangle initiatives and NDOT multi-state multimodal framework study
2. Multimodal high speed rail transportation hub in Las Vegas area

NDOT is the lead on coordinating, prioritizing, and advancing the annual rail-highway grade crossing improvement program, in cooperation with NPUC and local participants, which is funded with FRA dollars and a UPRR match.

NDOT or a local entity, could take the lead on developing a future multimodal high speed rail transportation hub, affecting Clark County. NCED is the lead on the state's inland port legislation, which calls for rail to be among the modes considered for any such site developed in Nevada. The other projects on the list involve third-party initiatives for passenger and freight rail improvements, from both the private and public sectors for passenger rail, or from local/county initiatives for rail projects.

NDOT can work to enhance its internal coordination for rail-related opportunities. For example, rail and road safety programs can include consideration of ITS possibilities to enhance intermodal operations, such as relating a signal pre-emption to a nearby rail-highway grade crossing or sharing more system data to coordinate rail and highway activities. DesertXpress will be required to connect with Las Vegas' FAST management center, according to the FHWA ROD for the high speed rail project.

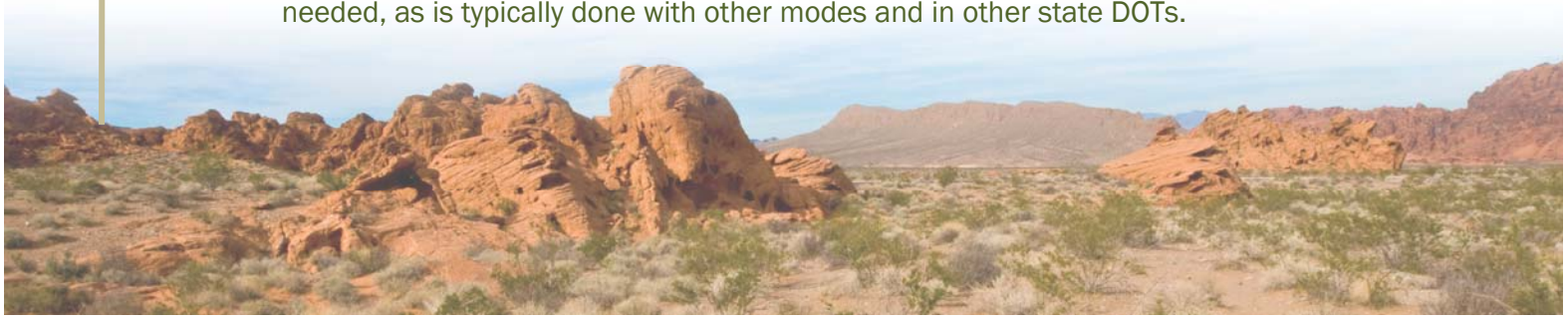
NDOT should be involved in working to advance each of the projects recommended in the state rail plan. NDOT's role should be to coordinate with other agencies of government and other states and the US DOT agencies, as well as the private sector to advance the projects. In



addition, NDOT needs to stay in touch with rail interest groups, such as the American Trails Association, which recently secured rights to the former Modoc Sub right-of-way. NDOT may facilitate dialogue among interested and involved parties to advance projects, host meetings, conduct studies, maintain a dialogue with passenger and freight rail interests, and write grants for funding. Even though a project may be listed as mid- or long-term, based on when it may be completed, studies and other activities should be advanced in the short-term to be able to reach the longer-term implementation objective. In some cases, the state legislature could be called on to provide funding or tax credits for particularly meritorious projects, perhaps along the lines of the progressive ConnectOregon bond financing program.

NDOT needs to take a number of steps to successfully advance these projects.

1. NDOT needs to hire a Rail Lead with industry knowledge whose primary and largely exclusive responsibility will be to advance these state rail plan projects. This individual will be the go-to person for all rail issues that arise at NDOT. This position will need to be fitted in at the appropriate level in NDOT's existing multimodal management structure.
2. NDOT will need to support the new rail lead with a staff of rail-experienced persons with specific project responsibilities. This staff should include a contingent specialized in writing grants. Federal grants and loans usually have fairly detailed eligibility and selection requirements. These selection criteria need to be reviewed in advance and used to get projects into position to be eligible for funding.
3. NDOT support staff should also include personnel experienced in preparing demand and financial feasibility analyses and writing the environmental impact assessments typically needed for projects to comply with federal grant requirements (such as, TIFIA and RRIF loans and bonds), so that they can prepare such materials and monitor and review the work of consultants. Ridership assessments, for example are typically tied to analyses of multimodal linkages and TOD; freight projects typically involve an assessment of commodity types and the value of materials transported.
4. Even before this experienced staff is brought on board, NDOT should designate existing personnel to address upcoming rail issues and to advance this report's projects.
5. NDOT should engage an on-call rail engineering consultant to provide services, as needed, as is typically done with other modes and in other state DOTs.



6. NDOT needs to stay focused on the state rail plan, which needs to be updated every five years, at a minimum. In addition, NDOT's rail program needs to stay abreast of FRA guidance and changing federal transportation legislation affecting rail.

Table 5-9 expresses the Nevada State Rail Plan implementation strategy in a bar chart, showing each of the key steps that NDOT will need to take to accomplish the various tasks over the next five years when the state rail plan will be updated. The plan may be amended during the next five years to address any significant changes that may arise. Specific activities are grouped under key headings, addressing: staffing; collaborating; studying; supporting; and coordinating steps. The relationship of these activities to the biennial state legislative sessions and the annual STIP development program are highlighted.

Table 5-9: Nevada State Rail Plan Implementation Steps

Chapter 6: Coordination and Outreach

Chapter 6 : Coordination and Outreach

NDOT has updated its circa-1996 state rail plan to become a living, amendable document that is fully compliant with federal regulations. The state rail plan establishes policy for freight and passenger rail, including commuter rail in the state, sets priorities and strategies to enhance rail service in the state to benefit the public, and serves as the basis for federal and state investments in Nevada.

A comprehensive public information and outreach program has been used to engage project stakeholders in the planning process to develop the state rail plan. The program has included identifying the stakeholders, creating north and south TACs with industry experts, hosting multiple TAC and public information meetings, soliciting stakeholder input through surveys and interviews, and developing a series of electronic and hard copy information materials. The public coordination and outreach team worked closely with the NDOT project manager and public information office to inform stakeholders and the public about project status and outcomes. Project information was disseminated through correspondence, TAC and public meetings, printed collateral materials, and an interactive website to inform stakeholders and the public about project status and outcomes.

A. Public Outreach Team Members and Contact Information

Table 6-1 lists key members of the Nevada state rail plan public coordination and outreach team who provided public outreach direction, management, planning, implementation, and support.

Table 6-1: Public Outreach Team Members

Name	Title	Phone	Email
Matthew Furedy	Project Manager, NDOT	(775) 888-7353	mfuredy@dot.state.nv.us
Eric Glick	Rail Division Manager, NDOT	(775) 888-7464	eglick@dot.state.nv.us
Julie Maxey	Public Hearings Officer, NDOT	(775) 888-7171	jmaxey@dot.state.nv.us
Mike McCarley	Project Manager, Jacobs	(702) 938-5570	mike.mccarley@jacobs.com
Mike Marler	Railroad Liaison, Jacobs	(214) 920-8134	mike.marler@jacobs.com
Darwin Desen	Railroad Liaison, Burns & McDonnell	(972) 455-3116	drdesen@burnsmcd.com
John McCarthy	Planner, Jacobs	(314) 335-4415	john.h.mccarthy@jacobs.com
Angela Thens	Public Outreach Lead, Jacobs	(702) 938-5483	angela.thens@jacobs.com
Sonya Ruffin	Public Outreach, Jacobs	(702) 938-5464	sonya.ruffin@jacobs.com

B. Goals of the Public Outreach Program

Coordination and outreach program goals were established to use in evaluating project strategies and tactics, which were then redirected, as appropriate, based on how well the strategies and tactics met those goals. The coordination and outreach program goals are:

Goals:

- To identify key stakeholders with knowledge of and interests in the Nevada rail infrastructure.
- To convey NDOT's mission and vision for the plan and updating the public on the study's progress.
- To provide accurate and timely information to affected stakeholders during the course of the project.
- To provide sufficient avenues for stakeholders to be able to actively obtain information, provide feedback, ask questions, and voice concerns during the project.

C. Nevada Rail Stakeholders

Nevada rail stakeholders were identified from among groups and organizations directly or indirectly affected by or concerned about Nevada's rail infrastructure. A detailed list of all stakeholders contacted during the development of this state rail plan is included in **Appendix A** – Contact/Stakeholder Database. Early and continuous outreach to these individuals was

critical in capturing and disseminating information about inventory, needs, issues, and opportunities for Nevada's rail infrastructure. The stakeholder groups and organizations include:

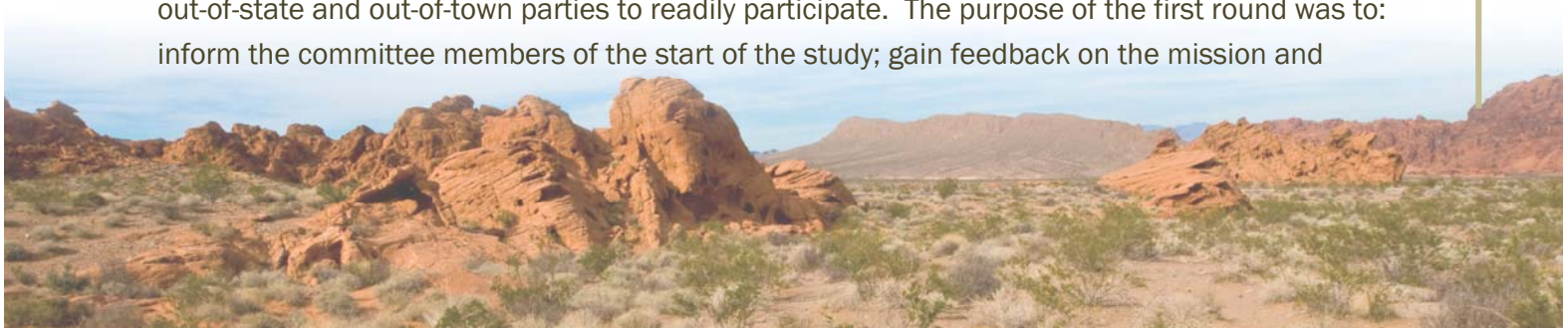
- **Federal, State, and Local Agencies**
  Nevada's rail infrastructure directly or indirectly affects a number of public agencies. They include USDOT, FRA, FHWA, NPUC, metropolitan planning organizations, counties, cities, and tribal organizations.
- **Railroad Owners, Operators, and Users**
  Local, regional, and national corporations and organizations own, operate, and/or maintain the rail infrastructure in Nevada. Users include major freight transporters, shortlines, and passengers. These individuals, who touch the system on a daily basis, were contacted to draw on their knowledge about usage and opportunities.
- **California Ports**
  The ports in California are at capacity. The program solicited current and forecasted operations that impact not only the rail infrastructure in Nevada, but also movement of freight via trucks on Nevada highways.
- **Mining Companies**
  Nevada is a mining state with gypsum, limestone, barite (barium sulfate), lithium, perlite, molybdenum, diatomite, and gold. The mines use trucks and/or trains to haul materials both in and out of the mines. Those who do not have access to rail could benefit economically from onsite rail infrastructure.

D. Approach to Public and Agency Participation

The approach to engaging the public and partnering agencies in developing the state rail plan include the following project strategies.

1. TAC

Select industry and agency experts participated on a technical advisory committee to help develop the plan by sharing their knowledge of the needs and opportunities throughout the state. Two rounds of TAC meetings were held for the study. Each round of meetings was held in two locations (Reno and Las Vegas) and also broadcasted online via WebEx, which permitted out-of-state and out-of-town parties to readily participate. The purpose of the first round was to: inform the committee members of the start of the study; gain feedback on the mission and



vision statements, as well as the goals and objectives; and solicit information on the rail infrastructure in the state. The second round of meetings presented the results of the research and surveys, listed potential projects with the evaluation criteria used to prioritize them. **Appendix B** lists the participants in each of the meetings.

2. Public Information Materials and Presentations

Public information materials included project fact sheets, public transportation notices, welcome packets for public meetings, and presentations and display boards for project-related meetings and conferences. The project fact sheet, given in **Appendix C**, is a one-page, double-sided sheet that highlighted the mission, vision, goals and objectives, project schedule, and contact information for the study. Public transportation notices and advertisements, given in **Appendix D**, were created and distributed prior to public information meetings, including postings in public buildings (i.e., libraries). Welcome packets, shown in **Appendix E**, were created for each meeting that included a welcome letter and copies of the project fact sheet, the presentation, display boards, and a comment form.

NDOT's project manager and consultant staff also updated the public on the progress of the study at industry conferences and associated public meetings. Presentations and display boards, as appropriate, were tailored to each forum. Project updates were presented at the following conferences/meetings:

- NDOT/UDOT Joint meeting, March 30, 2011
- AASHTO spring meeting, May 3, 2011
- Southern Nevada Regional Planning Coalition, July 11, 2011
- State Transportation Technical Advisory Committee meeting, February 6, 2012

3. Project Website

An interactive website was created to disseminate information to stakeholders and the public as the state rail plan was developed. The site included mission and vision statements, goals and objectives, schedule and milestones, online surveys, public documents (i.e., meeting minutes and presentations), a draft copy of the state rail plan for the second round of public meetings, and a password-protected area for TAC members to be able to download materials for review and comment in advance of the second TAC meeting.

The project website, see **Figure 6-1**, provided up-to-date information about the study and provided the public and stakeholders an opportunity to submit comments online—more than 75 comments were collected via the project website alone. With completion of the state rail plan document in March 2012, the website will remain a part of NDOT's rail division website and include the mission and vision statements, goals and objectives, and a link to download the document.

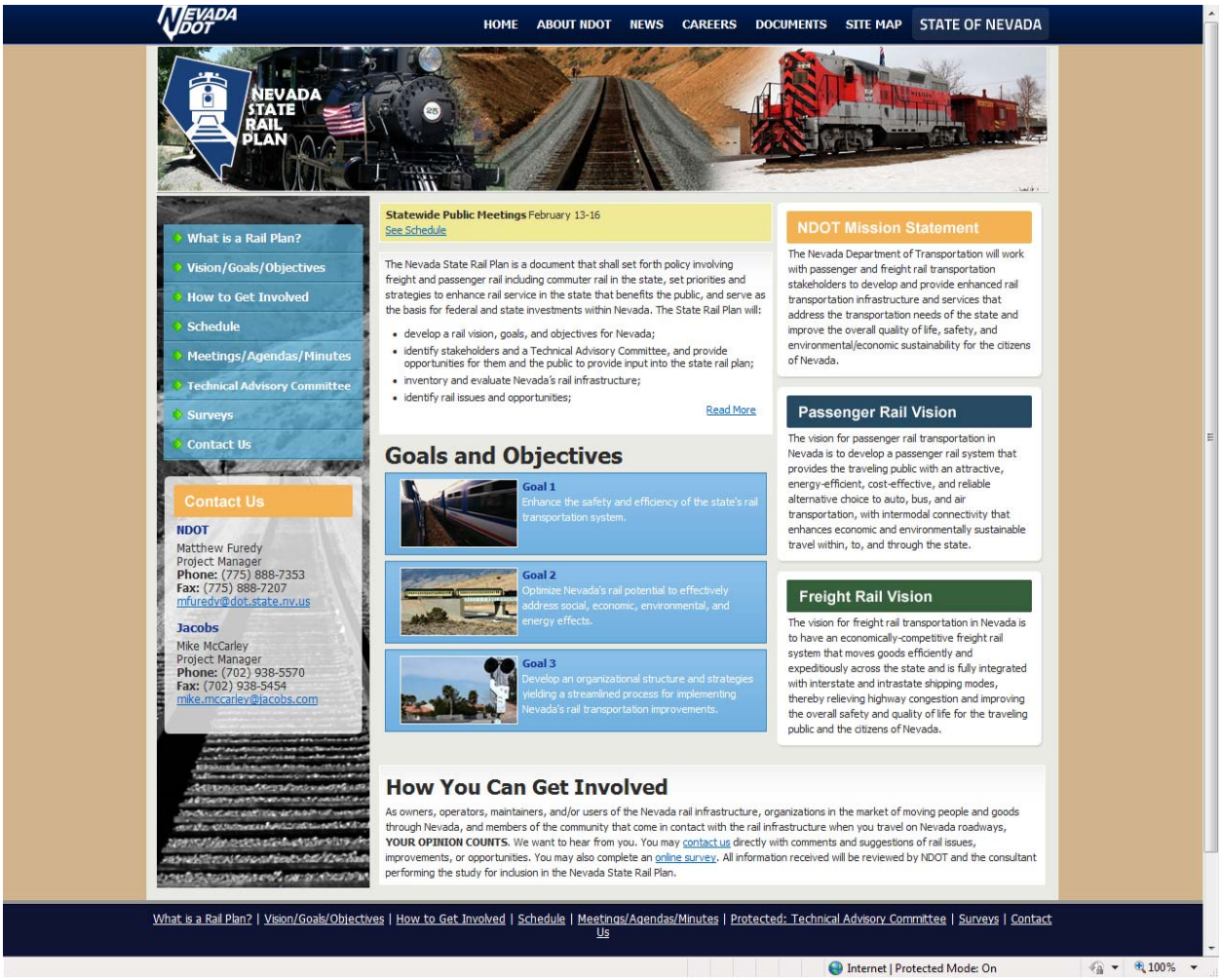


Figure 6-1: Project Website Screen Save

In addition to the project website, the public coordination and outreach team created a Nevada Rail Division website to inform readers about Nevada railways, including the history of rail in the state, passenger and freight rail service, railroad safety, and an educational page for kids.

NDOT is increasing the awareness of its rail division in support of the mission and vision recognized in this plan. The new revised rail division website, see **Figure 6-2**, provides information on the types of Nevada's rail infrastructure and service, as well as reputable links to regional and national resources. This website is the property of NDOT and will remain online indefinitely.

A full complement of website pages is included in **Appendix G**.

Figure 6-2: Rail Division Website Screen Save

4. Public Information Meetings

Two rounds of public information meetings were conducted for the study. Meetings for each round were held in three locations: Las Vegas, Reno, and Elko. The purpose of the first round, held in late February 2011, was to inform the public and stakeholders about the study to update the rail plan. The purpose of the second round of public meetings, held in February 2012, was to present the study findings and recommendations for near- and long-term passenger and freight rail projects.

Public transportation notices were advertised in the Las Vegas Review Journal, Reno Gazette, Daily Sparks Tribune, and Elko Daily Free Press 15 days prior to, the day before, and the day of each meeting. A public comment form was distributed to attendees in a welcome packet. Comments were collected onsite either on the public comment form or transcribed by a court reporter. Attendees were encouraged to submit comments via postal service, e-mail, or online.

Public meetings, see **Figure 6-3**, were held in three cities to best accommodate all regions of the state. The same presentation was made and the same materials were on display for open-format discussion at all three sessions in both rounds of public meetings.

Official transcripts from all public meetings are included in **Appendix H**.

Figure 6-3: Public Meeting Pictures

5. Stakeholder Surveys and Interviews

Three surveys were developed and disseminated to approximately 225 recipients. The surveys focused on governing agencies, rail industry, shortlines, mining, and trucking companies. A letter accompanied the surveys explaining the purpose of the project and the questionnaire. The public outreach team followed up on three separate occasions with recipients via phone and e-mail to encourage recipients to complete the survey. A total of 44 surveys were received by postal service, e-mail, and online.

In addition to the surveys, the public outreach team conducted 32 one-on-one meetings and interviews, both in person and via teleconference, to engage in a dialog to better understand the activities, operations, and opinions of these organizations and agencies, as well as opportunities in neighboring states and their impact on Nevada. **Appendix I** includes the minutes from each meeting, which were furnished to participants for review before being finalized.

E. Stakeholder Involvement during Plan Preparation

Nevada state rail plan stakeholders included: the public, rail carriers, commuter and transit authorities operating in or affected by rail operations within the state; units of local government; rail advocates; and other interested parties. Key stakeholders were identified and invited to participate on the TAC, which provided input on the mission and vision statements; goals and objectives; and evaluation and prioritization of potential projects. All stakeholders and the public were given the opportunity to share comments at meetings, to complete one of the surveys provided on the project website, and to send in comments via e-mail or postal service. The project included: two TAC meetings series at two separate locations, two public meetings series at three locations, and a series of one-on-one interviews. For example, project personnel held a one-on-one session with the president of the non-profit Rail Passenger Association of California and Nevada (RailPAC), most of whose members also belong to the National Association of Railroad Passengers (NARP). All comments were collected in a database whereby issues and opportunities were categorized, and the results were shared during the second rounds of TAC and public meetings.

F. Issues Raised during Plan Preparation

All issues and opportunities that the stakeholders and the public presented were collected in a set of matrices, see **Appendix J**. The issues and opportunities can be categorized into the following categories and are summarized in **Table 6-2**. All issues and opportunities were considered in the project's evaluation process.

- **Conventional Passenger Rail** – reinstating conventional rail between southern California and Las Vegas and improving service between Sacramento and Reno to Salt Lake City were suggested.
- **High Speed Intercity Passenger Rail** – advancing high speed rail between southern California (Los Angeles basin) and Las Vegas and between Las Vegas and Phoenix was suggested among other future destinations.
- **Freight Rail** –the issues and opportunities center on additional sidings, as well as the opportunity for inland ports and transloading facilities.
- **Rail-Highway Grade Crossings** – multiple at-grade crossings, which pose safety concerns, were referenced.
- **Excursion Rail** – three of the state's four excursion lines expressed interest in expanding their current lines.

Table 6-2: Comments

Category	Comment	Occurrence
Passenger	Commuter service between Reno-Sparks, Carson City, Fernley, Minden, Fallon, and Hawthorn	12
Passenger	Passenger service from Reno to Las Vegas	9
Passenger	Commuter service between Las Vegas, North Las Vegas, Henderson, Boulder City, and Pahrump	9
Passenger	High speed passenger service from Reno and Las Vegas to Los Angeles, Phoenix, Salt Lake City, and Sacramento (and other CA destinations)	73*
Passenger	Conventional passenger service from Reno and Las Vegas to Wendover and CA destinations)	5
Passenger	Do not share rail infrastructure with freight	1
Excursion	Extend Nevada Northern Railway to McGill Depot	1
Excursion	Extend Nevada Southern Railway to milepost 12	1
Freight	Move rail out of the center of Fallon	1
Freight	Improved access to rail and/or additional rail infrastructure for existing and potential businesses would benefit the local community's economy	26
Freight	Need for more transloading facilities and inland ports	3
Freight	More competition among freight providers to drive down cost of shipping via rail	4
Freight	Do not transport hazardous materials through communities	2
Freight	Connect northern Nevada with southern Nevada	3
Crossings	Absence or presence of at-grade crossings create logistical problems for emergency response, flow of traffic, and/or operation of rail line	4
Crossings	At-grade crossings create significant traffic congestion and delays	3
Crossings	Reduce/eliminate at-grade crossings and deal with trespassing	1

**Thirty-seven percent of the comments referencing high speed rail service from Nevada cities to other destinations, specifically Maglev service between Las Vegas and Los Angeles, are derivatives of a single source.*

G. Recommendations Considered During Plan Preparation

Outreach participant recommendations were considered in a two-phase, four-step evaluation process. Step 1 of the initial phase identified all projects based on stakeholder input. Step 2, the preliminary evaluation, involved assessing each project based on the following four criteria:

- Is further study needed to be able to define and evaluate this concept/project?
- Does the project have implementation issues constraining its advancement at this time?
- Is the request a business issue for UPRR or BNSF to address?
- Does the project warrant advancing to a more detailed evaluation?

Projects that did not advance are subject to re-evaluation during the next state rail plan update.

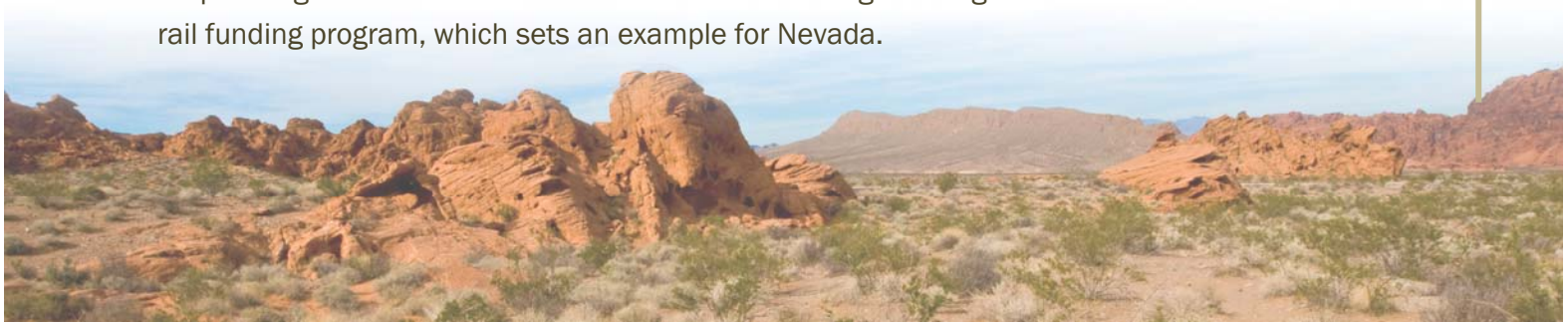
Those projects that warrant a more detailed evaluation proceeded to Step 3 in the advanced phase. These projects were:

- Categorized by timeline, public or private business decision, and cost range;
- Scored based on applicable rail plan goals and objectives;
- Flagged based on needed approvals (Congress, Amtrak, and UPRR); and
- Considered for selection factors.

Step 4 of the evaluation assigned an NDOT recommendation: Policy Support (through advocacy and/or grant assistance) or Funding Support (assign state funds). Those projects recommended for NDOT policy support were prioritized by short-, mid-, and long-term implementation. The projects recommended for NDOT funding include the rail-high grade crossing program, an ongoing program that the NDOT Safety Coordinator updates annually.

H. Coordination with Other State Rail Plans

The public outreach team met with each of the surrounding state transportation departments and agencies, including Caltrans, Capitol Corridor Joint Powers Authority, Arizona DOT, Utah DOT, Utah Transit Authority, Idaho DOT, and Oregon DOT, as well as with FRA. Nevada rail infrastructure currently connects with California and Utah. These two states shared their plans for service in and through Nevada and offered lessons-learned on a range of topics, such as inland port development, of benefit to Nevada. The Arizona state rail study includes an interest for passenger rail service between Phoenix and Las Vegas. Oregon offered information on its rail funding program, which sets an example for Nevada.




NEVADA
STATE
RAIL
PLAN
NEVADA DOT
U.S. Department
of Transportation
Federal Railroad
Administration
JACOBS