project description

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1. Overview

The Nevada Department of Transportation (NDOT) is applying for Nationally Significant Multimodal Freight and Highway Projects Program (INFRA) and Rural Surface Transportation Grant Program (Rural) funds under the FY 2023-2024 Multimodal Project Discretionary Grant Program (MPDG) to complete environmental clearances, design, and construction of corridor-based improvements on the Union Pacific Railroad (UP) network at the Elko Amtrak Station and the UP Elko Yard in rural Elko, Nevada.

The 2021 Nevada State Rail Plan identifies the need to further improve the Amtrak Elko Station facilities; and the need for enhancements to the UP network in the Elko Area to include run-through tracks to support fluid operations of through trains (Amtrak passenger, BNSF Railway [BNSF] and UP freight trains) and passing trains undergoing yard operations. The station improvements are part of Amtrak's near-term plans. The UP improvements are identified in UP's longer range capital improvement program and are part of UP's ongoing commitment to improve its network and enhance railroad operating capacity, efficiency, and velocity on its Overland Route between Chicago, Illinois, and the San Francisco Bay Area in California, a critical part of the domestic and international freight network and supply chain.

Amtrak, NDOT, and UP are partnering to deliver the **Elko Nevada Rail Corridor Enhancement Project,** which will result in:

- Improved safety and mobility for Amtrak passengers.
- Reduction in delays to Amtrak passenger and BNSF and UP freight trains in the Elko Area and the contiguous rail network to the east and west.
- Reduction in delays to motorists, bicyclists, and pedestrians at highway-rail grade crossings.
- Enhanced bi-directional operating capacity, efficiency, and flexibility on the UP rail network.
- Reduction in fuel consumption from train operations.

Figure 1. Elko Project Area

1.1 PROJECT CONTEXT

UP's rail corridor through Elko – part of the first Transcontinental Railroad and the National Multimodal Freight Network (shown in Section 1.6 and Figure 3) – has been a transformative catalyst in the development and prosperity of the western U.S. in general and a boon for community development and ranching, mining, agriculture, and other industries in Elko County in particular. The UP Overland Route is host to Amtrak's California Zephyr long-distance passenger

trains between Chicago and the San Francisco Bay Area (with station stops in Elko). The rail corridor carries a daily pair of Amtrak trains and an average of 14 to 18 freight trains daily.

The UP Overland Route through Elko is used by both UP BNSF freight trains. Most of the trains handle long-haul transcontinental freight traffic, and principally, priority intermodal trains from major Pacific and West Coast inland ports and terminals (including at Oakland, Stockton, and Lathrop, California); general manifest trains (carrying food and agricultural products from California); and unit trains carrying bulk commodities like grain, coal, and ores. UP and BNSF also provide service to area freight shippers and receivers – including the Savage Transload facility near Osino, Nevada, Haliburton/Newmont Mine near Carlin/Dunphy, and others – with local trains out of Elko.

1.2 CHALLENGES

1.2.1 Inefficient Amtrak Platform Configuration

The Amtrak Station in Elko is located just west of the UP Elko Yard and is a split station configuration with no direct passenger access between platforms on either UP main track. This arrangement restricts passenger mobility and causes confusion for the traveling public, acting as a barrier to passengers choosing rail as a transportation mode, including underserved populations. In addition, neither of the existing platforms are ADA accessible. However, Amtrak has a plan to address accessibility under a separate project, which the Elko Nevada Rail Corridor Enhancement Project would accommodate in the future.

> *The Project will enable Amtrak to consolidate its boarding platforms (under a separate Amtrak project), which will improve safety and accessibility for Amtrak passengers.*

1.2.2 Train Delays on Main Tracks

At Elko, the two UP main tracks are paired and are typically operated directionally – with westbound trains on Main Track 1 and eastbound trains on Main Track 2. UP's Elko Yard is located between the two main tracks. Elko is a crew change location, locomotive refueling facility, and railcar maintenance facility on the Overland Route. It has working tracks for meeting, staging, or switching through freight trains off the main tracks and internal yard tracks for staging and switching cars and turning locomotives and cars.

As a key hub in UP's freight rail network, the UP Elko Yard experiences a high level of activity. The current configuration of the yard has limited flexibility to move trains in and out of the yard, between the two main tracks, and within the yard. Compounding the constraints, the Elko Yard is too short to accommodate longer freight trains. These conditions can result in UP freight trains having to occupy the main directional tracks, thus blocking them for other through freight and passenger trains. Amtrak trains occasionally wait to access the Elko Amtrak Station passenger platforms until trains working at the yard can continue on their trip or clear the main track. Delays in passenger and freight train operations in the Elko Area – resulting from the current directional operation and work events at Elko Yard – often impact train operations on contiguous segments of the UP network within an area of influence for approximately 35 miles either side of Elko.

The Project will reduce delays caused by work events at the Elko Yard—16 minutes each day for Amtrak passenger trains and up to 17,000 hours of delay per year in 2027 for freight trains.

1.2.3 Delays at Public At-Grade Crossings

The delays occurring at the UP Elko Yard also cause delays for multiple transportation modes at 12 public at-grade crossings in Elko and Carlin to the west, and Halleck and Deeth to the east, as well as State Highway 278 in Carlin and State Highway 229 in Halleck – roadways maintained by NDOT. Vehicles (including emergency responders), bicyclists, and pedestrians can be prevented from crossing the rail tracks at designated crossings when trains wait on the tracks due to track occupancies at the UP Elko Yard.

The Project is anticipated to yield an annual reduction of up to a total of 500 hours of train occupancy at 12 public at-grade crossings, reducing the likelihood of crashes and injuries at the crossings.

1.2.4 Constrained Freight Growth Capacity

Freight traffic is expected to grow on the Overland Route in the future. This will increase the number of freight trains and work events at the UP Elko Yard, which will increase the frequency of the track occupancy and delays. Over time, it will limit UP's capacity on this route and its ability to meet the demand of the industries in the region. This barrier to expand its services will result in an adverse impact to UP's economic benefit to Elko, the region, and the international economy. An alternate UP route is available through California's Central Valley and Barstow, but it is longer by 426 miles, nearly doubling the run time for trains and requiring approximately 60 percent more fuel and increasing emissions.

The Project improvements will accommodate future passenger and freight volumes and reduce the potential for a 426-mile freight train diversion to another UP route.

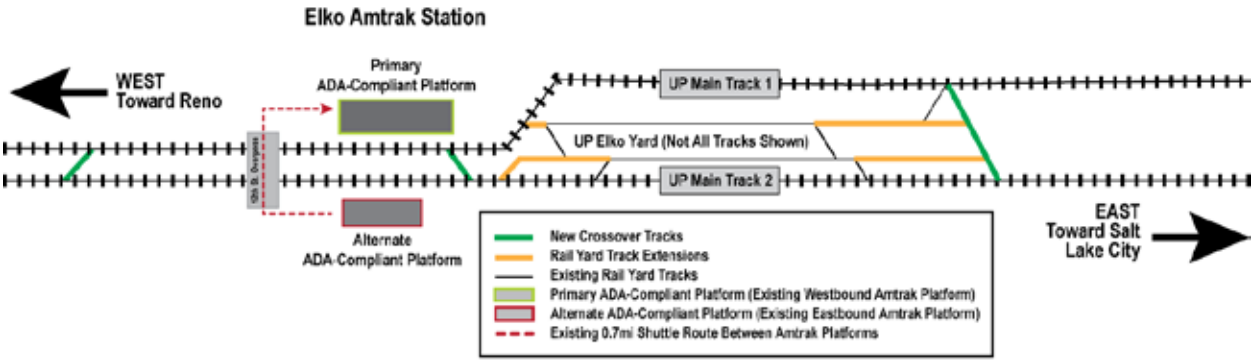
1.3 STATEMENT OF WORK

The challenges described above will be addressed by the Project components shown in Figure 2 and described on the next page. Combined, these improvements will enhance Amtrak and UP flexibility, efficiency, velocity, and operating capacity, and support future rail operations and growth through Elko on the Overland Route.

PROJECT COMPONENT	INTENDED BENEFIT
Two new power-operated crossovers between Main Tracks 1 and 2 on either side of the Amtrak station on Main Track 1 (one left-hand at UP Milepost 556.2 west of the Amtrak Station and one right-hand at UP Milepost 557.5 east of the Amtrak Station).	Enables Amtrak to use the boarding platform on Main Track 1 for both eastbound and westbound California Zephyr trains, which will be fully ADA compliant under a separate Amtrak project. Provides flexibility and efficiency to divert passenger and through freight trains to another main track so that they can

PROJECT COMPONENT	INTENDED BENEFIT
	proceed through the Elko Area and around freight train work events and maintenance at the Elko Yard.
New right-hand crossover connection track with two power-operated switches between Main Track 1 (at UP Milepost 561.45) and Main Track 2 (at UP Milepost 562.37) at the east end of UP Elko Yard.	Provides a route to switch from one main track to the other should either track be occupied by a UP train with a work event or switching operations.
New yard track extensions at the east and west end of the Elko Yard along Main Track 2 between UP Mileposts 558.47 and 562.37.	Accommodates singular and simultaneous work events in the Rail Yard off the main tracks, thus keeping the main tracks clear for Amtrak and other freight trains. It also enables the sorting of higher priority trains so they can overtake lower priority trains.
New or enhanced track and wayside signal infrastructure, including interface with the existing Positive Train Control (PTC) system between UP Mileposts 555.0 and 563.0.	Enhances railroad safety, efficiency, and flexibility for freight and passenger operations.

Figure 2. Elko Nevada Rail Corridor Enhancement Project Components



1.4 CURRENT PROJECT STATUS

UP has completed conceptual engineering, cost estimates, and railroad operations modeling to support Project development. NDOT is currently pursuing grant funding for environmental clearance, design, right-of-way acquisition, and construction.

1.5 RELATED PROJECTS

The Elko Nevada Rail Corridor Enhancement Project builds on prior investments to improve safety, capacity, efficiency, and reliability of passenger and freight operations on the Overland Route through Elko. In 1983, UP's main tracks and Elko Yard were moved from downtown Elko to their current location south along the Humboldt River. Amtrak concurrently relocated its boarding

platforms to the new corridor west of the Elko Yard as a split station on either side of the directional main tracks.

Since then, Amtrak has improved its boarding facilities, and UP has invested in upgrades to its rail yard and installed a Positive Train Control system in the Elko area.

Concurrent with the Elko Nevada Rail Corridor Enhancement Project, Amtrak is remedying challenges caused by the split station configuration and completing ADA accessibility upgrades.

With the addition of the main track crossovers that are being constructed with the Elko Nevada Rail Corridor Enhancement Project, Amtrak will be able to consolidate its boarding platform on Main Track 1. Both westbound and eastbound passengers will board trains from a single, ADA-compliant platform and eliminate the need to shuttle passengers between platforms. The existing south platform on Main Track 2 will also be upgraded to be ADA compliant and retained for use during emergencies or future maintenance periods on the new north platform on Main Track 1.

1.6 PROJECT LOCATION

The Elko Nevada Rail Corridor Enhancement Project is located in Elko, Nevada, the seat of Elko County (Figure 3). With a population of 20,756 in 2022, Elko is the largest city between Salt Lake City, Utah, and Reno, Nevada, and is the center for commercial, industrial, and government activities in northeastern Nevada. Elko is located along two primary east-west transcontinental transportation corridors– the UP Overland Route (hosting UP, BNSF, and Amtrak trains) on the National Multimodal Freight Network and Interstate 80. The Project improvements are located between UP Mileposts 555 and 563.

The Project is not located in a 2020 Census-designated urban area and is not directly in an Area of Persistent Poverty. However, the U.S. Census tract at the west end of the project limits is a Historically Disadvantaged Community (Figure 4). Because the Project benefits the entire community of Elko, this disadvantaged population also will benefit from the improvements.

Figure 3. Project Location

Figure 4. Historically Disadvantaged Community