



Bridge Program

PROJECT FACTS

Project Scope

The Alaska Railroad (ARRC) 500-plus miles of mainline and branch track includes about 160 bridges that cross barriers ranging from streams to gulches. Of these, 67 are constructed entirely of steel, 61 are constructed entirely from timber, 22 are constructed entirely of concrete, and 12 are of mixed construction (for example, the Matanuska River Bridge includes steel, concrete and timber spans).

ARRC's 2010 Bridge Program calls for major maintenance, overhaul and replacement needed to maintain Alaska Railroad corridor integrity, safety and efficiency. The long-term bridge program includes replacement of most, if not all, timber bridges.

Some existing railroad bridges have been identified as eligible for the National Register of Historical Places (denoted by an *), either individually or as contributing elements to a potential historic district. A historic bridge survey provides eligibility determination. As necessary, mitigation will be conducted according to agreements with the Alaska State Historic Preservation Office (SHPO).

Purpose and Need

- Reinforcing or replacing some bridges and/or their components better accommodates the load demands of the railroad's more modern, yet larger and heavier, fleet of locomotives and trains.
- Replacing 50-year-old timber pile foundations addresses maintenance and safety concerns.
- Upgrading bridges affords an increase in train speed and operational efficiency.

Project Cost and Funding

\$1.41 million bridge program budget in 2010, with \$740,000 funded by the Federal Transit Administration (FTA), and \$670,000 by the Alaska Railroad.

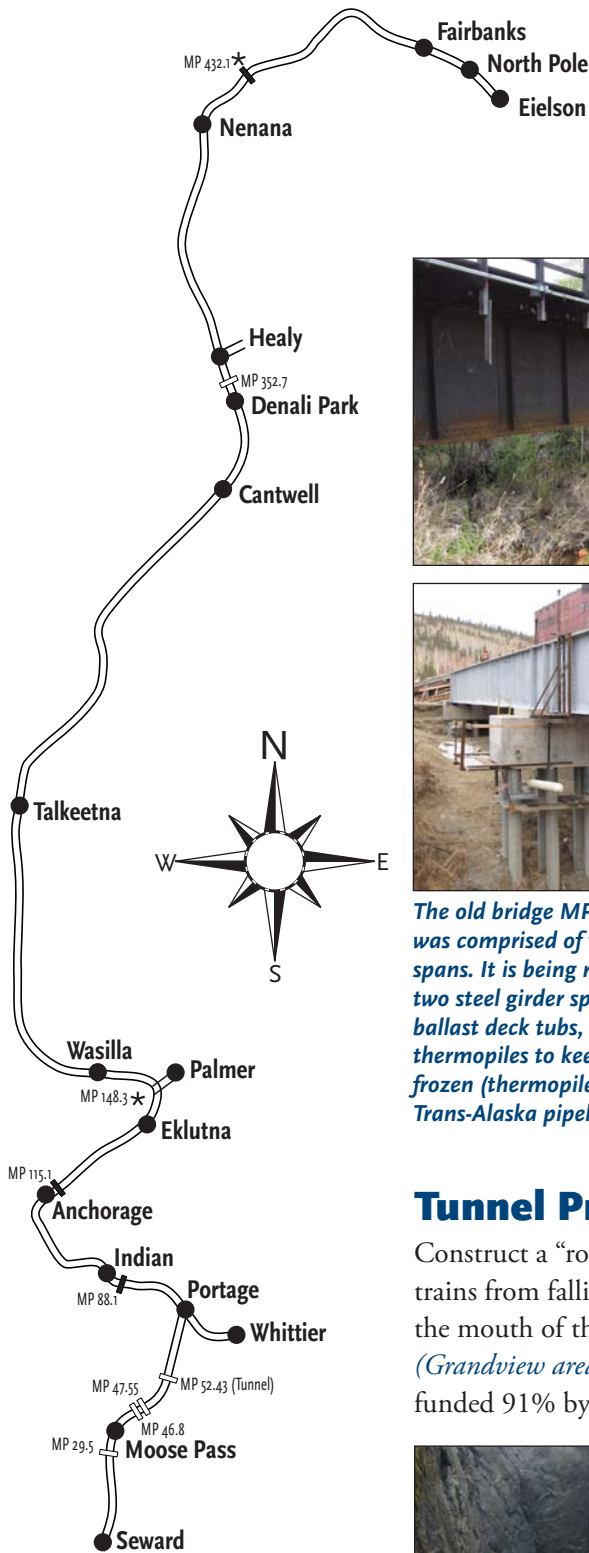
Bridge Program Projects





Bridge Rehabilitation

Raise the bridge 75 feet at *ARRC MP 46.8 (Placer River)*. Replace the existing 27-foot I-beam bridge span at *47.55 (Placer River)*. Rehabilitate or replace timber piers with concrete and steel at *ARRC MP 148.3* (Matanuska River)*. Rehabilitate timber bridge components with steel and sheetpile at *MP 352.7 (Sheep Creek in Healy Canyon)* and *MP 29.5 (Moose Pass)*.



Work gets underway to rehabilitate the timber piers at Matanuska River Bridge (ARRC Milepost 148.3) .



	Repair / Rehabilitation
	Conversion to Culvert
	Bridge Replacement
	Historical Bridge

Replace with New Bridge

Complete replacement of the existing open deck girder and timber piles with concrete ballast deck tub spans and concrete pilings that are outfitted with thermopiles to keep the permafrost from melting at *MP 432.1* (Little Goldstream Creek)*. Complete the replacement of the 140-foot timber

bridge with steel and wood at *MP 115.1 (Ship Creek)*. Design and permit a hydraulic structure to replace three 7-foot diameter corrugated metal culverts at *MP 88.1 (Indian Creek)*.

NOTE: Execution of these projects will depend on agency coordination and approvals, funding and workforce availability.



The old bridge MP 432.1 (above, top) was comprised of three open deck girder spans. It is being replaced (bottom) with two steel girder spans with concrete ballast deck tubs, and new piling with thermopiles to keep melting permafrost frozen (thermopiles are used on the Trans-Alaska pipeline).



Steel will replace much of the timber on Bridge 29.5 (Moose Pass).

Tunnel Project

Construct a “rock shed” to protect trains from falling rock and ice around the mouth of the tunnel near *MP 52 (Grandview area)*. Budget is \$1.5 million, funded 91% by FTA and 9% by ARRC.



A July 2009 rock slide temporarily closed access through the tunnel about 50 miles north of Seward. A new “rock shed” will be installed to protect trains from falling rocks and ice.