Project Scope

The Alaska Railroad (ARRC) continues a track rehabilitation program in 2018 as an ongoing effort to upgrade the main line, sidings and yards from Seward to Fairbanks. The program calls for replacement of ties and ballast in areas of critical need. For engineering / maintenance purposes, ARRC divides the main line into four districts:

- MP 0 (Seward) to MP 117 (Anchorage Yard)
- MP 117 - MP 210 (north of Montana Siding)
- MP 210 - MP 345 (south of Denali Park)
- MP 345 - Eielson AFB

Project Cost and Funding

The 2018 track rehabilitation budget is approximately $11.13 million, funded primarily by Federal Transit Administration (FTA) grants (80% FTA and 20% ARRC), and $3.2 million by internal ARRC funds. Another $500,000 of ARRC funds is budgeted for rip-rap embankment and drainage improvements, $439,500 for yard improvements, and $1,303,900 for culvert rehabilitation and replacements. Funding supports:

- Replacing wood ties
- Track bed surfacing
- Yard improvements
- Drainage improvements (culvert repair)
- Embankment fortification
- Rail relay (replacing old worn out rail)
- Tie and rail pick-up and clean-up
- Shoulder ballast cleaning (contract)

Rail Program

Rail is replaced when it has worn away in curves, or when it has become severely battered in tangent sections. The 2018 Rail Program consists of replacing 35,000 feet (6.6 miles) of rail, along with clean-up and pick-up from prior years.

Tie Program

The 2018 Tie Program calls for installation of up to 20,000 wood cross ties on the main line.
track, on branch lines and within yards. The Alaska Railroad tracks include nearly 2 million ties. Since 1996, ARRC has replaced about 900,000 ties — or just over 45% of all ties. Heavy tie renewals in the late 1990s resolved critical main track issues; however, the tie population is generally old, so continual renewals are needed to keep up with the ongoing loss of older ties.

**Ballast Surfacing**

The bed of a railroad track is comprised of several layers. The top layer is called ballast, which is made up of small, jagged rocks that fit snugly together, forming a stable bed that can withstand the tremendous weight of a train while still providing drainage. The 2018 Ballast and Surfacing Program calls for the use of about 20,000 tons of ballast rock. Surfacing will occur in all districts, as needed, and follows behind tie replacement efforts.

**Shoulder and Embankment**

ARRC pursues shoulder maintenance to enhance track safety by providing embankment support. As necessary, culverts providing drainage from one side of the embankment to the other side are extended, repaired or replaced. In areas susceptible to high water events, ARRC may fortify the embankment by installing rip-rap and armor rock.

*A tie remover/inserter has powerful mechanized arms (close-up, right) that can extract old, and install new, ties from either side.*