

Whittier Branch Tunnel Road-Rail Surface Maintenance

Background

From 1941 to 1943, the U.S. Army built a rail spur from Portage to Whittier as a key supply link for the World War II effort. Army engineer Anton Anderson led the construction. The resulting Whittier Branch includes a one-mile tunnel through Begich Peak and a 2.5-mile tunnel through Maynard Mountain.

Over time, after the war, Whittier's economy developed as a gateway to Prince William Sound. The community's ice-free port and proximity to Anchorage offers an essential link to support freight, fishing and cruising industries, as well as boating and other outdoor recreation.

Increasing transportation demands led to a decision to modify the tunnel to accommodate both rail and vehicle traffic. Construction began in 1998 and the tunnel opened to shared traffic in 2000. Named for the original spur engineer, the Anton Anderson Memorial Tunnel is the longest combined rail-and-highway tunnel in North America.

Project Scope

For the entire length of the Anton Anderson Memorial Tunnel, construction crews removed asphalt from the rail flangeways (the space between the rail and concrete panels), replacing it with new rubber strips.

The project also maintains the surface profile of the concrete panels. Crews used pump trucks to inject material underneath the concrete panels to fill voids and to lift panels to an even height.

Purpose and Need

The tunnel surface is maintained regularly. Periodically, more in-depth surface rehabilitation is needed to ensure this transportation infrastructure remains a safe, enduring asset.

Replacing asphalt with rubber in the rail flangeways allows Alaska Railroad (ARRC) crews to more quickly perform routine maintenance, such as track inspection and general repair to rails and hardware. Faster maintenance will decrease traffic delays due to down time. Maintaining an even, supported concrete surface will prevent panels from rocking, shifting and cracking under the weight of a train, thus improving transportation safety and efficiency.

Project Status

- Project planning was accomplished in 2020, in coordination with the Alaska Department of Transportation & Public Facilities (ADOT&PF).
- Project construction work was bid in early 2021, with the contract awarded to Granite Construction.



The west entrance to the Anton Anderson Memorial Tunnel, February 2021.

- Construction occurred March 8 - April 30, 2021, prior to longer summer tunnel operating hours. Work done at night to minimize traffic disruption, with tunnel hours shortened by 2 hours daily.
- NOTE: the public may notice complementary projects happening in 2021:
 - An Alaska Railroad-funded track rehabilitation project is replacing aging rail with new rail throughout the tunnel Oct. 10 - Nov. 23.

- ADOT&PF and ARRC are upgrading the tunnel surface, drainage, lighting, scada and signal systems by year's end.

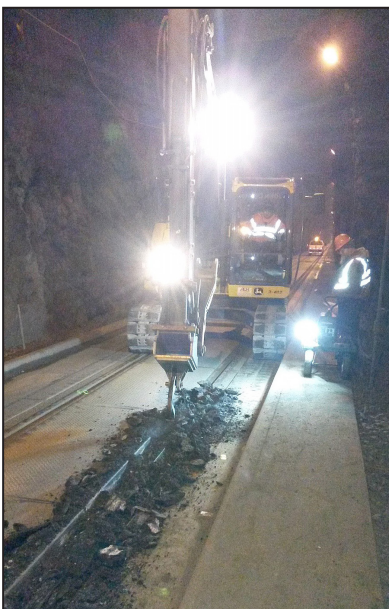
Cost and Funding

The road-rail resurfacing project budget is about \$3 million, funded by a Federal Highway Administration (FHWA) grant through the ADOT&PF.

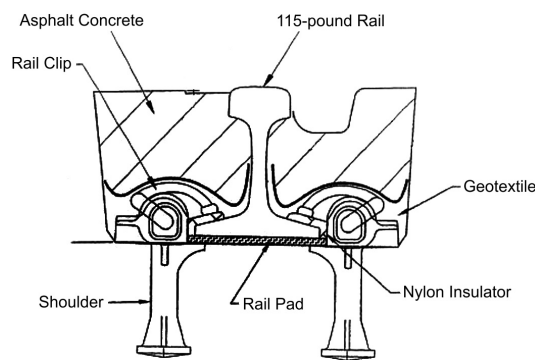
More Information

Email questions to Public_Comment@akrr.com.

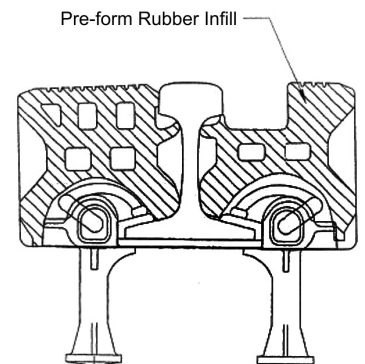
Replacing asphalt with rubber along rail flangeways



Above: Asphalt in the rail flangeways is broken up before removal.
Right: Flangeways are cleaned before the rubber infill is installed, as depicted in the photo at far right.



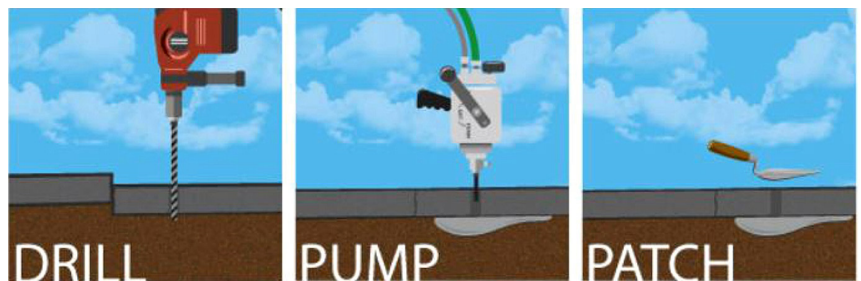
Rail flangeways filled with asphalt.



Rail flangeways filled with rubber.



Maintaining an even, supported surface profile for concrete panels



Left: An example of a dip in a concrete panel that requires repair.
Above: a graphical explanation of how dips and voids in concrete panels are filled and patched to ensure a surface profile that is even and at the correct height.