**Montana Railroads**

The development of Montana after 1880 was mostly due to the construction of the three major railroad lines that crossed the state. The goal of the big three Montana railroads was to connect from Minneapolis/St.Paul to the Puget Sound. Other railroads such as the Union Pacific in the southwest and the Chicago Burlington and Quincy in the southeast also reached Montana.

**Northern Pacific Railroad**

The Northern Pacific (NP) was chartered as a land grant railroad around 1870. The goal was to build across the northern tier of the country. This rail line was built hastily and eventually endured several bankruptcy proceedings. The railroad was originally supposed to go from Duluth on Lake Superior to the Pacific Ocean. It was constructed directly across the middle of North Dakota to the Yellowstone River and then westward across Montana after the continental divide near Helena. Difficult terrain forced the rail line to go north along the Clark Fork of the Columbia River and then towards Spokane, Washington. From there, the NP took a southwest direction toward the Columbia River to near what is now Pasco, Washington. The Columbia Gorge provided an easy pathway for the railroad through the Cascades along the river to a port that was built at Kalama, Washington north of Portland. Rails had been constructed from there towards Seattle on the Puget Sound. There was ferry service across the Columbia from Pasco to Kennewick. When a bridge was built in 1883 to replace the ferry, the NP could claim completion from Chicago to the Puget Sound. That bridge fell into the river during the first winter (typical of NP construction practices) and was replaced by a more sturdy bridge in 1884. The direct usable route to Puget Sound was not completed until 1888 when the railroad was completed up the Yakima River and then through a tunnel under the Stampede Pass (2850 feet elevation) east of Tacoma. The main line of the NP route was not very direct route from Minneapolis to Seattle as it started across the southern portion of Montana, went up to the northwestern corner of Montana and then southwest through Spokane down to Pasco and then back northwest toward Tacoma on the Puget Sound. As a land grant railroad, there was some importance in serving areas with good farming potential such as the Yakima River valley.

**Great Northern Railroad**

[James J. Hill](https://en.wikipedia.org/wiki/James_J._Hill), “The Empire Builder”, started out in St. Paul, Minnesota, as a bookkeeper in the wholesale grocery business. He learned how to handle the freight and shipping businesses. He continued developing different facets and formed a partnership in 1879 to buy some bankrupt railroad lines. He managed them well while buying other businesses in the area. In 1889, he decided that the future was in building a railroad across the northern United States. *"What we want,"* Hill is quoted as saying, *"is the best possible line, shortest distance, lowest grades, and least curvature we can build.”*  The key to the Montana hi-line route was [Marias Pass](https://en.wikipedia.org/wiki/Marias_Pass) across the continental divide near the Canada border. Hill got what he wanted, and in January 1893 his [Great Northern Railway](https://en.wikipedia.org/wiki/Great_Northern_Railway_(U.S.)), running from St. Paul, Minnesota to Seattle, Washington — a distance of more than 1,700 miles (2,700 km) — was completed. The Great Northern (GN) was the first transcontinental built without public money and just a few [land grants](https://en.wikipedia.org/wiki/Land_grant), and was one of the few transcontinental railroads not to go bankrupt. The rail line across the Cascades east of Everett had limited capacity due to several switchbacks and required the building of the first Cascade Tunnel which was completed in 1900. By that time, Hill had gained control of the Northern Pacific, as well as the Chicago, Burlington, and Quincy (CBQ) (which gained Midwest/Chicago access). From 1901, until the merger of all three in 1970 to form the Burlington Northern, both the GN and the NP had their headquarters in the same building in St. Paul, Minnesota. James J. Hill designed and built a new building for his railroads in St. Paul in 1916.

Some subsequent issues were the rerouting of the rail lines. The first location was considered one of great routing errors in railroad building. [Haskell Pass](https://en.wikipedia.org/wiki/Haskell_Pass), elevation 4300 feet, is a historically significant but now little-used mountain pass in northwestern Montana, between the Flathead and Kootenai River drainages. From 1892 to 1904 it was traversed by the original main line of the Great Northern Railway from Kalispell to Libby. That line is now followed by Highway 2 in Montana. The route was replaced by a flatter route northwest to Eureka and then southwest to Libby. Later, in the 1970s, that Great Northern Railroad line was again relocated, [[](http://www.libbymt.com/areaattractions/scr-topofdam.jpg)](http://www.libbymt.com/areaattractions/scr-topofdam.jpg)proving to be one of the most complex of all the projects related to the [Libby Dam](https://en.wikipedia.org/wiki/Libby_Dam). This rail line relocation included the building of a seven-mile railroad tunnel through Elk Mountain, on the upper Wolf Creek Drainage of the Kootenai National Forest.

The second location was [Cascade Pass](https://en.wikipedia.org/wiki/Cascade_Tunnel) in Washington state. The original tunnel had a steep grade and required the steam locomotives of the time to use a lot of coal to climb the grade making the amount of smoke in the tunnel hazardous. It was electrified in 1909. For better efficiency, a new Cascade Tunnel was opened on January 12, 1929. The new line had 72.9 route-miles or 93.2 track miles electrified, between [Skykomish](https://en.wikipedia.org/wiki/Skykomish,_Washington) and [Wenatchee](https://en.wikipedia.org/wiki/Wenatchee,_Washington). The ruling grade was still 2.2 percent, although 21 miles of 2 percent or worse grade was eliminated. The line length was reduced by 8.7 miles, and maximum elevation was lowered by 502 feet (153 m) from 3,382 feet (1,031 m) to 2,881 feet (878 m). Electrification was removed in 1956, after a ventilation system was installed to eliminate diesel fumes.

**Milwaukee Road**

The directors of the Milwaukee Road which was a midwestern rail line based in Milwaukee decided in 1905 that they wanted to compete for business from the Pacific and decided to build to the west. Previously, the destination was going to be near Eureka in northern California, but with the Alaska gold rush and Asia ocean traffic, Seattle was decided as the destination. The Rockefellers provided initial financing and wanted fast freight service to the Butte, Montana, mines. The railroad eventually provided the fastest service from Chicago to Seattle.

Operating conditions in the mountain regions of the [Pacific Extension](https://en.wikipedia.org/wiki/Chicago,_Milwaukee,_St._Paul_and_Pacific_Railroad) proved difficult. Winter temperatures of −40 °F (−40 °C) in [Montana](https://en.wikipedia.org/wiki/Montana) made it challenging for [steam locomotives](https://en.wikipedia.org/wiki/Steam_locomotive) to generate sufficient steam. The line snaked through mountainous areas, resulting in "long steep grades and sharp curves". [Electrification](https://en.wikipedia.org/wiki/Railway_electrification_system) provided an answer, especially with abundant [hydroelectric power](https://en.wikipedia.org/wiki/Hydroelectricity) in the mountains, and a ready source of [copper](https://en.wikipedia.org/wiki/Copper) in [Anaconda, Montana](https://en.wikipedia.org/wiki/Anaconda,_Montana). Between 1914 and 1916, the Milwaukee Road implemented a 3,000 [volt](https://en.wikipedia.org/wiki/Volt) [direct current](https://en.wikipedia.org/wiki/Direct_current) (DC) overhead system between [Harlowton, Montana](https://en.wikipedia.org/wiki/Harlowton,_Montana), and [Avery, Idaho](https://en.wikipedia.org/wiki/Avery,_Idaho), a distance of 438 miles (705 km). Pleased with the result, the Milwaukee electrified its route in Washington between [Othello](https://en.wikipedia.org/wiki/Othello,_Washington) and [Tacoma](https://en.wikipedia.org/wiki/Tacoma,_Washington), a further 207 miles (333 km), between 1917 and 1920. This section traversed the Cascades through the 2¼ mile (3.6 km) [Snoqualmie Tunnel](https://en.wikipedia.org/wiki/Snoqualmie_Tunnel), just south of [Snoqualmie Pass](https://en.wikipedia.org/wiki/Snoqualmie_Pass) and over 400 feet (120 m) lower in elevation. The single track tunnel's east portal at [Hyak](https://en.wikipedia.org/wiki/Hyak,_Washington) included an adjacent [company-owned ski area](https://en.wikipedia.org/wiki/Milwaukee_Ski_Bowl) (1937−1950). Together, the 645 miles (1,038 km) of main-line electrification represented the largest such project in the world up to that time, and would not be exceeded in the US until the [Pennsylvania Railroad](https://en.wikipedia.org/wiki/Pennsylvania_Railroad)'s efforts in the 1930s. The two separate electrified districts were never unified, as the 216-mile (348 km) Idaho Division (Avery to Othello) was comparatively flat down the [St. Joe River](https://en.wikipedia.org/wiki/Saint_Joe_River) to [St. Maries](https://en.wikipedia.org/wiki/St._Maries,_Idaho) and through [eastern Washington](https://en.wikipedia.org/wiki/Eastern_Washington), and posed few challenges for steam operation. Electrification cost $27 million, but resulted in savings of over $1 million per year from improved operational efficiency. The route was converted to diesel power just before the 1973 increase in fuel costs.

The Milwaukee Road line to the Pacific was built expensively with 50 tunnels, but had many good stretches of track with speed limits of 100 miles per hour for passenger trains such as the Olympian Hiawatha. That train’s distinctive passenger cars were built at the Milwaukee railroad shops. The railroad building expenses far exceeded the original estimate and management made several strange accounting decisions resulting in complete bankruptcy and termination of operations west of Miles City on Montana by 1980.

**Union Pacific**

The Union Pacific (UP) built a line from their mainline in Granger, Wyoming northwest through Idaho, and eastern Oregon. They absorbed the rail line along the south side of the Columbia River to form the [Oregon Short Line](https://en.wikipedia.org/wiki/Oregon_Short_Line_Railroad). This was completed in 1884 and gave the UP direct access to the Pacific Ocean shipping lines at Portland, Oregon, without having to go through the Southern Pacific Railroad at Ogden. In 1880-1884, they built a branch from this line through Idaho Falls and then directly north towards Butte, Montana. That area had the most population in the state at that time and there were many mining operations along the line. The GN built a rail line from Great Falls south through Helena that connected with the UP near Butte in 1888. Great Falls had hydropower from the nearby falls of the Missouri River and a large smelter was built there. By the 1910s, there was direct passenger service across the desert between [Los Angeles and Salt Lake City](https://en.wikipedia.org/wiki/Los_Angeles_and_Salt_Lake_Railroad) (line completed in 1905) and then through Pocatello to Helena.

The adjacent map shows the Montana railroad lines as they existed around 1970.