

Canadian National's Yellowhead Pass





Milepost Simu ations

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Introduction

The route features the Canadian National mainline crossing of the Rocky Mountains via Yellowhead Pass from Jasper, Alberta to Valemount, British Columbia approximately 80 miles. Today the route is the eastern section of the Albreda Subdivision. The route also includes the Robson Subdivision west from Red Pass to where it re-joins the Albreda Subdivision.

The route is set in the 1980s when the route from Jasper to Red Pass had just been double tracked and the new Robson link line between the former Canadian Northern and Grand Trunk Pacific routes had been built creating a double track route with a grade separation west of Red Pass.

Traffic on the busy mainline includes general mixed manifest traffic with a significant amount of lumber and grain as well as unit coal trains and intermodal workings. During this time in Canada trains still ran with cabooses.

History

After the completion of the first Trans Canada Railway in 1885 by the end of the 19th century the government was keen to see a second line further north to develop new areas and give Canadian Pacific some competition. To start with the other two major railways the Canadian Northern and the Grand Trunk Railways were not interested as it was thought the predicted traffic volumes especially through northern Ontario would not make another route profitable.

In 1903 it was agreed the government would build the section east of Winnipeg to Moncton, New Brunswick as the National Transcontinental Railway but operated by the Grand Trunk once complete and the western section from Winnipeg to Prince Rupert, British Columbia would be built by the Grand Trunk Pacific a subsidiary of the Grand Trunk Railway. Construction began in 1905 reaching Yellowhead Pass on the Alberta/British Columbia border in November 1911. The last spike ceremony took place at Fort Fraser, British Columbia in April 1914.

The Canadian Northern had already started westwards expansion reaching Edmonton in 1905. West of Edmonton the Canadian Northern also choose to build a line through Yellowhead Pass creating a parallel route to the Grand Trunk for much of the distance to the Tete Jaune Cache area where the Canadian Northern turned south to reach Vancouver. Already in financial difficulty due to the construction costs of building through the Thompson and Fraser Canyons west of Kamloops where the route was paralleling the Canadian Pacific Railway the last spike was driven in January 1915.

The route through Yellowhead was chosen by both railways for its easy crossing of the Rockies being able to keep the grade at or below 1%. The summit of the pass has

an elevation of 3,711 feet (1,131meters) making it the lowest crossing of the Rockies on any transcontinental railway in North America.

In 1917 despite the two routes both being no more than 4 years old, due to the demand for metal during World War I the two railways rationalized their routes over Yellowhead Pass from Edmonton to Redpass keeping the better route for different sections the other being recovered for scrap metal.

In 1918 the near bankrupt Canadian Northern Railway was nationalized and was merged with other government owned rail lines to become the Canadian National Railway. In 1919 the Grand Trunk Railway defaulted on its debt to the government from the construction of the Grand Trunk Pacific. The Grand Truck Pacific was nationalized in 1920 followed by the Grand Trunk in 1923 also becoming part of Canadian National (CN).

Jasper became an important railway division point for the Grand Trunk Pacific and later Canadian National. The town grew as a railway center as well as a tourist center for Jasper National Park which role it still plays today.

During the 1980s major upgrades took place on the route double tracking the entire route from Jasper to Redpass and also sections east of Jasper. In 1986 CN built a new line at the west end of Yellowhead Pass linking the former Grand Trunk and Canadian Northern routes. This effectively created a double track grade separated route for trains to and from Prince Rupert as well as Vancouver reducing the grade from 1% to 0.7%. See Robson Sub diagram page 6 for further details.

Traffic on the route has grown significantly over the last few decades with units trains of coal, grain and sulphur heading west for export. Until the 1980s most traffic headed to and from Vancouver on the former Canadian Northern line but from the mid-1980s the port at Prince Rupert has been expanded with a grain and coal facility being built and an intermodal terminal in 2009. To handle this traffic CTC signalling was installed on what was previously little more than a branch line in around 2000. Lumber mills in Prince George along the line to Prince Rupert produce a large amount of traffic going all over North America. Today around two-thirds of traffic heads to Vancouver and one-third to Prince George or Prince Rupert.

Route Map



Robson Sub Diagram



Westbound trains normally use the steep downhill Robson Subdivision while eastbound trains normally use the less steep Albreda Subdivision. An eastbound train from Prince George will use the North Connecting and South Connection track to access the Albreda Subdivision.

Locomotives

GP40-2LW



The GMD GP40-2LW is a Canadian-market version of the highly successful EMD GP40-2 diesel-electric locomotive, built for the Canadian National Railway by the Diesel Division of General Motors of Canada Ltd. (formerly General Motors Diesel) of London, Ontario.

The Bo-Bo loco has an EMD 16-645E3 engine developing 3,000hp. A total of 278 were constructed between 1974 and 1975. The major difference between the GP40-2W and a regular GP40-2 is the fitment of a wide-nose Canadian 'comfort cab', denoted by the 'W' in the model name. The L designates a taller and lighter frame which allows a 3,000 gallon fuel tank.

SD40-2W



The GMD SD40-2W is a Canadian-market version of the highly successful EMD SD40-2 diesel-electric locomotive, built for the Canadian National Railway by the Diesel Division of General Motors of Canada Ltd. (formerly General Motors Diesel) of London, Ontario.

The Co-Co loco has an EMD 16-645E3 engine developing 3,000hp. A total of 123 were constructed between May 1975 and December 1980. The major difference between the SD40-2W and a regular SD40-2 is the fitment of a wide-nose Canadian 'comfort cab', denoted by the 'W' in the model name.

GP40-2LW and SD40-2W Cab Controls



Rolling Stock

The route includes a selection of era appropriate rolling stock. The rolling stock includes a loaded and empty version of each car.

Boxcar 40ft



Boxcar 50ft





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Caboose



Covered

Hopper



Flat



TOFC Flat Car



Scenarios

The route includes career scenarios as well as being set up for Quick Drive starting at all significant places along the route. A selection of consists are available for quick drive. The route also includes Free Roam scenarios starting at each end of the line.

Career Scenarios

Cedarside Part I

Locomotive: GP40-2LW Time: 80minutes Difficulty: Medium Make up the Cedarside local wayfreight train 599 in Jasper Yard before heading west to Redpass.

Cedarside Part II

Locomotive: GP40-2LW Time: 80minutes Difficulty: Medium Take the Cedarside local wayfreight train 599 from Redpass to Cedarside with some switching along the way.

Cedarside Part III

Locomotive: GP40-2LW Time: 35minutes Difficulty: Medium Switch Cedarside Lumber Mill and take the local to Jackman to tie-down.

Late Intermodal

Locomotive: GP40-2LW Time: 120 minutes Difficulty: Easy Take a late running high priority intermodal 202 Vancouver-Montreal the full length of the route from Cedarside to Jasper.

Lumber Drag Part I

Locomotive: SD40-2W Time: 80 minutes Difficulty: Easy Take a heavy lumber train 360 Prince George-Winnipeg from Tete Jaune to Moose Lake.

Lumber Drag Part II

Locomotive: SD40-2W Time: 75 minutes Difficulty: Easy Take a heavy lumber train 360 Prince George-Winnipeg from Moose Lake to Jasper.

Rupert Bound Grain Part I

Locomotive: SD40-2W Time: 80 minutes Difficulty: Easy Take loaded grain train #834 Winnipeg-Prince Rupert west from Jasper to Redpass.

Rupert Bound Grain Part II

Locomotive: SD40-2W Time: 60 minutes Difficulty: Easy Take loaded grain train #834 Winnipeg-Prince Rupert west from Red Pass to Tete Jaune.

Winter Sulphur Part I

Locomotive: SD40-2W Time: 80 minutes Difficulty: Easy Take sulphur train 787 Strachan-Vancouver west from Jasper to Redpass on a fine winter's afternoon.

Winter Sulphur Part II

Locomotive: SD40-2W Time: 75 minutes Difficulty: Easy Take sulphur train 787 Strachan-Vancouver west from Redpass to Valemount on a fine winter's afternoon.

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Signage

Most of the route is controlled by colour aspect signals controlled by CTC shown below. The Tete Jaune Subdivision west of Harvey is not signalled and is controlled by Occupancy Control System (OCS). In the included scenarios you will get an OCS Clearance form with permission to enter this section.

Signal Aspect	Description	Instruction to Driver
	Clear	Proceed, at the maximum allowed line speed.
	Advance Approach	Proceed: be prepared to stop after the next signal.
	Approach	Proceed: be prepared to stop at the next signal.
	Approach Diverging	Proceed: be prepared to take a diverging track after the next signal.
	Diverging Clear	Proceed on diverging track at prescribed speed for junction.



Signage



The **left** hand sign is a speed limit sign. Where it shows two speeds the top upper limit is for passenger and lower limit for freight.

The **middle** sign is a milepost. The mileages start at the start of each subdivision.

The **right** sign is a warning to a flange operator of an upcoming obstruction such as bridge or grade crossing.



The **left** hand sign indicates the start of a downhill grade between 0.8% and 1.8%.

The **middle** sign indicates the end of a downhill grade between 08% and 1.8%.

The **right** sign is a whistle sign normally situated a quarter of a mile from every grade crossing.

Credits

Route created by Jonathan Lewis. Some assets provided by Dovetail Games, Boxcars created by Michael Stephen. Horn and bell sounds provided by Mike Durdan.