

1: Oslo-Bergen railway, Norway

Best for: eally old rocks

The Bergen Railway to Oslo might just be the toughest battle between man and Mother Nature ever to have been fought in the name of train travel. This link between Norway's capital and its second city, on the west coast, has to cross the cold, high, remote Hardangervidda, the largest eroded plain in Europe, where the tough, engineering-unfriendly metamorphic rock is around 1.5 billion years old. Thankfully, a railway did find a way across this hostile plateau, giving train fans a chance to ride from cosmopolitan Oslo to beautiful fjord-and-mountain-flanked Bergen via some of Norway's wildest scenery. **Need to know:** 496km; 6.5hrs;

2: Northern Explorer, New Zealand

Best for... Terrific topography

The North Island Main Trunk railway, finally completed in 1908, was not an easy undertaking – but that's what makes it such an impressive ride today. early engineers had to negotiate gully-sliced plateau and active volcanoes in order to link Auckland and Wellington. Today, the line's big-windowed panorama carriages slice through green hill, pass smoking mountains and rocky shores,

Need to know: 681km; 11hrs;

Like that? Try this... Traverse South Island aboard the TranzAlpine, which links Christchurch and Greymouth by surmounting the Southern Alps.

3: Trans-Mongolian, Russia to China

Best for... A lot of trees, a lot of teas

Aping the route 17th-century traders once used to cross Siberia, carrying tea from China to the cups of Russia's elite, the Trans-Mongolian is arguably the greatest train journey on the planet. It's epic, taking almost a week ridden non-stop between Moscow and Beijing, crossing six time zones and penetrating parts of Asia that most just don't reach.

Out the window, the endlessness of Russia rolls by – grand cities, birch trees and snowy plains. Then comes Mongolia's ger-dotted steppe and capital Ulan Batar before crossing into China and negotiating the Great Wall to reach Beijing.

Need to know: 7,621km; 6 nights;

4: White Pass and Yukon railroad, Canada and USA

Best for... Gold rush grandeur

When a trio of prospectors found gold in a tributary of the Klondike River in 1896, they triggered one of the world's largest gold rushes. To begin with, stampeders had to hike the treacherous Chilkoot Trail to get their treasure. But between 1898 and 1900, a narrow-gauge railway was built through the seemingly impossible terrain to make the journey a lot easier. Now, it carries visitors along the Skagway River, squeezing between waterfalls, thick forest and groaning glaciers, crossing the US/Canada border at White Pass, and descending to Lake Bennett.

Need to know: 109km; 4hrs 45mins;

6: Cusco to Machu Picchu, Peru

Best for... Inca intrigue

If you've no time or permit to hike the classic Inca Trail to Machu Picchu, then this is a fine second choice. The train (which leaves from Poroy, just outside Cusco) slices through the mountains, passing Andean villages, the raging Urubamba River and the Inca fortress of Ollantaytambo. It terminates at the hot-springs town of Aguas Calientes, from where the mist-swirled ruins of Machu Picchu teeter just above. Do the ride in opulent style aboard the Belmond Hiram Bingham, named after the explorer who rediscovered the 'lost' city in 1911.

Need to know: 86km; 3hrs;

8: California Zephyr, USA

Best for... Winning the West

The California Zephyr isn't a train. It's a dream realised, a nation united. When the railway line across the US was completed in 1869, slashing the time it took to travel from coast to coast, the way was paved for all manner of pioneers to try their luck in the wild west. And what a journey the Zephyr still is, blowing from the windy city of Chicago, crossing the plains, mastering the Rockies and the Sierra Nevada to come to rest at Emeryville (for San Francisco), on the edge of the Pacific Ocean. Bag a seat in the Sightseer Lounge Car and watch the country unfurl.

Need to know: 3,900km; 51hrs 20mins;

10: Reunification Express, Vietnam

Best for... Covering a country

The North-South railway, known as the Transindochinois or sometimes the Reunification Express, was opened in 1936 to link the extremes of Vietnam, running from Hanoi in the north to Saigon in the

south. The line was damaged and disconnected by the Vietnam War but, miraculously, less than two years after the surrender of South Vietnam and the unification of the country, a full Saigon-Hanoi rail journey was possible once more.

Need to know: 1,726km; 36hrs;

12: Konkan railway, India

Best for... Engineering excellence

Opened in 1998, the Konkan Railway connects the megalopolis of Mumbai and the port of Mangalore (Karnataka). It's an engineering masterstroke: over 2,000 bridges and some 90 tunnels were required to forge a route between the Arabian Sea and the Sahyadri Hills. Along the way are rivers, valleys, mountains, mango trees, coconut palms and tiny villages. It also enters the heartland of Portuguese India, which ruled parts of the subcontinent from 1505 up to 1961. Disembark at Karmali Station to wander Old Goa, once the capital of the Portuguese viceroyalty and now an atmospheric ruin.

Need to know: 741km; 13hrs;

Like that? Try this... If size matters, opt for India's Vivek Express, a 4,273km ride from Assam to the Tamil Nadu town of Kanyakumari – the country's longest train trip.