

Why roads and trains may be key to bringing peace to the Korean peninsula

Written by Hussein Dia, Chair, Department of Civil and Construction Engineering, Swinburne University of Technology

North Korean leader Kim Jong-un left his historic Singapore summit with US President Donald Trump last month with a massive political victory in hand, but questions remain how this will help his isolated country in pragmatic terms.

A [Japanese newspaper reported Sunday](#) that Kim has asked Chinese President Xi Jinping for his help in lifting the sanctions that have crippled the North Korean economy. But even if sanctions are lifted, will this be enough to improve the standard of living for North Korea's impoverished citizens?

In recent years, Pyongyang has focused on [twin policy objectives](#) : achieving global political legitimacy, and embarking on a program of economic modernisation. The Singapore summit has arguably helped in reaching the first objective. North Korea will now be looking to achieve the second.

A possible high-speed future

Compared to neighbouring China and South Korea, [North Korea's infrastructure is crumbling](#) and in dire need of expansion and modernisation. For decades, the government emphasised investment in heavy industry and weapons programs, allowing its roads, ports, rail lines and airports to fall into disrepair. North Korea's energy, water and communications systems lag behind the rest of the world, as well.

When Kim met with South Korean President Moon Jae-in in April, Moon said he would like to travel through North Korea to climb Mt. Paektu - a site of great importance in Korean folklore. Kim responded with a revealing admission that he would be ["embarrassed by his country's railways"](#).

Kim also told Moon how the North Korean athletes who took part in the 2018 Winter Olympics in Pyeongchang were [impressed](#) by the South's high-speed rail network. This was seen by many as a likely signal that North Korea was motivated to bring its own rail network – and the rest of its infrastructure – into the 21st century.

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And South Korea evidently wants to help. At the summit between the two leaders, Moon gave Kim a [USB drive](#) that laid out a [vision](#) for connecting the two Koreas through new infrastructure projects and special economic zones.

At the heart of Moon's plan would be a [US\\$35 billion upgrade of North Korea's rail network](#), including high-speed rail lines connecting Seoul, Pyongyang and other industrial zones and a retrofit of other rail lines in the North.

Moon's proposal is shrewd. The rail lines would also connect North Korea to its northern neighbours, China and Russia, and ultimately serve as a vital link between the entire Korean peninsula and the rest of Asia and Europe.

The promise of mineral wealth

More importantly, the South Korean proposal goes well beyond infrastructure. It would be a catalyst for unlocking the potential of the North's [untapped mineral reserves](#), which have been [valued at somewhere between US\\$6-10 trillion](#).

These reserves consist of iron, gold, copper and graphite, as well as large amounts of rare earth deposits needed for production of smart phones and other high-tech gadgets made in the South. There are also [unconfirmed reports](#) of oil and gas deposits in North Korean waters.

However, modernising North Korea's neglected infrastructure won't come cheaply. The cost is estimated at [several trillion dollars](#), similar to what West Germany spent to develop the East after the fall of the Berlin Wall.

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The technical know-how and capacities of North Korea's labour forces will also pose huge challenges.

Already, [Samsung](#) , [Hyundai](#) , [Daewoo](#) and other corporations provide training for the North Koreans they've employed in special economic zones along the border. These giants are well-placed to rebuild the North's deteriorating infrastructure, but would need to invest much more time and money to train the local workforce.

Whether the North accepts the South's help remains to be seen. This could prove to be a major stumbling block.

Of course, China could step in and play a major role. The country has built the world's longest [high-speed rail](#) network, extending some 22,000kms, in a remarkably short span of time.

Beijing has strategic interests in developing the North's rail network, as well. A future inter-Korean railway could serve as an extension of its ambitious ['One Belt, One Road'](#) infrastructure development initiative linking China with key markets in Europe, the Middle East and Africa.

Baby steps

Before any progress can be made on grand plans like these, North and South Korea need to take an important first step and reopen the rail links and roads between the countries. The two neighbours [agreed in June](#) to work towards that goal, but any material progress will need to wait until international sanctions against North Korea are lifted.

The two Koreas agreed to start limited cross-border rail service to an industrial zone just over

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the North Korean border in 2007, but the fraught relationship between the two countries soon [brought the initiative to a halt](#)

This time around, progress will depend on the cooperation of the North Korean leader, who has been reluctant to accept help in the past, but might be persuaded to do so now with his country's future in the balance.

Hussein Dia receives funding from the Sustainable Built Environment National Research Centre and the CRC for Low Carbon Living.

Authors: Hussein Dia, Chair, Department of Civil and Construction Engineering, Swinburne University of Technology

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