

China's Hotan-Shigatse Railway Project: Strategic and Geopolitical Implication on India's Security

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Abstract

China's August 2025 launch of the Hotan-Shigatse railway project introduces profound geopolitical and strategic shifts along the Himalayan frontier. Spanning 2,000 kilometers through punishing, high-altitude terrain, this multi-billion RMB corridor defies conventional economic logic. Most planned stations sit in sparsely populated areas, and the project faces staggering engineering and environmental hurdles. This paper investigates why Beijing is committing immense resources to this challenging line, analyzing how the corridor serves China's long-term regional ambitions and exploring the direct, high-stakes implications for India's national security.

Overview of the Project:

On August 7, 2025, China's state-owned National Railway Group officially launched the Xinjiang-Tibet Railway Company with the registered capital of 95 billion RMB, that is expected to rise. The centerpiece of this initiative is the Hotan-Shigatse Railway Line, a high-altitude corridor stretching nearly 2,000 kilometers across some of the most challenging terrain on Earth. Designed to link Hotan in East Turkistan¹ with Shigatse, Tibet's second-largest city, the line will connect with the existing Lhasa-Shigatse railway, forming a critical segment of China's broader 5,000-kilometer plateau rail network centered around Lhasa.

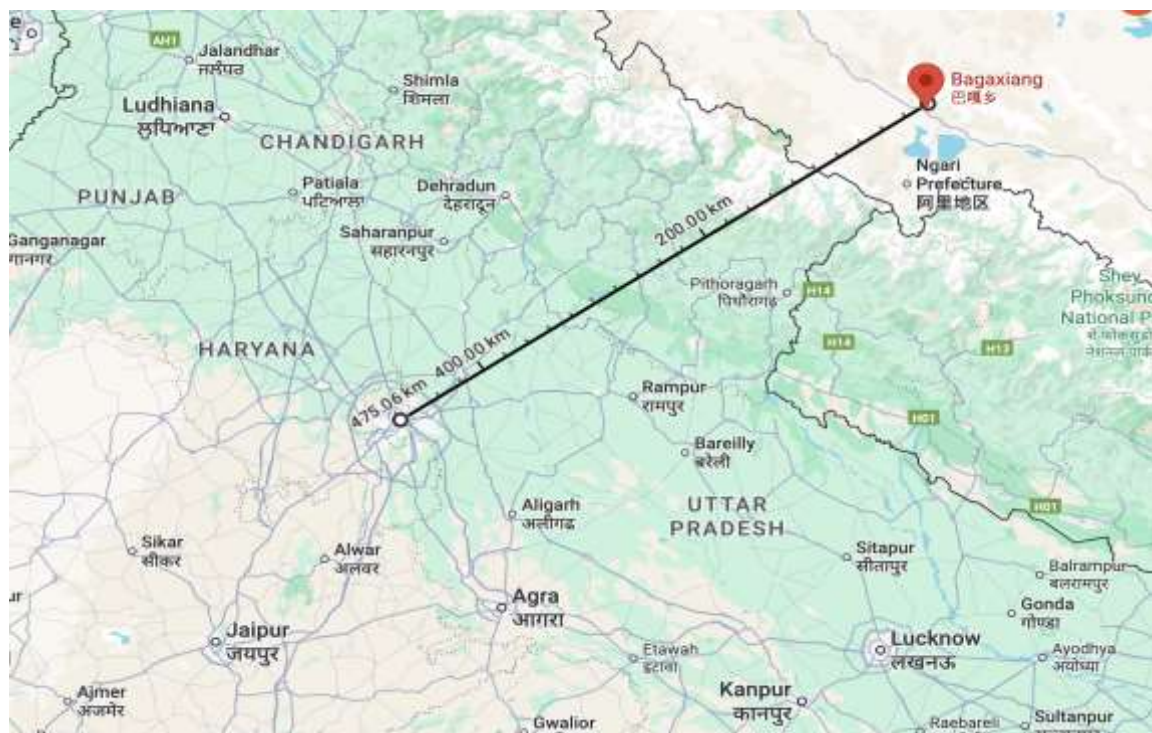


Image – Tibetan Review

¹ Except for the official names, this report will use East Turkistan to refer to the region instead of the Chinese-imposed name, Xinjiang.

The Hotan-Shigatse Railway line will pass through a total of 13 counties and out of which ten are in Tibet. 9 of these are border counties, including Barga Town (Bagaxiang) in Purang County, which is only about 470 kilometers away from New Delhi, the capital of India. The railway line starts from the Hotan city of the Hotan district of Xinjiang Uygur Autonomous Region. It is a political, economic, and cultural center of the region. It is located in the southwest of East Turkistan, in the central part of the Hotan region, between the Karakoram Mountains and the Taklamakan Desert, with a total area of 685 square kilometers. After Hotan city, it leads through Rutog County, Gar County, Tsamda County, Purang County, Drongba County, Kyirong County, Dingri County and Saga County to Shigatse City. Gar County that borders the Indian controlled Kashmir, Barga County that is located near the tri-junction of Tibet, India, and Nepal may have significant strategic significance to India's security.

Except for Hotan City, East Turkistan, the starting point, and Shigatse and Lhasa at the end, the rest of the stations are vast and sparsely populated places. The railway line requires around 7,690 hectares of permanent land and 6,020 hectares of temporary land.



*Distance calculated from Google Map

This railway is not just a feat of engineering—it is a strategic endeavor. The route is set to pass through Aksai Chin; a region disputed between India and China. The line will traverse four major mountain ranges—the Kunlun, Karakoram, Kailash, and Himalayas—all exceeding altitudes of 4,500 meters. The Hotan–Shigatse Railway not only slices through some of the most unforgiving terrain on Earth, the climatic conditions are extremely harsh. From the temperate semi-arid valleys of Shigatse to the icy reaches of Rutog, the line traverses a climatic gradient shaped by altitude and latitude—shifting from plateau temperate zones to subarctic arid extremes. With average annual temperatures dipping to -3°C and wind speeds reaching 30 m/s, the railway endures brutal cold, fierce gusts, and sparse rainfall. The environmental conditions are exceptionally harsh, characterized by temperatures descending to -40°C , oxygen concentrations constituting merely 44% of those found in the mainland, and a landscape

comprising permafrost, glaciers, ice slopes, and extensive areas of Gobi Desert along with perennial snowfields.

Moreover, most of the sections of the Hotan-Shigatse Railway are located in the complex erosion ecological fragile area of the Tibetan Plateau. There are obvious soil erosion phenomena such as wind erosion, water erosion and freezing erosion. The Hotan-Shigatse Railway passes about 1,600 km through ecologically and severely fragile areas, of which about 510 km from Saga to Drongba, and about 710km from Drongba to Pangong Tso is located in severely fragile areas²

Technically, the project is staggering. Of the 1,980 kilometers of track, approximately 220 kilometers will be bridges and 270 kilometers tunnels, with the remaining 1,490 kilometers consisting of roadbed construction. However, due to the complexity of the terrain, the bridge-tunnel ratio is expected to rise to as much as 60–70%, underscoring the immense engineering challenges involved.

So, why pursue such a costly and complex endeavor?

Infrastructure Development as a Long-Term Strategic Plan

It may be costly and Complex endeavor, but it also has been a long-term plan China and not an isolated project, rather a culmination of decades of Chinese state led ‘development’, integration, and securitization efforts in Tibet.

Tibet possesses considerable strategic significance for China for several reasons; firstly, the control of Tibet would afford China access to vital natural resources—most notably, water; secondly, the imperative to consolidate what the Chinese Communist Party (CCP) perceives as historically Chinese territory; and thirdly, Tibet would function as a buffer zone against India in the event of a conflict³.

When the People’s liberation army entered Tibet in 1949, Tibet was isolated, with limited road and modern communication. Tibet was sparsely connected, both internally and with mainland China. The Chinese government prioritized building basic road network such as Qinghai-Tibet and Sichuan Tibet Highway that were completed in the 1950’s. In fact, between the years after China entered Tibet and 2021, the road infrastructure of Tibet experienced a remarkable augmentation, expanding from a mere 7,300 kilometers to an impressive 118,800 kilometers—culminating in an average daily growth rate of nearly 5 kilometers. Although investments in infrastructure, mostly road network, were initiated at an earlier date, there was a marked acceleration following the year 1999, coinciding with the inception of China’s Western Development Program (WDP)⁴. In accordance with the objectives set forth in the 10th and 11th Five-Year Plans, the central government allocated in excess of RMB 169 billion towards numerous pivotal projects, bolstered by the 101 Aid Program, which effectively mobilized urban centers and enterprises to contribute

² Along the route, there are 11 nature reserves such as the National Nature Reserve of Mount Everest in Tibet and the National Nature Reserve of Changthang. 2 scenic spots such as Tulin-Guge National Scenic Spots and Lhoka Holy Lake Autonomous Region Scenic Spots, and 2 wetlands such as Cangsus National Wetland Park and Singe Khabab National Wetland Park. Parks, 2 forest parks such as Gang Rinpoche National Forest Park and Pangong tso National Forest Park, 13 water source protection areas such as the water source of the water plant in the southern suburbs of Samzhubzê District, Shigatse City, and the water source of the new water plant in Saga County, and 7 national key cultural relics protection units such as Tashilumpo Temple. There are a large number of environmentally sensitive areas along the route, covering a large area, important protection objects, and high social concern

³ Hader, T., Jensen, B., Ramjee, D., & Macias, J. M., III. (2025). China's gray-zone infrastructure strategy on the Tibetan Plateau: Roads, dams, and digital domination. Center for Strategic and International Studies.

⁴ The WDP aimed to address the economic disparity between the developed coastal region of China and the economically weaker regions of China in the western part of China. The WDP targeted 12 key regions – six provinces (Gansu, Guizhou, Qinghai, Shaanxi, Sichuan, Yunnan), Five autonomous regions (Guangxi, Inner Mongolia, Ningxia, Tibet, East-Turkistan), and 1 municipality (Chongqing), making up a total of over 70% of China’s landmass.

to the developmental efforts in Tibet⁵. Under the auspice of economic development, China aims to integrate, Sinicize, control, and suppress the people in its Western territories, especially the East-Turkistan and Tibet- regions PRC view as having separatist sentiments and non-party approved ideologies, religion, and culture.

Since the Western Development Program (WDP), Tibet has observed the initiation of numerous infrastructure projects that serve a dual function—developmental initiatives that fulfill both civilian needs and strategic military objectives, exemplified by the Qinghai-Tibet railway line, which commenced operations in 2006, thereby linking the capital city of Tibet, Lhasa, to the core regions of China. Moreover, China has launched a number of airports in places like Lhasa, Shigatse, Nyingtri, and Ngari, meticulously crafted to cater to military aircraft and ensure logistical backing close to delicate border zones. Additional projects encompass National Highways, particularly the G219 along the East-Turkistan-Tibet Corridor; Border Economic Zones situated in Kyirong and Dram; river infrastructure, notably that of the Yarlung Tsangpo; as well as advancements in digital infrastructure and surveillance networks.

Strategic Imperatives Over Profitability

The Hotan-Shigatse railway line is anticipated to yield no commercial profitability. As acknowledged by Chinese officials, the initiative is primarily focused on fortifying strategic connections between two of the most politically sensitive and geographically isolated regions of China. Liu Wenxian, a senior official within the planning division of the China Railway Group, articulated that the foremost objective is to "enhance the construction of strategic connections and effectively ensure the execution of significant national strategies."

The strategic importance of the Hotan–Shigatse Railway Line lies not only in its geographic span but also in its political and military implications. By connecting East Turkistan and Tibet, the railway creates a direct logistical corridor between two restive and militarized regions. Both East Turkistan and Tibet have been focal points of ethnic unrest and separatist movements, and China has invested heavily in infrastructure to integrate these regions more tightly into the national framework.

On 18th March 2001, people's daily mentioned that "...In just a few years to come, Wuhan will use electricity from Sichuan, Shanghai will burn natural gas from Xinjiang, people from the eastern regions will arrive at Lhasa or the "sunshine city" by train, and people of north China will drink sweet water from the Yangtze River."⁶ The Hotan Shigatse line is a direct realization of that vision for how it enables direct rail access from East-Turkistan to Tibet and linking both the resource corridor.

Although the Central Tibetan Administration has not issued explicit statements regarding the Hotan–Shigatse Railway, its apprehensions are evidently manifested in prior critiques—most prominently articulated in the Tibetan Government-in-Exile's 2001 assertion concerning the Gormo–Lhasa Railway. Their statement warned that such railway developments support China's grand strategy of demographic shifts and Sinicization, consequently endangering Tibet's cultural integrity. The Hotan–Shigatse line, which forges a connection between Xinjiang and Tibet, exacerbates this strategy by establishing a conduit for demographic transitions and military logistics. The route's passage through Aksai Chin is particularly provocative from India's perspective. Aksai Chin is a high-altitude desert that India considers part of its union territory of Ladakh, while China administers it as part of East Turkistan. The construction of a

⁵ Desai, S. (2021, November 19). Infrastructure development in Tibet and its implications for India. Jamestown Foundation.

⁶ Environment and Development Desk. China's Railway Project: Where Will It Take Tibet? Central Tibetan Administration, Aug. 2001.

railway through this disputed territory is seen by India as a unilateral move that undermines its sovereignty and violates the status quo along the LAC. In fact, one of the prominent Tibetan writer and activist Tenzin Tsundue described the Hotan-Shigatse railway line as one of China's "most ambitious and provocative" project for the fact that parts of the proposed route would be constructed as close as 20-30 km from the Demchok border in Ladakh. He sees this project as being built at war footing that could be completed in five years, is a serious security concern for the fact that the railway runs parallel to the Indian Himalayas. Tsewang Dorjee, a research scholar Tibet Policy Institute, a think tank of the central Tibetan Administration argues that China's push for the Hotan-Shigatse railway line and other projects near the Indian border is closely tied to recent security developments. "In the eastern sector near Arunachal Pradesh, China has already tried to control water resources to use as leverage against South Asian countries. Now, in the western sector bordering Ladakh, Himachal, and Uttarakhand, it is building a new rail line. After Operation Sindoor, China became more alert," Dorjee said.

One of the less frequently addressed yet equally critical aims of the railway is demographic transformation. The Chinese government has persistently implemented policies aimed at augmenting Han Chinese settlement in regions predominantly inhabited by minorities, such as East Turkistan and Tibet. The railway is projected to facilitate this process by rendering these areas more accessible and economically attractive for Han migrants.

In East Turkistan, the demographic transition has already been markedly pronounced. In 1953, Uyghurs constituted 75% of the population, whereas Han Chinese represented merely 6%. By 2020, the proportion of Uyghurs had diminished to 45%, with Han Chinese increasing to 42%, thus achieving majority status in the more developed northern segment of the region.

Conversely, Tibet exhibits greater resistance to Han migration. The 2020 census indicated that Tibetans continue to represent approximately 90% of the population in the Tibet Autonomous Region (TAR). Factors such as elevated altitude, severe climate, unfamiliar culinary practices, and limited economic prospects have dissuaded Han settlement. The forthcoming railway aspires to alter this dynamic by establishing towns, factories, and commercial centers along its 35 planned stations, thereby rendering the region more appealing to Han migrants.

Another strategic objective of the railway is to expedite the exploitation of mineral and natural resources in Tibet and East Turkistan. Both regions are endowed with abundant untapped reserves of copper, lithium, rare earth elements, and other valuable commodities. Enhanced transportation infrastructure will facilitate the extraction and transportation of these resources to industrial centers throughout China.

Strategic and Geopolitical implication on India's Security

As established China's Hotan-Shigatse Railway Project is more than just an engineering feat and that it's a strategic scheme with severe geopolitical consequences, particularly for India. The railway's proposed route through Aksai Chin, a region claimed by India but under Chinese control since the 1962 war, signals Beijing's intent to reinforce its territorial claims. By bypassing the G219 National Highway and carving a new corridor through this disputed terrain, China is not only asserting sovereignty but also enhancing its ability to rapidly deploy military assets in case of conflict.

The railway's proximity to sensitive flashpoints like Pangong Tso and Rutog—areas that have witnessed recent military standoffs, including the deadly Galwan Valley clash in 2020—adds another layer of complexity. With improved mobility and logistics, China could gain a tactical edge, and sustain extended

military operations near the Line of Actual Control (LAC), fundamentally altering the security dynamics in the region.

In contrast to prior infrastructural developments that depended predominantly on road networks such as the G219 Highway, this railway provides continuous, high-velocity logistical connectivity across some of the planet's most challenging terrains, which include the Kunlun, Karakoram, and Himalayan Mountain ranges.

This development transcends a mere enhancement of transportation; it signifies a fundamental shift in China's border strategy from a posture of reactive defense to one of proactive supremacy. Also, the railway is a vital part of a more expansive 5,000-kilometer plateau network projected to be done by 2035, aiming to weave Tibet more tightly into the fabric of China's national structure.

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