

The State of Vietnam's Railway Network: Challenges, Maintenance, Investments



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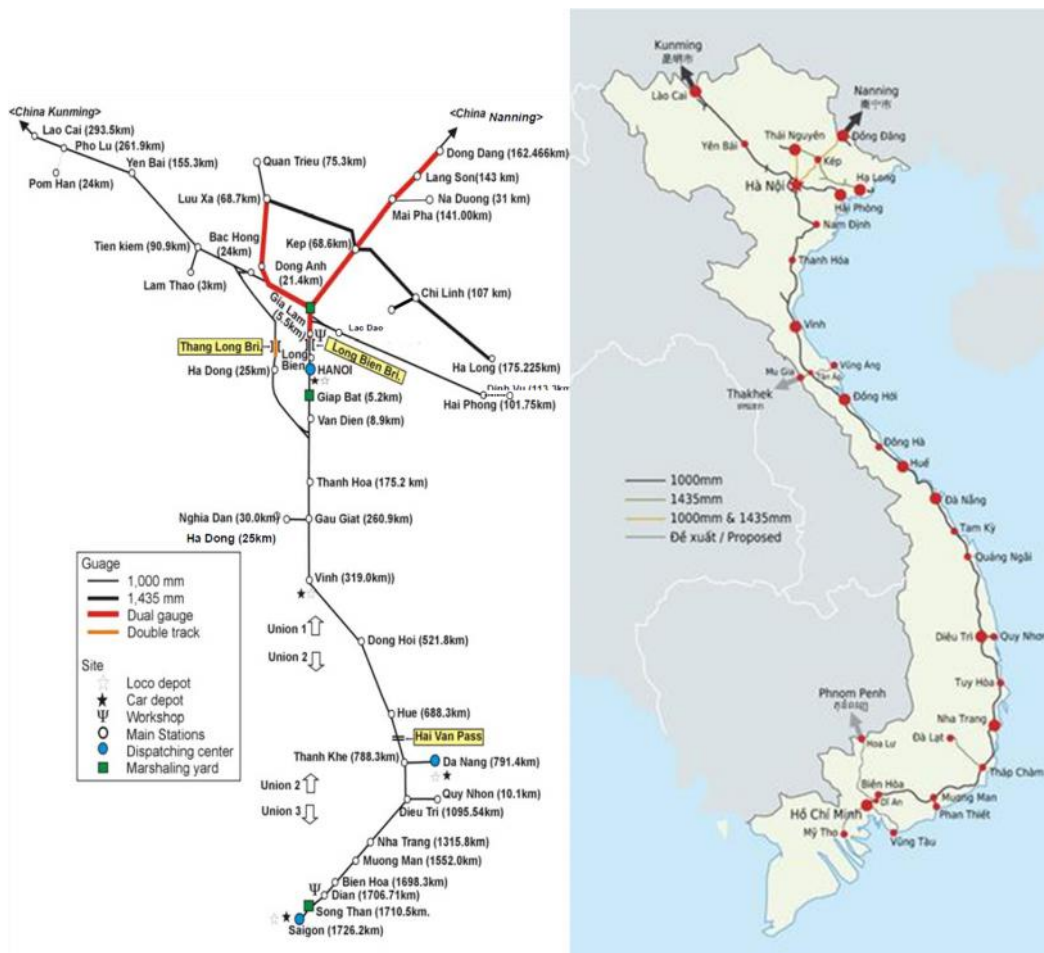
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The State of Vietnam's Railway Network: Challenges, Maintenance, Investments

Vietnam's railway network is a critical component of the country's transportation infrastructure, stretching approximately 2,600 kilometers.

The most significant route is the North-South Railway, which spans 1,726 kilometers between Hanoi and Ho Chi Minh City. This single-track, meter-gauge line is vital for both passenger and freight transport, yet it faces numerous challenges due to its aging infrastructure and frequent natural disruptions

Overview railway network in Vietnam



Source: Vietnam Railways Corporation

Infrastructure and Gauge

The Vietnamese railway system primarily uses a meter gauge (1000 mm), although some sections around Hanoi use standard gauge (1435 mm) or a combination of both. Key lines include the Hanoi-Ho Chi Minh City route, Hanoi-Lao Cai, Hanoi-Hai Phong,

Hanoi-Thai Nguyen, and Hanoi-Dong Dang. These lines serve various regional transport needs, contributing significantly to the nation's connectivity and economic activities

Length by track gauge

| Rail length | 2600 km |
|-----------------------------------|---------|
| <i>Of which</i> | |
| - 1000 mm- | 2169 km |
| - 1435 mm- | 178 km |
| - (1000/1435 mm)- Combined / Dual | 253 km |
| Sidetracks | 506 km |
| Total | 3160 km |

Source: Vietnam Railways Corporation

Current Lines

| Description | Founding | Length | Stations | Travel Time | Track Gauge |
|--------------------|----------|----------|----------|-------------|-----------------|
| North – South Line | 1936 | 1.726 km | 191 | 30 hrs | 1.000 mm |
| Hanoi–Lao Cai | 1906 | 296 km | 40 | 10 hrs | 1.000 mm |
| Hanoi–Dong Dang | 1902 | 163 km | 23 | 4.25 hrs | Combined / Dual |
| Kep–Ha Long | 1950 | 106 km | 12 | 4.5 hrs | 1.435 mm |
| Hanoi–Haiphong | 1902 | 102 km | 18 | 2.5 hrs | 1.000 mm |
| Hanoi–Thai Nguyen | 1962 | 75 km | 14 | - | Combined / Dual |
| Thai Nguyen–Kep | 1966 | 57 km | 6 | - | 1.435 mm |
| Pho Lu–Xuan Giao | - | 11 km | - | - | - |
| Tien Kien–Bai Bang | - | 10.5 km | - | - | 1.000 mm |
| Da Lat–Trai Mat | 1932 | 7 km | 2 | - | 1.000 mm |
| Tien Kien–Lam Thao | - | 4.1 km | - | - | 1.000 mm |

Source: Vietnam Railways Corporation

Proposed new (high-speed) lines

| Description | Length | Track gauge | Observations |
|----------------------------|----------|-------------|---|
| North – South Express Line | 1.570 km | 1.435 mm | High – speed line |
| Da Lat–Thap Cham | 127 km | 1.000 mm | Founded in 1932. Abandoned. One section still in operation (touristic) Da Lat–Trai Mat (7 km) |
| Ho Chi Minh City–Vung Tau | 110 km | 1.000 mm | |
| Di An–Loc Ninh | 100 km | - | Founded in 1933, abandoned in 1959. (Connection to Cambodia). |
| Mu Gia–Vung Ang | - | - | Connection to Laos |

Source: Vietnam Railways Corporation

Frequent Disruptions and Causes

The railway network frequently experiences interruptions, particularly on the North-South line, which is prone to flooding and other weather-related disruptions. Central regions, such as the sections between Vinh (Nghệ An province) and Nha Trang (Khánh Hòa province), are most affected. Provinces like Quảng Bình, Quảng Trị, Thừa Thiên-Huế, and Quảng Nam are particularly vulnerable due to their geographic and climatic conditions

Key causes of these interruptions include:

Natural Disasters: Heavy rains and floods during the monsoon season often lead to track damage and landslides, causing significant disruptions.

Accidents: Collisions at level crossings, often due to insufficient safety measures, contribute to frequent service interruptions.

Aging Infrastructure: The railway system's old infrastructure requires constant maintenance and upgrades, leading to planned interruptions for repairs and modernization

Notable Incidents and Accidents

Several significant accidents in recent years underscore the challenges faced by Vietnam's railway network:

2018 Thanh Hóa Collision: A train collided with a truck at a level crossing, resulting in two fatalities and several injuries, emphasizing the need for better safety measures at crossings.

2019 and 2020 Bình Thuận Derailments: Derailments in Bình Thuận province highlighted the vulnerability of the tracks to adverse weather conditions and insufficient maintenance, causing injuries and service disruptions

2021 Hải Dương Collision: A collision with a truck at a level crossing resulted in severe injuries and highlighted ongoing issues with unmanned crossings

Derailments Due to Rail Conditions

Poor rail conditions are a significant cause of derailments, particularly on the North-South line. The aging infrastructure and limited maintenance funding exacerbate these issues. Notable derailments due to rail conditions include:

February 2005: An express passenger train derailed in Thừa Thiên-Hue province, resulting in 11 deaths and hundreds of injuries due to poor track conditions

June and September 2018: Derailments in Bình Thuận province due to track issues, with investigations pointing to maintenance problems as a primary cause

Economic Impact

The frequent interruptions and necessary maintenance impose considerable economic costs. Maintenance and repair of the railway infrastructure require substantial investments, which are often hampered by limited budgets. Additionally, interruptions result in economic losses due to delays, cargo damage, and increased operational costs. Efforts to modernize the network, including a high-speed North-South line, highlight the government's commitment to improving this crucial infrastructure despite financial constraints

International Efforts to Modernize Vietnam's Railway Infrastructure

There are several projects by the World Bank and the Asian Development Bank (ADB) aimed at improving Vietnam's railway infrastructure:

World Bank Projects:

The World Bank is evaluating and planning to finance four major railway projects in Vietnam. These projects aim to enhance the existing railway infrastructure, including improvements to the North-South line and key urban rail lines such as Hanoi's metro line No. 5 .

Discussions are ongoing between Vietnam and the World Bank for potential funding of \$5 billion to \$7 billion to support major railway and highway projects.


Asian Development Bank (ADB) Projects:

The ADB has extended a \$300 million loan to Vietnam for a railway line aimed at bolstering economic growth, particularly in poorer regions of the country.

These projects signify substantial international investment in improving Vietnam's railway infrastructure, which is crucial for the country's economic development and transportation efficiency.

Maintenance of Railways

In Vietnam, the maintenance of the railway network is primarily managed by state-owned enterprises under the Vietnam Railways Corporation (VNR). The key companies involved in railway maintenance include:

1.  - The overarching body responsible for the railway network in Vietnam.

2

There are several regional companies under VNR that handle specific segments of the railway network. These include:

- [REDACTED]
- [REDACTED]
- [REDACTED]

These companies are responsible for various aspects of railway maintenance, including track repair, infrastructure upkeep, and ensuring the safety and operational efficiency of the railways.

There are several subcontractors and companies specializing in railway infrastructure construction and consulting. Some notable ones include:

1. [REDACTED] - Engages in consulting and research services for railway projects.
2. [REDACTED] - Provides consulting services for transportation infrastructure, including railways.
3. [REDACTED] - Involved in various in
4. [REDACTED] - Specializes in the construction and maintenance of railway infrastructure.
5. [REDACTED] - While primarily focused on ex ated to railway infrastructure.
6. [REDACTED] - Provides comprehensive consulting services, including design and supervision for railway projects.

These companies often work as subcontractors for larger projects managed by Vietnam Railways Corporation (VNR) or other major stakeholders, contributing to the development and modernization of Vietnam's railway infrastructure.

In addition to the prominent companies involved in railway infrastructure construction and consulting in Vietnam, there are several smaller or less well-known firms that also contribute to the sector. These companies may specialize in niche areas or provide supplementary services. Some of these include:

1. [REDACTED] - Specializes in the electrification of railway systems, providing both consulting and construction services.
2. [REDACTED] - Offers consulting services for transport infrastructure projects, including railways.

3. [REDACTED]
[REDACTED] - Engages in various infrastructure development projects, including railway construction and maintenance.
4. [REDACTED] - Involved in railway construction projects and trading of railway materials and equipment.
5. [REDACTED] - Provides construction and maintenance services for railway infrastructure, particularly in the central region of Vietnam.
6. [REDACTED] - Offers consulting services for the design and supervision of railway projects.
7. [REDACTED] - Known for its involvement in a variety of construction projects, including those related to railway infrastructure.
8. [REDACTED] - Engages in infrastructure projects, including railways, with a focus on construction and development.

These companies, though less notable, play crucial roles in the overall development, maintenance, and modernization of Vietnam's railway network.

Here are the contact details and key persons for the companies involved in railway maintenance, infrastructure construction, and consulting in Vietnam:

1. [REDACTED]
[REDACTED]
 - o Address: [REDACTED]
 - o Phone: [REDACTED]
 - o Email: [REDACTED]
 - o Contact Person: [REDACTED]
2. [REDACTED]
[REDACTED]
 - o Address: [REDACTED]
 - o Phone: [REDACTED]
 - o Fax: [REDACTED]
 - o Email: [REDACTED]
 - o Website: [REDACTED]
 - o Contact Person: [REDACTED]
3. [REDACTED]
[REDACTED]
 - o Address: [REDACTED]
 - o Phone: [REDACTED]
 - o Email: [REDACTED]
 - o Website: [REDACTED]
 - o Contact Person: [REDACTED]

4. [REDACTED]
- o Address: [REDACTED]
 - o Phone: [REDACTED]
 - o Email: [REDACTED]
 - o Website: [REDACTED]
 - o Contact Person: [REDACTED]

Conclusion:

Vietnam's railway network is a vital yet vulnerable part of its transportation infrastructure. The combination of aging infrastructure, frequent natural disruptions, and insufficient maintenance funding results in regular service interruptions and significant economic costs. Despite these challenges, efforts to modernize the network, including high-speed rail projects, indicate a commitment to improving rail transport's safety and efficiency. Addressing these issues is crucial for the continued development and economic growth of Vietnam.

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