RAILWAY DEVELOPMENT IN NEPAL

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Introduction

Mt. Everest
INTRODUCTION

Mt. Everest
The country is famous for the majestic Himalayas and surprising geographic beauty that includes pristine forests, crystal clear lakes, towering peaks, beautiful waterfalls and ancient valley cities.
INTRODUCTION

Mt. GAURI-SHANKAR
INTRODUCTION

RARA LAKE
INTRODUCTION
Introduction

Phewa Lake
INTRODUCTION

PHEWA LAKE AND
POKHARA VALLEY
INTRODUCTION

FROM SARANKOT POKHARA
INTRODUCTION
Introduction

Simal Tree
Buddha was born in Nepal.
Introduction

Buddha was born in Nepal.
Transport is central to economic growth and thereby economic development.

To maintain sustainable growth in the economic and social sector, it is well accepted that transportation means and facilities should be developed accordingly.
TRANSPORTATION

- Roads are the principal mode of transport in Nepal carrying 90% of freight and passenger traffic.
- At present Transportation needs of Nepal are being met by either roads or air travel.
The world over, growth of modern industry has moved along the railway network.

This is because the railways can carry bigger quantities at a lower cost over long distances and that too in much lesser time.
Nepal Railway
The history of Nepal Railways dates back to 1937.

It was established by the then East India company.

- 51 kilometers from Bijalpura of Mahottari in Nepal to Jayanagar in India.
- Raxual-Amlekhgunj (40 km)
- Rani-Dharan (50 km)
Bijalpura-Jayanagar

- Heavy flood of 2001 in Bighi River in Mahottari washed away some parts of Railway Bridge, disrupting the services in Janakpur- Bijalpura sector (22 Km).
- From that day onwards and upto 2014 the railway is functioned on Janakpur - Jayanagar sector of 29 kilometers stretching along the eight stations.
- Now, this section is under upgrading. So that no any Rail Service in Nepal now except 800 m fright service at Birgunj.
Nepal Railway
Nepal Railway

Raxual-Amlekhgunj
Not functioning nowadays
In addition:

- Birganj (Nepal) is connected by Broad Gauge Railway line from Raxual (India).

  This 5 km long B.G. Railway line serves ICD (Inland Container Depot) in Birganj

- Out of 5 km long Railway line from Raxaul to Birganj, only about 800 m is in Nepal and rest is in India.

- There is no passenger service on this section.
In order to meet the growing passenger and freight transport demand, GON has long felt the necessity of development of railway as an alternative land transport mode for faster and cheaper movement of freight and passenger.

For this purpose, the Ministry has completed a feasibility study for constructing new Railway lines in Nepal.
The feasibility study identified alternative alignments for:

- Mechi - Mahakali (945 Km)
- Pokhara - Kathmandu (187 Km)
- Connection between proposed Mechi-Mahakali & Kathmandu - Pokhara Railway lines. (72 Km)

In addition, network linkages with border towns of India at five locations have been planned.
Planned Railway Alignment

Sections:
1 - Gaddachowki-Mahadevpur
2 - Mahadevpur Bhalubang-Mahuwa
3 - Mahuwa-Butwal-Tamsariya
4 - Tamsariya-Madi-Simara-Chandranigahap
5 - Chandranigahapur-Lahan
6 - Lahan-Mechi
7 - Tamsariya-Abu Khairaini (Link)
8 - Pokhara-Kathmandu

Connections to India:
I - Kohalpur-Nepalganj
II A - Butwal-Bhairahawa
II B - Bhairahawa-Lumbini
III - Simara-Birganj
IV - Bardibas
V - Itahari-Biratnagar
VI - Kakarbita
## Nepal Railway

Construction of railway links between border towns of India and Nepal has already started at following 5 locations (under the grant assistance of Government of India).

### Phase I (Under Construction)
- Jogbani (India) – Biratnagar (Nepal) 18.60 Kms
- Jaynagar (India) – Bardibas (Nepal) 69.00 Kms

### Phase II
- New Jalpaiguri (India) – Kakrabbatta (Nepal) 70.00 Kms
- Nautanwa (India) – Bhairahawa (Nepal) 15.30 Kms
- Nepalganj Road (India) – Nepalganj (Nepal) 12.10 Kms
After the Establishment of Department of Railways on 15 June 2011. Preparation of Detailed Project Report (DPR) and Construction of Civil Engineering Works has been started:

- Mechi-Mahakali 945 Km (TAR Link) is in progress.

(National Priority Project)
Nepal Railway

Design works:

Completed DPR:

- Bardibas-Simara Section of MMER (108km) and Simara-Birgunj Link (27 km)
- Simara-Tansariya Section of MMER (127km)
- Tansariya-Butawal Section of MMER (64km) and Butwal-Bhairahawa-Lumbini Link (67km)
Nepal Railway

Design works:

Ongoing DPR:

• Bardibas-Inaruwa Section of MMER Link (137 km)
• Inaruwa-Kakarbhitta Section of MMER (103km) and Itahari-Biratnagar Link (22km)
Nepal Railway

Design works:

Ongoing DPR:

- Butwal-Lamahi Section of MMER (115km)
- Lamahi-Kohalpur Section of MMER (102 km) and Kohalpur-Nepalgunj Link (14km)
- Kohalpur-Sukkhhad Section of MMER (95 km)
- Sukhhkhad-Gaddachauki Section of MMER (94 km)
Design works:

Feasibility Study of:

• Kathmandu-Birgunj
• Kathmandu-Kerung
Construction works:

Construction of:

- Jogbeni-Biratnagar (18 km)
- Jayanagar-Janakpur-Bardibas (69 km) (BG: 1676 mm, Design Speed 120kmph)
- Mechi-Mahakali Electrified Railway (TAR Link), Bardibas-Simara Section, (108 km)
<table>
<thead>
<tr>
<th><strong>Design Standard:</strong></th>
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</tr>
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<tbody>
<tr>
<td><strong>Design Speed</strong></td>
<td>:200 kmph</td>
</tr>
<tr>
<td><strong>Operating Speed</strong></td>
<td>:180 kmph</td>
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<tr>
<td><strong>Track Gauge</strong></td>
<td>:Standard (1435mm)</td>
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<tr>
<td><strong>Radius of Horizontal Curve</strong></td>
<td>:2300 m</td>
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<tr>
<td><strong>Transition Curve</strong></td>
<td>:Cubic Parabola</td>
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<tr>
<td><strong>Track Slope (Grade)</strong></td>
<td>: 1%-1.25%</td>
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<tr>
<td><strong>Min radius of vertical curve</strong></td>
<td>:13000-16000 m</td>
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<tr>
<td><strong>Maximum Cant</strong></td>
<td>:165 mm</td>
</tr>
<tr>
<td><strong>Cant deficiency</strong></td>
<td>:75 mm</td>
</tr>
<tr>
<td><strong>Cant excess</strong></td>
<td>:75 mm</td>
</tr>
<tr>
<td><strong>ROW</strong></td>
<td>:50 m</td>
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</tbody>
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Nepal Railway

Jogbeni-Biratnagar
Nepal Railway

Jogbeni-Biratnagar
Nepal Railway

Jayanagar-Janakpur-Bardibas
Nepal Railway
Jayanagar-Janakpur-Bardibas
Nepal Railway
Jayanagar-Janakpur-Bardibas

1st Layer of Blanketing Work Completed
NEPAL RAILWAY

MMER (TAR Link)
Nepal Railway

MMER (TAR Link)
NEPAL RAILWAY

MMER (TAR Link)
THANK YOU