RAIL CANVAZ

A TrainTrackers' Initiative

August 2025

Howrah Division

A Centenary Chronicle of Eminence and Distinctions

CELEBRATING INDEPENDENCE

HOWRAH WAP7 IN TRI-COLOUR AVATAR

After turning out a plethora of innovative and futuristic liveries on its horses, it's time for Eastern Railway's Howrah Electric Locomotive Shed (ELS) to paint one of its 3-Phasers in the 'Tiranga' scheme. On the occasion of the 79th Independence Day, Howrah ELS has painted WAP7 #37501 in an eye-catching livery representing the National Flag. As a part of the livery scheme, the painters of the shed came up with 3D murals of Netaji Subhash Chandra Bose and Bhagat Singh with utmost perfection on either side of the locomotive. This is a tribute to the indomitable spirit and unconquerable courage displayed by the two sons of the nation for putting an end to the Colonial Raj and freeing the country from shackles of imperialism. The Sr. DEE/TRS/HWH deserves special mention for carrying the initiative with utmost pride and dignity. This liveried locomotive adds to the tally of the previous initiatives of the Shed which makes it distinctly different from the other sheds. Kudos to the staff of Howrah ELS who contributed to make this initiative a success.

EDITOR'S DESK

Time flies and we tend to acknowledge this swiftness in retrospect only. Time has a compelling binding on all of us as we suddenly realize that our offering has already completed half a decade, all in a trice. In course of morphing through time, our issues have seen vivid transformations – thanks to our curious readers and contributors who have enriched us all the way. While taking up drafting of this issue, I ascertained while getting a bit baffled as well, on a lighter note, whether our national carrier has somehow got stuck in the vagaries of time. If we look back to the times when the Rajdhani Express genre of trains was introduced, their composition mostly had AC Chair Cars, albeit the distance they covered and the time they took to reach their final destinations. With time, AC Chair Cars were discontinued from long distance services, solely keeping in mind the comfort factor that was heavily compromised while travelling in the said class for far flung distances with the solitary Yuva Express operating between Bandra Terminus (Mumbai) and Hazrat Nizamuddin (Delhi) being the sole exception left. But the newly introduced Vande Bharat between Ajni (Nagpur) to Pune turns back the clock, not to the golden days of Indian Railways though. While it sounds flattering to connect two cities separated by 881 Km. in 12 hours' time, but the travel experience is surely not convincing for passengers traversing the entire distance in those fairly disconcerting seats. A Sleeper version of the Vande Bharat (VB), as is heavily publicized to be in the pipeline, may have been the best bet. But the deadline of that version has also been regularly revised since 2019 which has put a veil of uncertainty over its actual time of turnout. Now, if the motive of providing a regular faster connectivity between these two cities was a primary intent, then incrementing the operating days of the weekly overnight AC Express service, which takes a mere 95 minutes extra than the newly introduced VB, to a daily one would have done wonders. The number of Vande Bharats has touched 150 but policy makers must remember that it's not always about the number game. The shovel is bigger than the spoon, but it can never ever do the work the spoon does. Thus, the longest and fastest VB has added to the tally only without contributing anything towards the congeniality factor of passengers.

The Sleeper VB project is not the only prestigious assignment that has been perpetually delayed; spare a thought for the 'Bullet Train' dilemma as we keep languishing in the 140 kmph corridor. While the media space is abuzz with news about the 'E3 Series' Shinkansen being tested in Japan for the ambitious Mumbai-Ahmedabad High Speed Rail project, how India will initially use Japan's 'E5 Series' Shinkansen for trial runs in 2026 and the NextGen 'E10 Series' will be simultaneously launched in India and Japan for commercial operations; the reality remains a stark contrast with the Integral Coach Factory awarding contract to BEML for design, manufacture and commission of two high-speed trains that will grace the tracks at 250 kmph. Now, did the 'Shinkansen Bullet Dream' just got shattered after catching this BEML bullet in its chest? Yes, it did, as BEML has already been accredited by ICF with built quality goof-up in the VB Sleeper prototype which has consequently delayed its introduction by years. Regular Press Releases providing insignificant updates over nation's first bullet train corridor shows a clear intent to relegate and shield the cost escalation aspect, arising out of delays, from the public eye. And all we have been doing is 'buying time' without realizing that time is the objective ruler which can't be seized despite of whatever shallow platitude one offers.

This 'delay factor' is slowly becoming a perpetual melancholic nostalgia of Indian Railways (IR), not only for its high-profile projects but also in its near quotidian inability to run majority of passenger traffic on time albeit the working timetables being infused with rich doses of slack. Some of the VBs are also not spared from this 'delay syndrome' which has long caught up with other premier services as well. But we are keeping our hopes alive for a redefined and repurposed IR in times to come.

This transience and finiteness of time is well demonstrated by our Cover Story itself as the oldest division of IR completes 100 years of its existence. But Howrah Division has not been an entity of statistics only. It is the bearer of many 'firsts' of IR seldom witnessed anywhere else. From being the first division to run trains under 3kV D.C. to Air-Conditioned Double Decker trains, from running India's first Rajdhani Express to Mainline Electric Multiple Unit, Howrah Division has been the pioneer of innovation and progress. Read more about it in *Howrah Division : A Centenary Chronicle of Eminence and Distinctions* by **trAnspOrt hObO**. The saga of Howrah Division and its centenary celebrations continues with *The Centenary Chronicle of Howrah Division* by **Anamitra Bose** and **Arkopal Sarkar**, split in two parts, highlighting the respective initiatives undertaken by Howrah ELS and Howrah EMU Car Shed. More on the historical front, we have **Dilip Kumar Samantray** writing home about the completion of 125 glorious of Paralakimedi Light Railway in *The Saga of a Royal*

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Railway. **Mick Pope** then joins hands to note down his experiences in the first part of *A Narrow Gauge Ensemble from 1980*. Further on narrow gauge, **Pavel Ghosh** scripts *Rediscovering Nepal's Railway Legacy* on the Raxaul-Birgunj-Amlekhganj Railway Line. The folklore of the smaller gauges is carried on through twin stories on the Uttar Pradesh meter gauge by different authors offering distinct flavours – *The 1983 Tikunia Accident* by **Protkarsh Kumar** and *From Meter Gauge to Wilderness* by **Shourya Basu**.

Amongst all articles in this issue, the one that stands out is *The Rise and Fall of the Railway Towns* by **Santulan Mahanta**. The legacy of Lumding, a railway town, has been presented in a unique and discrete fashion. The account of visit to another railway town – Jamalpur, through an initiative of the Rail Enthusiasts' Society, in *The Living Legacy of Jamalpur* speaks about the obviousness of the place being treated as a site of pilgrimage by the rail afficionados and how Jamalpur emerged a key cornerstone in the path of progress for railways in India.

Shifting palate, **Roberto De'Andrea** reports about the Sundarban Tramjatra with intricate details in *Tram Routes and Mangrove Roots* as the long-standing tradition of the Calcutta-Melbourne Tramjatra continues. Calcutta was also in the news for another landmark event which is jointly reported by **Anamitra Bose & Arkopal Sarkar** about *Kolkata's Maiden Voyage into the Realm of AC EMUs*. The final two stories include a Technical Insight by **Anamitra Bose** carrying documentation on *WAP5 - The OG Electric Speedster* which was meant to outspeed and outsmart its trackmates but relatively failing to fulfill the high expectations and *Amrit Bharat – A Dream Come True for Aam Aadmi* by **Tapan Pal** elaborating on a special genre of long-distance trains offering affordable connectivity with state-of-the-art comfortable travel to the common man.

We conclude with a Photo Story by **Anamitra Bose** on *Howrah WAP7 in Tri-Colour Avatar* wherein Howrah ELS jumps on the bandwagon in the lines of other ELSs by unveiling a Tri-Colour liveried WAP7 for the occasion of Independence Day celebrations. We hope this Independence Day issue enlivens those sharing the same hobby and elates those who simply likes to read.

May this Independence Day free our national carrier from the challenges of safety concerns coupled with delays and punctuality issues. May this Independence Day endow IR with financial sustainability and modernization for breaching the existing speed barrier and delivery of quality passenger experience which would truly embody the spirit of progress and development.

Jai Hind.

Somsubhra Das

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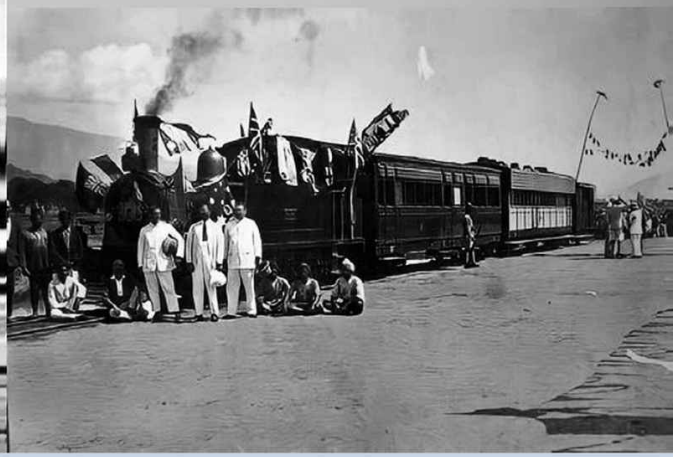
EXCLUSIVE



The Saga of

A Royal Railway

Dilip Kumar Samantray

The author is a retired IRAS Officer of 1982 batch, who has authored a book titled 'Odisha-The Railway Story'. At present, he is working as the Managing Director of Angul-Sukinda Railway Ltd. – a Special Purpose Vehicle.

Founded by Maharaja Gaurachandra Gajapati Narayan Dev of Paralakhemundi, the Paralakimedi Light Railway (PLR) was among the first individually owned railway lines in India. That way it was the first railway line constructed exclusively for the people of Odisha. To start with East India Company and later the British Government wanted railway in India for transportation of raw materials especially cotton from India to England for its textile mills in Lancashire. Since the geographical areas of Odisha didn't fit into the said bill, the colonial government didn't bother to lay rail line in this part of India, in the early days of railway. Even the famous Dalhousie's Minute on railway did not contemplate for a rail-link between Calcutta and Madras. However, later on, some areas of Odisha got rail line as an offshoot to the construction of rail lines connecting Calcutta-Bombay and Calcutta-Madras. That way, the Maharaja of Parlakhemundi and Maharaja of Mayurbhanj were ahead of their time in planning and constructing rail lines for their people, when even proper road communication was not on the ground in 1900 and 1905, respectively.

During the period between the launching of railway in India in 1853 and 1879 the railway network in India was only 6128 miles. The colonial government didn't allow private people to own a railway line for strategic reasons. But during the year 1874-79, India was visited by a succession of serious famines which resulted in the death of more than four million people. One of the contributing factors for that was lack of communication to transport food and succour to the affected areas. The Famine Commission set up in the wake of that calamity in 1880 recommended for extension of railway line upto 20,000 miles to protect people from such calamities in future. The Government decided to invite private companies to participate in the construction of railway. For that, the British encouraged the princely states to build their own light railways. That decision of the Government proved to be a boon for the Maharaja of Parlakhemundi longing for development of a railway line in his state.

The East Coast railway line, constructed by old East Coast Railway came into operation in 1890s with the commissioning of Cuttack-Khurda Road line extending upto Vijayawada.In the process, the railway line came to Naupada station on December 17, 1894, with the Palasa- Naupada section having opened. Parlakhemundi was only 25 miles (40 kilometers) away from railhead. Gaurachandra Gajapati, the ruler of Parlakhemundi was a benevolent king. King Gaurachandra Gajapati decided to construct a light railway of two feet and six inches gauge for connecting his capital town of Parlakhemundi. He approached the British Indian Government for sanction. Government sanctioned the construction of the 25 miles long PLR line on March 14, 1898. The work started in right earnest.

The rail line was constructed on terms mentioned in the Madras Government Public Works Department order of May 10, 1899. The line was completed in 1899, at a cost of seven lakh rupees, fully funded by the King of Parlakhemundi. The working of PLR was managed by the Bengal Nagpur Railway (BNR) who was operating the Cuttack-Vizianagaram section. The net revenue from this line after deducting the operation and maintenance costs used to come to the King. In the initial years, the PLR incurred losses. But after 1910, it began to generate marginal profits and after 1924-25, for five consecutive years, the net profits from the line exceeded five percent. This motivated Maharaja Krushna Chandra Gajapati Narayan Dev who succeeded his father Gaurachandra to go for extending the railway to Gunupur, 31 miles West of Parlakhemundi. The extension was completed in two phases between 1929 and 1931. This took rail line to inaccessible tribal areas of the princely state. For the extension of this line, an additional Rupees 18 lakhs were spent by the Maharaja from his treasury. There were ten stations between Gunupur to Naupada, a total distance of 56 miles (90 kilometers). On March 7, 1930, a fresh agreement was signed between the Raja and BNR for the later to take up the maintenance of the entire PLR line. On the same day, the inaugural train run from Parlakhemundi to Gunupur was flagged off by the then Governor of Madras Presidency, Sir George Frederck Stanley in an impressive function at the Parlakhemundi station.

The coaches and wagons for the rail line were supplied by Arthur Koppel & Co. of Calcutta, who assembled them from the kits supplied by Orenstein-Koppel Co., Germany. The initial livery of the train was standard maroon. The first batch of locomotives to work on this line was built by the Brush Electrical Engine Company, Loughborough, England. These locomotives were transshipped by the sea route from England. In 1928, three locomotives (all India numbers 695, 696 & 697) were delivered by the Kerr, Stuart & Co. and were homed at the railway's Naupada shed. One more locomotive (698) was delivered by the Hunslett Engineering Co. in 1931. The standard type of locomotive on PLR was the 20-ton 0-6-4 tank locomotive with small (27-inch diameter) coupled wheels and axle load of only 4.75 tons. The PLR engines were designated as the 'PL' class. Two passenger trains were running on this line on daily basis

during the daytime while during the night time, goods trains were moving in the section. The PLR promoted trade and business of Parlakhemundi estate. The main composition of goods traffic on this rail line, for decades, included the transportation of salt from Naupada station to Parlakhemundi and Gunupur stations. Similarly, commodities like tamarind, grains and pulses, oil-seeds, Mahuaflower and Sabai grass used to get transported from different stations of PLR to Naupada for onward destinations. Thus, the PLR line promoted trade and business of Parlakhemundi estate.

The PLR had its own logo with the picture of an elephant at the center, depicting the lineage of the royal dynasty, 'Gajapati'. The PLR railway became a part of Eastern Railway at the time of regrouping of the Indian Railways on April 14, 1952 and later became a part of South Eastern Railway in August 1955. Now, it is on the East Coast Railway. This rail line did a world of good to spur development in the tribal hinterlands. Maharaja Krushna Chandra Gajapati in his book 'Mo Rajya' wrote about the PLR which helped people from all parts of Odisha to come to Parlakhemundi after it had been linked to the BNR main line. Besides, the rail line was well connected with the main road of Ganjam district. Consequently, trade and business of the estate got immensely benefitted. This rail link, most importantly, had a pivotal role in facilitating the movement for a separate province for the Odia speaking population, finally culminating in in the creation of the first language-based province, Orissa in 1936. No doubt, Parlakimedi Light Railway has given away to the speedier rail network of the present time, yet some of the historic locomotives plinthed at prime locations in different cities of India are more than mere relics. These are proud reminders of Odisha's pioneering journey in rail history – engines that once bridged kingdoms, communities and cultures.

The Paralakhemundi Light Railway (PLR) recently celebrated its 125th anniversary on April 1, 2025, with events organized by Waltair Division of the East Coast Railway. The celebration included commemorative functions and competitions for school children, focusing on the theme *"Virasat Se Vikas Tak"* (From *"Heritage to Development"*). A special event was hosted at Paralakhemundi Railway Station where senior officials, railway personnel and local residents paid homage to the royal legacy. As a part of the Rs 16.4 crore Amrit Bharat Station Scheme, Paralakhemundi station is undergoing a massive face light. Notably, the architectural redesign draws inspiration from the Maharaja's palace, blending tradition with modernity and sustainability.

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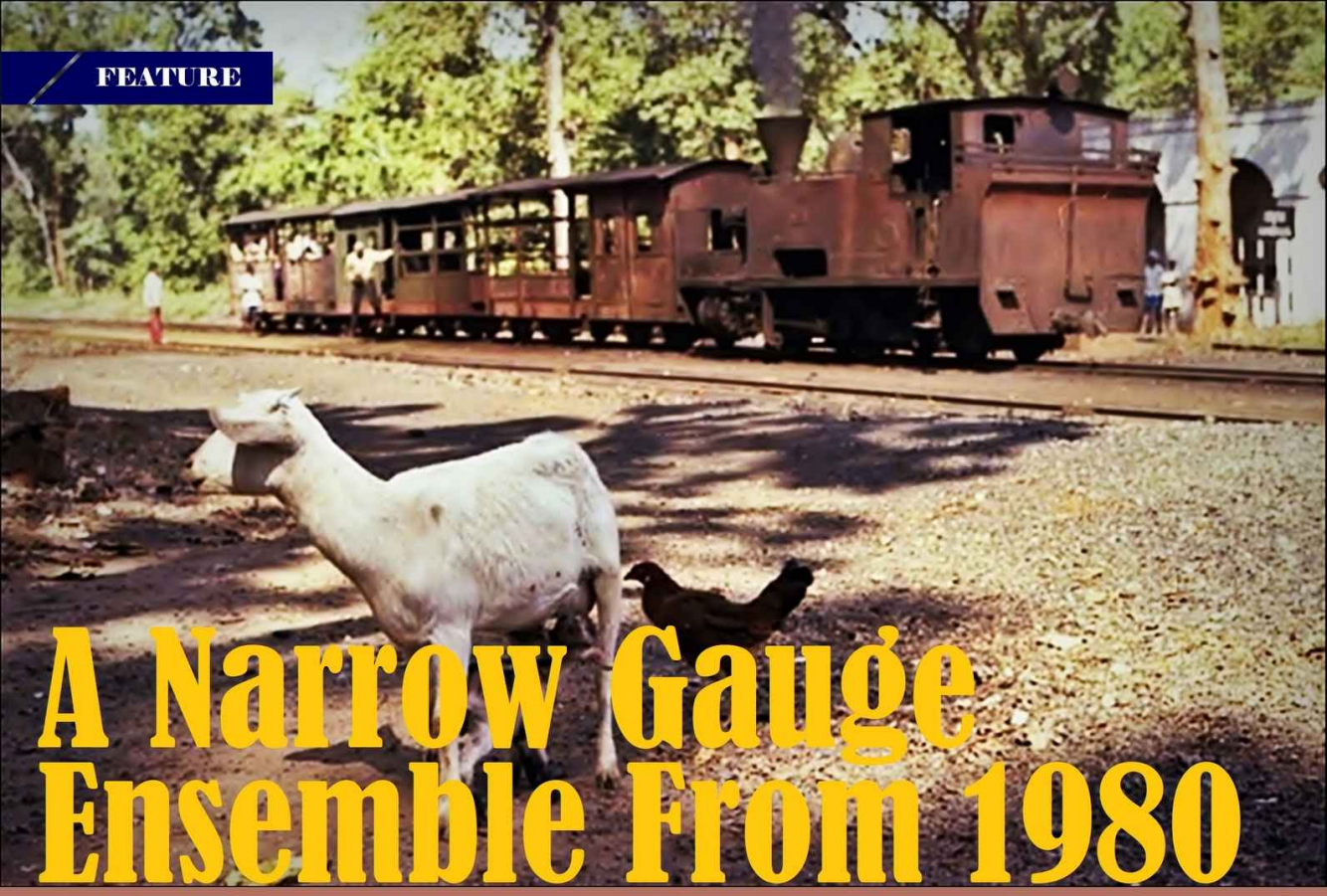


A Narrow Gauge Ensemble From 1980

Part-I

Mick Pope

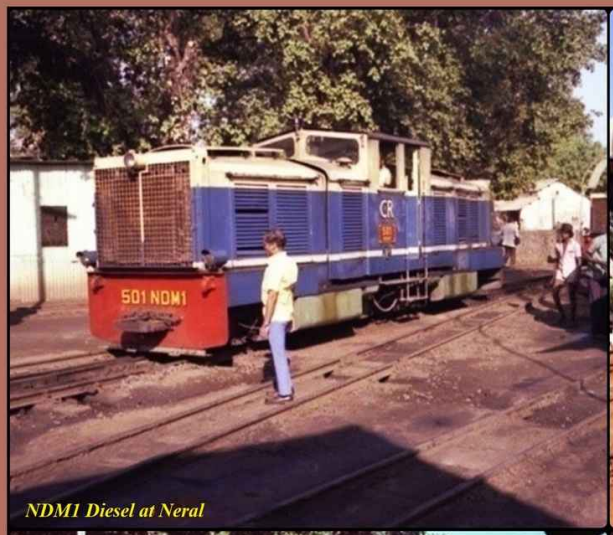
Mick Pope is a trainspotter hailing from the UK. His passion for ferroequinology has its roots to his great grandfather being a Station Master in his country of birth. He has been following his passion from the age of 14 with a primary focus of seeing and watching the number of every steam locomotive in the UK. With the culmination of the Steam Era in UK in 1968, he switched to document industrial and worldwide steam which justifies his coming to India for over 30 times since 1980. His connection with India was not limited to these visits only as his uncle used to be a teacher at the St. Georges School in the Nilgiris in the 1930s. He continues to visit many other places in Europe, Asia and Africa for quenching his thirst for passion.

I first visited India in 1979/80 with a group whose main interest was industrial railways. Fortunately, there was also the opportunity to visit several Indian Railway locations. This sowed the seed for my interest in India and its railways and I have now visited over thirty times, not always focusing on railways as my partner would be rather annoyed by that! This account is merely a dip into my photo archive for the visit mentioned. I made several others undertaken solo or with my partner and perhaps these might feature in a future article

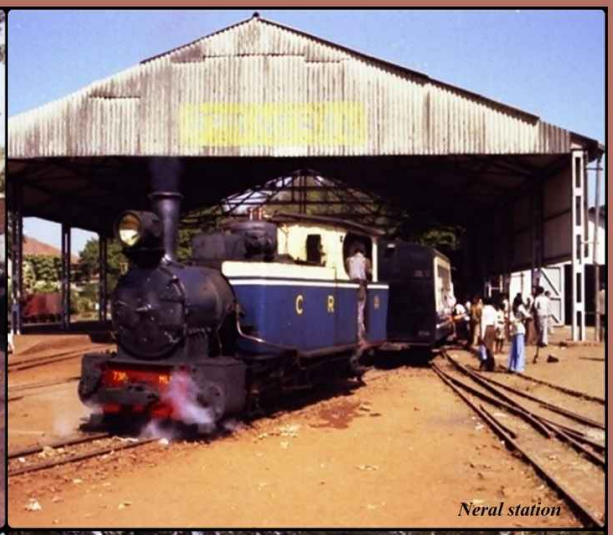
Arriving in Mumbai, where we were based for two nights, in December 1979 our first visit was the nearest narrow gauge line, that from Neral to Matheran which is 2' gauge. There was a mixture of power on the line at that time but passenger trains were mainly in the hands of the diesels. Our train had one of the ML class steam engines – I am not sure whether this was good luck or by arrangement! An NDM1 diesel and the vintage railcar 'Matheran Queen' were present in Neral yard. The ML class were built by Orenstein and Koppel in Germany between 1905 and 1908. They are unusual in having axles that had some side play which helped on the sharp curves on this line. The diesels were also German in origin being built by Jung in 1956. They were twin engine and unusually, I read that they used both engines going uphill and one going down.

The journey uphill required quite an effort from 738 and this was highlighted by the amount of soot and red-hot cinders coming through the windows, one of which managed to burn a hole in the jacket of the gentleman sat opposite me! Matheran terminus, in contrast with the heat in Neral, was cool under the shelter of many trees.

In order to squeeze as much into the trip as possible we next flew to Bangalore, as it was still widely unknown then. Not



NDM1 Diesel at Neral

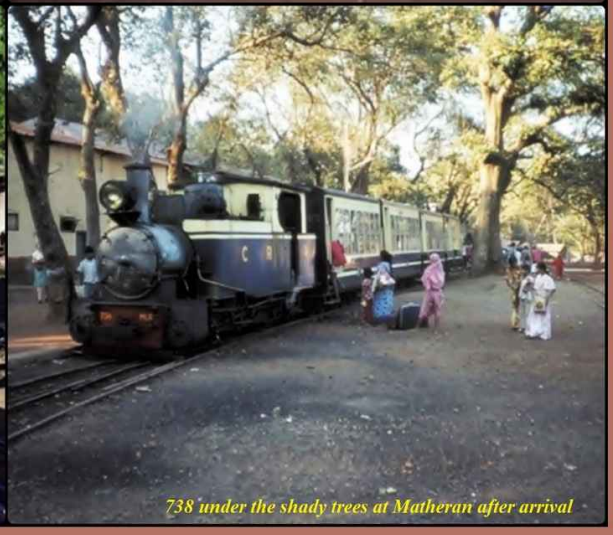


Neral station

Railbus 'Matheran Queen'

ML 740 standing out of steam at Matheran

ML 738 entering the loco shed area at Neral



738 under the shady trees at Matheran after arrival

A Vintage Kerr Stuart, 1926 built Pacific 507

our original schedule was a quick visit to the narrow gauge Yesvantpur to Bangarapet line. We only had time to visit the depot which was almost deserted although quietly sleeping in the yard was a vintage Kerr Stuart, 1926 built, Pacific 507. Another member of the class was jacked up on sleepers, presumably for repair. While travelling back from Yesvantpur, we caught a glimpse of the narrow gauge station with a railcar visible. Originally this line ran into Bangalore but this section was converted to meter gauge. Subsequently, the other end of the line was also shortened. After visiting all the nearby Indian Railway depots we took a metre gauge train to Bhadravati stopping off enroute at Birur to visit the depot there.

Our next narrow gauge was that of the Visvesvaraya Iron and Steel Company to ride on their 2" gauge line that ran into the hills to bring limestone to the furnaces. Sadly we were not permitted to photograph the locos inside the works for security reasons. The line had some passenger vehicles and these were made up for our train, attracting much interest from the local population. Our locomotive was one of two 2-8-2s built by William Bagnall of Stafford, England in 1950, identifying which was impossible. Stopping in a rather remote spot, the train was reversed and the locomotive returned tender first.

Our Train Being Marshalled Near the Works

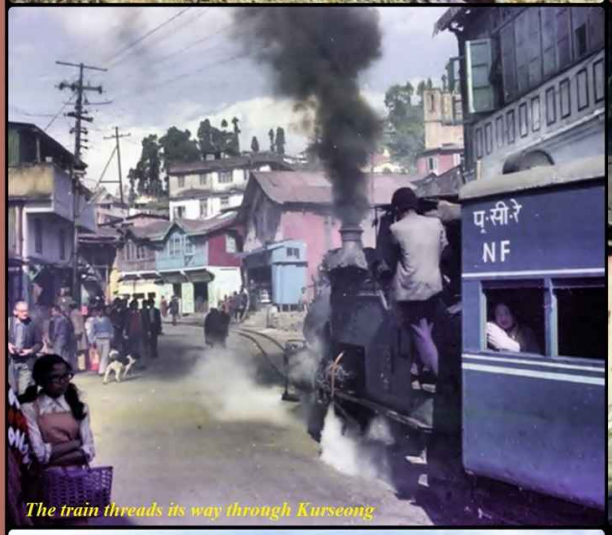
Bagnall 2-8-2 out in the countryside

Next, after a visit to the Nilgiris for the Ooty line, we took the overnight Train 20 from Coimbatore to Chennai and then flew to Kolkata where we stayed for three nights. We visited the Port Trust railway and some of the local BG sheds. Our narrow gauge interest from this base was the line from Shantipur to Nabadwip Ghat which had a junction with the main line at Krishnanagar, midway between the two termini. As the terminus indicates this was a link from the BG mainline to a river crossing, building being begun in 1899. At the time of the visit there were four daily return passenger and freight mixed trains. One of the attractions of this line were the little CS class 2-4-0 tank engine, two built by William Bagnall and two by the Yorkshire Engine Company in the 1920s and 30s.

Obviously, no railway tour of India would be complete without a ride up to Darjeeling. In 1980, the line was still fully steam operated. We departed New Jalpaiguri at 7.10 am after an overnight train from Sealdah. Behind steam the journey, was just over six hours [on my next visit in 1982 it was much longer and it was dark when we got to Darjeeling which did not impress my wife!]. The line is much photographed so I will limit my account of the trip. I had read about the 'Z' reversals that allowed the trains to gain

Taking water – time for a leisurely walk for this shot.

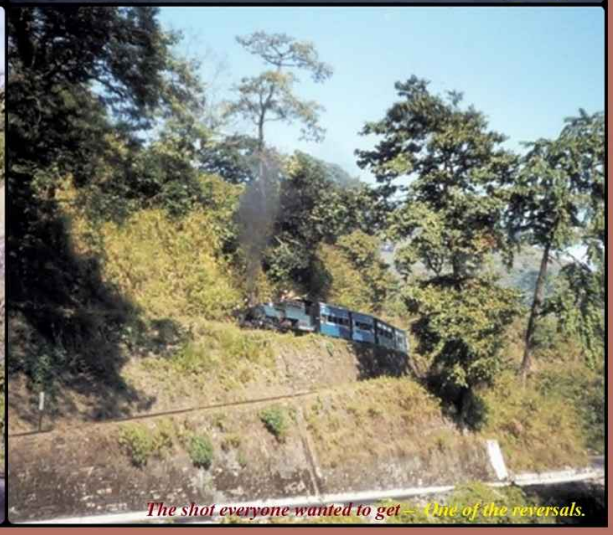
Getting some attention at Darjeeling



The train threads its way through Kurseong

Kurseong village

A freight train, a long lost opportunity to take traffic of the roads



The shot everyone wanted to get – One of the reversals.

height and also the passing loops and we were in luck and had the opportunity to photograph a down train while we waited. Back in 1980, freight was carried on the line and we were fortunate to be able to photograph a freight train at several locations.

After this exciting visit, we returned downhill by road to Bagdogra and a flight back to Kolkata to save time. We travelled by overnight Train 5 from Howrah to Manoharpur for a ride on the Indian Iron and Steel Company's 2' 6" gauge line to the iron ore mines at Chiria. We first visited the shed and yard area at Manoharpur and saw the majority of the ten Andrew Barclay 0-4-2 tanks built in Scotland between 1910 and 1928, although there was an American air to some of the locomotives that had 'balloon' smoke stacks for chimneys. We had a special train arranged for a trip up the line so could stop for photos on the way.

We stayed overnight at the company guesthouse and then on to Tatanagar for some steel systems – what else at that city! Then it was sugar plantations and the Dehri Rohtas line but maybe they can be seen in a future article.

REDISCOVERING NEPAL'S RAILWAY LEGACY

A Comprehensive Study of the Raxaul–Birgunj–Amlekhganj Railway Line

Pavel Ghosh

A Wildlife Biologist by profession, and a Rail Enthusiast by passion, he has been working across several Tiger Reserves and other protected areas since 2017 as an intern and 2019 as a full time professional. Mostly worked in Duars, Sundarbans and Terai Landscape. Currently working as a Wildlife Officer with Wildlife Trust of India at Valmiki Tiger Reserve, Bihar. Being in Terai-the former haven of metre-gauge railway networks in India, and a metre-gauge lover, he often try to explore abandoned alignments, old railway relics and things related to metre-gauge railway, whenever he gets some time off from the forest job.

Abstract

The Raxaul–Birgunj–Amlekhganj Railway Line, inaugurated in 1927, represents Nepal's first major foray into rail transportation. Built during the Rana regime with British assistance, this 47-kilometer narrow-gauge railway linked the Indian border town of Raxaul with Amlekhganj in Nepal. This article offers a comprehensive historical and socio-economic analysis of the railway's inception, operation, decline and its enduring legacy in the context of Nepalese infrastructure development and Indo-Nepal connectivity.

Introduction

Railways have historically played a transformative role in national integration, economic development and regional connectivity. For Nepal, a landlocked nation nestled in the Himalayas, the establishment of the Raxaul–Birgunj–Amlekhganj Railway Line marked a significant milestone. As the country's first railway line, it not only bridged physical distances but also symbolized a step toward modernization under the autocratic Rana regime.

Historical Context with Construction, Operation and Technical Specifications

The origins of Nepal's first railway system date back to 1923, when a short narrow-gauge railway was constructed by J. V. Collier of the Indian Forest Service. Assigned by Nepal's Rana Prime Minister to oversee the country's forest resources, Collier developed this line primarily to facilitate the transport of Nepalese timber into India.

Approximate alignment of the Nepal Government Railway (Raxaul-Birgunj-Amlekhgunj)

Building on this early initiative, in the winter of 1924, Martin & Company of Calcutta conducted a comprehensive survey to plan a light railway stretching from Raxaul, an Indian border town connected to the metre-gauge Bengal and North-Western Railway (B&NWR), northwards to Bichako (Amlekhganj) in Nepal — situated about 37 miles (60 km) south of Kathmandu.

Construction of the narrow-gauge railway, featuring a track gauge of 2 ft. 6 in. (762 mm), commenced in March 1926. The Nepal Government Railway was officially inaugurated on 16th February 1927. The opening ceremony was presided over by the King and attended by the Maharaja, alongside three notable engineers – Mr. Leslie Martin of Martin & Co. (project engineers), Mr. C. J. Hendry (Consulting Mechanical Engineer) and Mr. G. C. Das (Chief Engineer and representative of *The Statesman*).

The railway line included key stations at Birgunj (4 miles from Raxaul), Parwanipur (mile 8), Jitpore (mile 13), Simra (mile 16), and Amlekhganj (mile 24), totalling a length of approximately 24 miles (39 km).

A 1933 report detailed the railway's operation as follows :

"The Officer in charge was Mr. W. S. Pedrick. The line, owned and operated by the Government of Nepal, had its southern terminus just a few hundred yards from the metre gauge railhead of the Bengal North Western Railway at Raxaul. It ran almost due north through the Terai for 23 miles, terminating at the village of Amlekhganj. The railway was single-track throughout, with crossing loops at four intermediate stations. The alignment generally followed the trunk road and, for a significant stretch, the track was laid along the road's center. The choice of route and use of the 2 ft. 6 in. gauge was likely influenced by cost considerations. Nonetheless, the narrow gauge met traffic demands adequately, particularly after the introduction of a new locomotive."

The railway was administered and operated by the Nepal Government Railway (NGR), under Nepalese authority but with substantial British technical assistance. The railway operated a modest but effective fleet of seven steam locomotives, twelve passenger coaches and eighty-two freight

Front view of the dilapidated and encroached remains of the erstwhile Nepal Government Railway (NGR) Building in Raxaul (northern side of Raxaul Railway Station)

wagons. Notably, it utilized steam-powered Garratt locomotives manufactured by Beyer, Peacock & Company of England, renowned for their power, flexibility, strength and manoeuvrability, particularly on challenging terrain.

The Nepal Government Railway remained in service until 1965 when the construction of the Tribhuvan Highway — a modern road connecting Kathmandu with the southern plains, rendered the railway redundant and led to its closure.

Socio-Economic Significance

Before the advent of motorable roads such as the Tribhuvan Highway, the Raxaul–Birgunj–Amlekhganj Railway served as a critical artery for trade and mobility in Nepal. Travelers from Kathmandu typically journeyed on foot or horseback to Bhimphedi, proceeded by lorry to Amlekhganj and then boarded the train to Raxaul. From there, connections to India's extensive rail network were available.

The railway played a pivotal role in :

- Facilitating the export of timber, Nepal's primary export commodity at the time.
- Strengthening cross-border economic and social ties with India.
- Enabling mobility for government officials, labourers, and

Historical image of Birgunj railway station and depot dating back to 1974 A.D. Courtesy:- '60s, '70s & '80s Trails to India Facebook Page & individual contributor Rabi Sharma Khanal

Remnants of Birgunj railway station and depot (January 2025)

goods within an otherwise difficult terrain.

- Introducing industrial-age transport infrastructure to Nepal's economy.

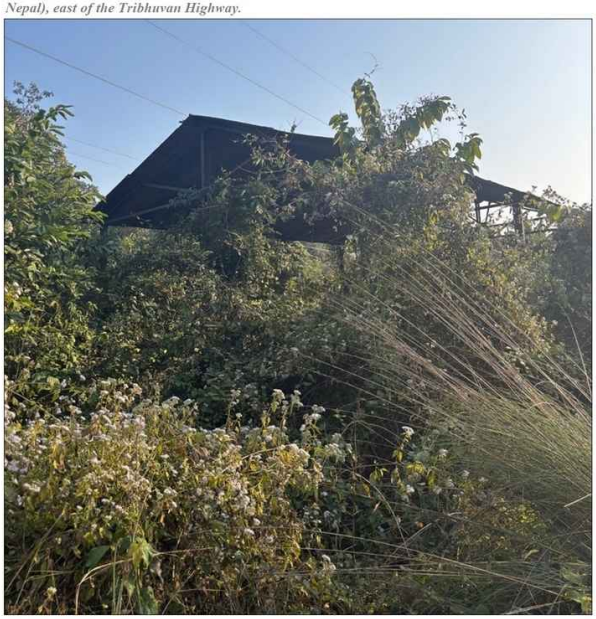
This corridor also contributed to the economic integration of the southern Terai region into Nepal's administrative and commercial framework.

Decline and Closure

Despite its early prominence, the railway's operational relevance declined following the inauguration of the Tribhuvan Highway in 1956, Nepal's first motorable road linking Kathmandu to the southern plains. Road transport offered greater speed, flexibility, and cost-effectiveness.

Consequently, after nearly four decades of service, the railway was officially closed in 1965. The locomotives were decommissioned, tracks dismantled and station infrastructures gradually fell into disrepair. The closure marked the end of Nepal's first railway era and a shift in transportation policy favouring road infrastructure.

Dilapidated remains of a former structure that probably housed a timber depot, inside the forests of Parsa National Park near its Headquarters at Adhabar (Bara District, Madhesh Province, Nepal), east of the Tribhuvan Highway.



Land Encroachment and Infrastructure Loss

In the decades after closure, the railway's land assets, spanning nearly 1,749 bighas, faced extensive encroachment. Reports indicate that private individuals and industrial enterprises have illegally occupied large parts of this land. Urban development in areas such as Birgunj now includes residences, petrol stations, warehouses, and commercial buildings over the former railway corridor.

This loss of public property represents a missed opportunity to revive or repurpose the railway corridor, compounded by institutional inertia, weak enforcement and inadequate land record management.

Contemporary Developments and Legacy

Although the original line ceased operations, its legacy persists in Nepal's evolving transport infrastructure. In 2005, the Indian side converted the Raxaul–Birgunj section into a broad-gauge freight corridor, linking Nepal directly to the Indian Railways network through the Sirsiya Inland Container Depot (ICD). The ICD now serves as Nepal's principal dry port, handling substantial trade volumes via Kolkata and Haldia ports.

The Nepal Department of Railways has outlined ambitious plans to modernize and expand rail connectivity, including proposals to link Kathmandu with the Indian border and revive internal rail services. Nonetheless, challenges such as political instability, funding constraints and difficult terrain continue to impede progress.

Conclusion

The Raxaul–Birgunj–Amlekhganj Railway Line stands as a historic symbol of Nepal's early modernization and aspirations for connectivity. Although the original railway no longer operates, its impact on trade routes, economic geography and infrastructure development remains significant.

Reviving the heritage and learning from the successes and failures of this pioneering railway could inform Nepal's future transport policies. Integrating its legacy into contemporary infrastructure planning offers a pathway toward sustainable development and enhanced regional cooperation.

Acknowledgements

The author extends sincere gratitude to the researchers and historians whose foundational work on Nepal's railway history significantly informed this study. Primary insights were drawn from *The Statesman* (16 February 1927), the 1933 technical report on the Nepal Government Railway and archival references on early South Asian railway systems. Special thanks to the following online platforms for providing access to rare documentation, historical photographs and technical specifications.

- **FIBIS – Families in British India Society** for detailed records on British railway personnel and colonial transport infrastructure.
- **International Steam** for technical data on Beyer, Peacock & Company's Garratt locomotives used in Nepal.
- **IRFCA – Indian Railways Fan Club Association** for historical discussions, gauge specifications, and first-hand accounts of the line's operation and closure.
- **Daily Pioneer** and **Himalayan Times** for reporting on recent developments, land encroachments, and revival discussions.
- Facebook Page, **'60s, '70s &' 80s Trails to India** and individual contributor **Rabi Sharma Khanal** for old photographs of Birgunj Railway Station and depot. (https://www.facebook.com/share/12K93oBRj64/?mibextid=wwXIfr).

The author gratefully acknowledges the contributions of these platforms and publications in preserving and disseminating the history of South Asia's railway heritage.

THE 1983 TIKUNIA ACCIDENT

Protkarsh Kumar

Protkārsh Kumar, a software engineer hailing from Gorakhpur, Uttar Pradesh, presently serves in the capacity of a designer and is the creative mind behind the distinctive and varied liveries adorning diesel locomotives across numerous Diesel Loco Sheds of the nation. His passion runs deep for the charm of smaller gauges and the rugged allure of diesel traction, both of which hold a cherished place in his heart.

Have you ever heard about the 1983 Tikunia accident in the Uttar Pradesh Meter Gauge network? No, I guess. Then, let me share something.

It's about the site of the 1983 Tikunia accident which led to the change of the existing alignment. After the Katarnianghat and Kaudiyala Ghat branches were abandoned in mid-1970s, trains coming from Mailani used to veer off southwards from Kaudiyala Ghat, just after Tikunia and used to take the present route via Manjhra Purab and rejoined at Bicchia. The route from Tikunia to Manjhra Purab was badly affected by the Ghaghra floods and locals from that period have seen floods coming just like sea waves in the decades of 80s and 90s, and then here comes this patch of water body, as seen in the picture which is said to be connected with the Ghaghra underground.

There were 3 bridges in a span of 500 meters which is seen in this picture and the uplifted piece of land which you can see far away was the ramp to the bridge on the deadliest pond! The bridges were wooden and were not stable. Still, trains managed to pass over them for around a decade.

In the year of 1983, there was a passenger train coming from Gonda headed by 2 YP class steam engines. Water level in the pond was too dangerous that day and there was an engineer named Bhagwan Singh from Belrayan onboard the train, who suspected some danger and some hundred meters before the bridge, he suggested the crew to deboard all the passengers from the train and then pass the train. All the passengers were taken off the train and the train was then headed for the bridge. Just as it had crossed half the bridge, the bridge collapsed, sending the locos and coaches into the water. Some coaches even rolled into the nearby fields. The alignment was destroyed and traffic was shut down. Some coaches were half submerged while some were completely drowned!

When I went there for the first time in 2018 to explore it after about 35 years, I met an old resident of Kaudiyala Ghat named Suba Singh, who had seen it all, live. As per Suba Singh, a foreign company had offered the railways to excavate and take out all the rolling stock out of that pond, but in parts and pieces. The railways refused as the cost they were asking for was a bit too high and even if they would take it out, the stock would be of no use except for scrap metal. The recovery costs looked higher than the entire cost of the stock. So the railways left the debris as it is and started working on a new alignment.

They made an alignment just adjacent to the old one and traffic continued on it for several years until they finally managed to make the new and higher alignment which is the present one. So, overall, there were 3 alignments here.

The YPs and the coaches are still here underneath the pond and the tip of the locomotive can be seen in seasons when the water is at the lowest level. Suba Singh says that even today, the depth of that pond is unimaginable. No one goes swimming there. The old telegraph poles, which are seen in the extreme right in the photo, can better explain where the old tracks were.

Nowhere on the internet would you find even a mention of this incident. Probably, the railways chose not to shed much light on the case that time.

HOWRAH DIVISION

A Centenary Chronicle of Eminence and Distinctions

transport hObO

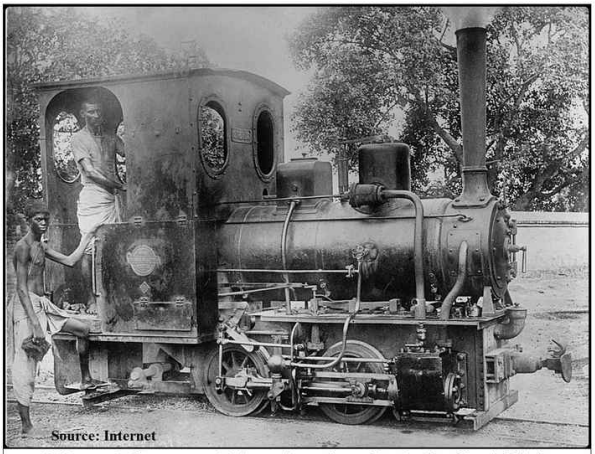
George Huddleston, Chief Superintendent, East Indian Railways, in the Preface of his book, History of the East Indian Railway [1906], wrote: "It is not everyone who realizes what a great undertaking the East Indian Railway is, or what it has done and is doing for the people and the trade of India and particularly of Calcutta". How true it was. From the first section between Howrah and Hooghly opening on 15th August, 1854 to what East Indian Railway and the descendant of E.I.R., the Eastern Railway, has achieved in the next 171 years is nothing but only a steady, staggering, upward slope of growth – both in terms of goods as well as passenger transportation.

And it all started from Howrah although it was not until 1925, when a division named 'Howrah' was created. And it all happened when the 'railways were taken over for direct management by the state' on and from 1st January, 1925. East Indian Railways was the first in India to be taken over by the state on termination of their contract on 31st December, 1924. With this first, E.I.R. and/or E.R., throughout their existence, had many unique distinctions adorning their coffer. We would, in this article, will try to highlight some of those, cutting across centuries and vast swathes of technology, innovation and progress.

Great Western of Bengal Railway Company – India's First Registered Railway Company

Prince Dwarkanath Tagore, grandfather of Rabindranath Tagore and an established industrialist and entrepreneur through his venture in the colliery around the Ranigunj coal belt, was the first person to register a railway company in India on 23rd April, 1845 although feasibility studies for the same were already carried out by Rowland McDonald Stephenson for Indian Railway Company [E.I.R.] since 1844. Tagore's railway company, initially called as the Calcutta and the Ganges Great Junction Railway Company, was later renamed as Great Western of Bengal Railway Company [G.W.B.R.]. He appointed his own firm Carr, Tagore & Company as the Agent of G.W.B.R. and proposed a railway route from Calcutta to Rajmahal along the river Ganges [Hooghly] with a branch towards Ranigunj coal belt.

However, owing to the collapse of the Union Bank in which


Source: Internet

"The next Company which we have to notice is the Great Western Railway Company of Bengal. The first announcement of it to the public was made in London, where, as in India, it has been generally regarded, and truly we suppose, as in opposition to the East Indian : a circumstance which would appear necessarily to involve either its dissolution or an indefinite postponement of its objects, if the railway commission recommends and the government decides in favour of the Grand Trunk line in the first instance. For several lines requiring very large remittances of capital to this country to be undertaken at once we regard as most impolitic, if not impracticable.

The importance of G.W.B.R. mentioned in a report for E.I.R.

Prince Dwarakanath was a major stakeholder and subsequently, due to his sudden demise in 1846, E.I.R. finally managed to proceed unhindered minus any competitors. In late 1847, G.W.B.R. was merged with E.I.R.

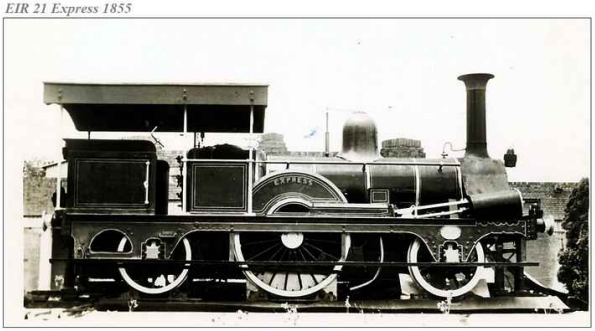
Oldest Surviving Station Building in India?

Although not used as a railway terminal at present, the first terminal building, built in 1854 was partly demolished and then modified in 1911 and currently standing as the DRM Building Annex, was originally a building with round tall columns reminiscent of the other heritage structures of Calcutta of that era. It started off with just one platform initially. A second platform was added in 1865. The first terminal building became redundant in 1906 with the construction of the present-day Old Terminus. We suspect that Bally, Chandernagor and Hooghly station buildings are also from the same era!

Oldest Surviving Working Locomotive

The unique distinction of homing two of the oldest working locomotives in the world- 'Express' [numbered E.I.R. 21] and Fairy Queen [E.I.R. 22] goes to Howrah. Both were made by the Kitson & Co. of Leeds, U.K. and were in use since 1855. Currently, both are running as heritage specials from Rewari and Chennai Egmore after extensive restoration was carried out a couple of decades back.

EIR 21 Express 1855



India's First Puja Special Train Service

These days, we see Puja Special suburban and long-distance trains running all over India during Durga Puja/Navratri/Dusshera celebrations. With Durga Puja and other religious celebrations were always very important mostly in Bengal, E.I.R. was the first railway company to run Puja Special services since 1855.

1855 EIR Earliest Puja Special Trains

EAST INDIAN RAILWAY.

SPECIAL TRAINS,

During the Doorga and Lukhee Pooja Holidays.

NOTICE is hereby given, that a Special Train will leave Howrah for Pundooah on the mornings of the 16th, 17th, 18th, 19th, 20th, 22nd, 23rd, 24th, and 25th of October next, and that on the afternoons of the same days, a Special Train will leave Pundooah for Howrah.

The hours of departure and arrival at the several Stations will be as follows:—

Up from Howrah		A. M.	*Down from Pundooah.*		P. M.
Howrah, ...	depart.	10-30	Pundooah,	depart.,	3-15
Bally, ...	arrival,	10-50	Mugra,	... arrival,	3-44
Serampore,	,,	11-20	Hooghly,	,,	4-2
Chandernagore,	,,	11-46	Chandernagore,	,,	4-18
Hooghly, ...	,,	12-2	Serampore, ...	,,	4-45
Mugra, ...	,,	12-21	Bally, ...	,,	5-8
Pundooah, ...	,,	12-50	Howrah, ...	,,	5 35

On the days above referred to the Up Evening Train from Howrah, at 5-30, will proceed as far as Burdwan, arriving there at 9 8 P. M. and at Mymaree at 8 20 P. M. The Down Morning Train on the same days will start from Burdwan, leaving there at 5-26 A. M., arriving at Mymaree at 6-11 A. M. and at Howrah at 9-5 A. M.

All communications upon the subject are to be addressed to MR. D. M. ROCHE, Traffic Manager, Howrah Station.

R. MACDONALD STEPHENSON,
Managing Director and Agent.

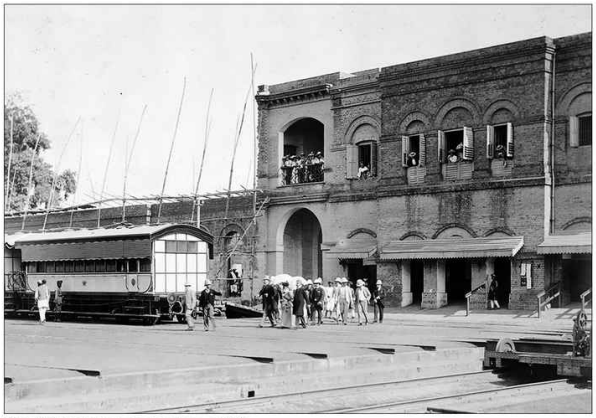
September 27, 1855.

India's Oldest Full-Fledged Railway Workshop

Jamalpur Workshop, established on 8th February, 1862 was India's first full-fledged railway workshop. It also has the distinction of being "the largest and the oldest locomotive repair workshop with the most diversified manufacturing activities on the Indian Railways." In 1984, with the bifurcation of the then Howrah division, Jamalpur station went under the jurisdiction of the then newly formed Malda division from Howrah division.

19th Century Double-Decker Coaches

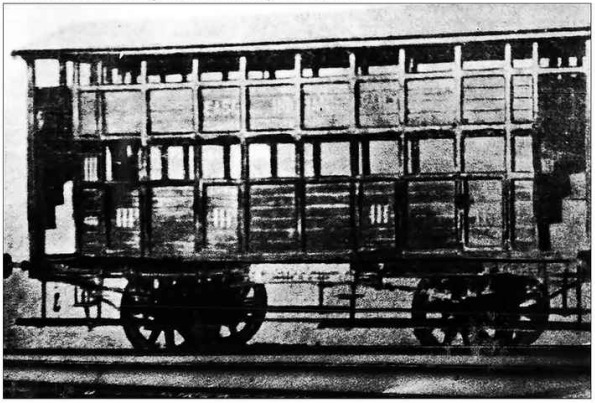
In 1864-65, E.I.R. introduced two tier seating in III class



The EIR Workshops at Jamalpur c.1897

coaches and these were amongst the first double decker examples in India. Within Bengal, the first double decker coaches were introduced in 1865 with a seating capacity of 120 passengers.

A Double Decker Carriage Built in Howrah for EIR c.1864



First Railway Bridge Across The Hooghly River

On 21st February, 1887, when the Jubilee Bridge was formally inaugurated, it not only became the first bridge to run across the Hooghly River but also became the first bridge to connect the then capital, Calcutta with the future capital Delhi along with various other places across India. Although the inauguration plaque of the Jubilee Bridge announces

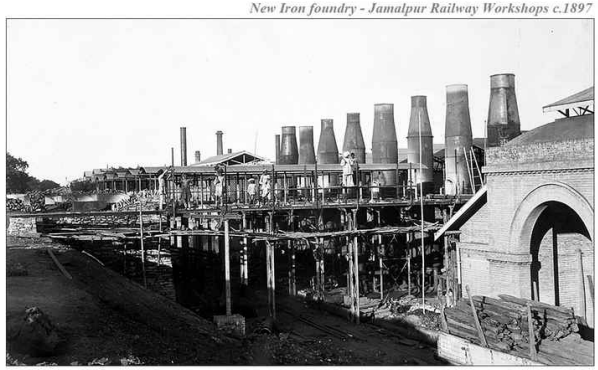
Jubilee Bridge was formally opened for regular public traffic on and from the 25th March 1887!

16th February, 1887 as the opening date, the bridge, in reality, was inaugurated on 21st February, 1887. The date 16th February, 1887 is symbolic as that was the day on which the 3-day fete to celebrate the Golden Jubilee of Her Majesty Queen Victoria started in India and 16th February was regarded as the 'Jubilee Day' all across the country.

First Railway Foundry

In 1893, the first railway foundry in India was set up at Jamalpur Workshop. It also had a boiler workshop for repairing and building boilers. A captive power plant of 5MVA was also developed in the Jamalpur Workshop.

New Iron foundry - Jamalpur Railway Workshops c.1897



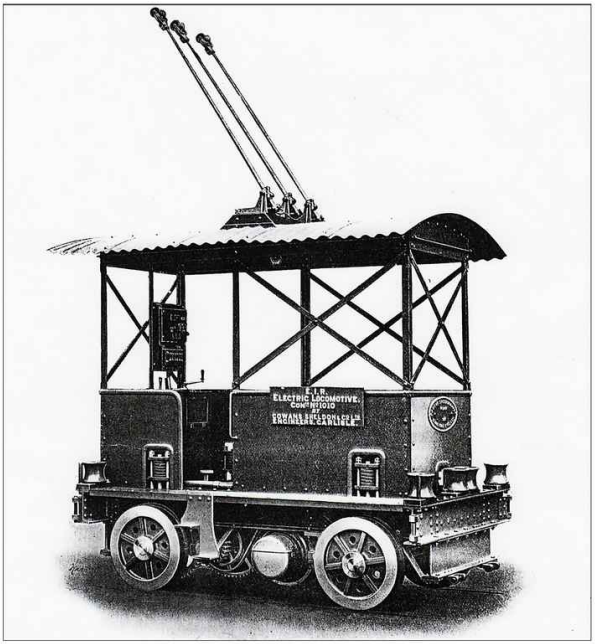
First Dedicated Joint Terminal Building

Bengal Nagpur Railway [B.N.R.] reached Howrah on 14th December, 1900 and that asked for an expansion of the then existing terminal for additional services. This prompted E.I.R. and B.N.R. to join hands and come up with a plan for a new terminal building – India's only major joint terminal back then for the then capital city. The result was what we now know as the 'Old Complex' of Howrah station – 6 platforms in the 'north wing' [north of the cab road] and 6 more to the south. Of course, later on many more platforms were added.

First Electric Loco

Although never meant for mainline service, the credit for

Howrah's joint terminal buiildng or the present day Old Complex c.1920



First electric loco (not used on mainline) (c) IRFCA

using India's first electric loco in railways lies with E.I.R. who were supplied with an electric locomotive with 3-phase overhead current collection in the first half of the 20th century. It was built by Cowans Sheldon Engineers from Carlisle and was meant for shunting duties in specific yards and could run at a speed of 10 mph while hauling 200 tons. The most surprising part was that it had one 3-phase motor for each of the axles.

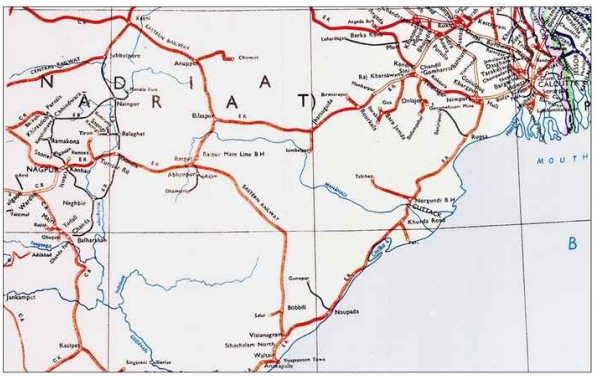
Surcharge on Tickets for A [Massive] Bridge

When the new cantilever truss bridge to connect Howrah with Calcutta started in October 1936, both E.I.R. and B.N.R. who had, by then, had their joint terminal building functioning for the past 31 years or so right next to it, played a pivotal role. Since, this bridge was the first permanent structure to connect Calcutta with Howrah, the railways

Notice point no. 1 (B) for the surcharges levied for Howrah Bridge

Station	Rate of tax leviable per single journey ticket	Rate of tax leviable per monthly ticket	Exceptions
	Rs. a. p.	Rs. a. p.	
1 (A) Terminal Tax to and from Howrah.	1st class .. 2nd ,, .. Inter. ,, .. 3rd ,, .. } 0 0 6	0 6 0	(a) The Terminal Tax is not levied between Howrah (i) and Stations on the Main line up to and including Talandoo. (ii) Stations on the Howrah-Burdwan Chord up to and including Belmuri. (iii) All stations on the Naihati Branch. (iv) All stations on the Tarakeswar Branch. (v) Stations on the Bandel-Barharwa Loop up to and including Tribeni, E. I. Ry. and the B. P. Ry. stations, *viz.*, Tribeni, Sultangacha, Halusai, Mahanad, Dwarbasini, Goai-Amra, Rudrani and Tarakeswar. (b) *Taxes leviable on Troops, etc.*—For Troops travelling in reserved vehicles at vehicle rates, the tax will be levied on the actual number of passengers travelling. When the number is not specified on warrants or tickets, it must be specially endorsed by the Station Master with a certificate as to the number of passengers travelling.
(B) New Howrah Bridge tax to and from Howrah.	1st class .. 2nd ,, .. Inter. ,, .. 3rd ,, .. } 0 0 3*	0 4 0*	

* There is no free zone for levy of these taxes.



1952-55 BNR portion under ER. Notice the ER writings on ex-BNR routes

contributed a certain amount for its construction which, in turn, was borne by the railway users.

Bengal Nagpur Under Eastern Railway?

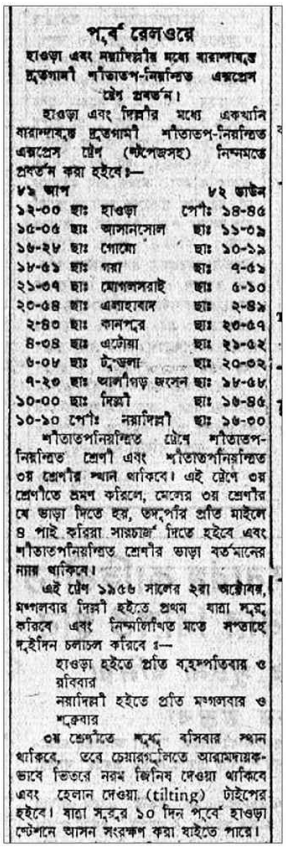
Yes, this unique phenomenon did happen too. During the initial reorganization of railway zones in the early 1950s, E.I.R. became Eastern Railway which was formed on 14th April, 1952 when the whole of erstwhile Bengal Nagpur Railway was included within the jurisdiction of Eastern Railway. This arrangement continued till 1st August, 1955, when the erstwhile B.N.R. portion was curved out to create what we now know as the South Eastern Railway.

India's First Fully Air-Conditioned Deluxe Train

India's first fully air conditioned 'vestibuled' "Deluxe" train – the 81 up and 82 down, was introduced on 2nd October, 1956 from New Delhi as a bi-weekly service to Howrah departing New Delhi every Tuesday and Friday at 16:30 hrs. to reach Howrah next day at 14:45 hrs. In the return direction, it used to leave Howrah every Thursday and Sunday at 12 noon to reach New Delhi the next day at 10:10 a.m. When introduced, this train had Air Conditioned 'Chair Car' and Air Conditioned III tier accommodation and had stoppages at Asansol, Gomoh, Gaya, Mughal Sarai, Allahabad, Kanpur, Etawah, Tundla, Aligarh and at Old Delhi stations.

First To Run Trains Under 3kv D.C.

Howrah division's suburban section, during electrification, became the first division in



পূর্ব রেলওয়ে

হাওড়া এবং নয়াদিল্লীর মধ্যে বারান্দাযুক্ত দ্রুতগামী শীতাতপ-নিয়ন্ত্রিত এক্সপ্রেস ট্রেণ প্রবর্তন।

হাওড়া এবং দিল্লীর মধ্যে একখানি বারান্দাযুক্ত দ্রুতগামী শীতাতপ-নিয়ন্ত্রিত এক্সপ্রেস ট্রেণ (স্লীপেজসহ) নিম্নমতে প্রবর্তন করা হইবে:—

৮২ আপ		৮২ ডাউন
১২-০০ ছাঃ	হাওড়া	পৌঃ ১৪-৪৫
১৫-০৫ ছাঃ	আসানসোল	ছাঃ ১১-০৯
১৬-২৮ ছাঃ	গোমো	ছাঃ ১০-১৯
১৮-৫১ ছাঃ	গয়া	৭-৫১
২১-০৭ ছাঃ	মোগলসরাই	৫-১০
২০-৫৪ ছাঃ	এলাহাবাদ	২-৪৯
২-৪০ ছাঃ	কানপুর	২০-৫৭
৪-০৪ ছাঃ	এটোয়া	১৯-৫২
৬-০৮ ছাঃ	টুণ্ডলা	১৮-০২
৭-২০ ছাঃ	আলীগড় জংসন	১৬-৫৮
১০-০০ ছাঃ	দিল্লী	১৬-৪৫
১০-১০ পৌঃ	নয়াদিল্লী	১৬-০০

শীতাতপনিয়ন্ত্রিত ট্রেণে শীতাতপ-নিয়ন্ত্রিত শ্রেণী এবং শীতাতপনিয়ন্ত্রিত ৩য় শ্রেণীর স্থান থাকিবে। এই ট্রেণে ৩য় শ্রেণীতে ভ্রমণ করিলে, মেলের ৩য় শ্রেণীর যে ভাড়া দিতে হয়, তদুপরি প্রতি মাইলে ৪ পাই করিয়া সারচার্জ দিতে হইবে এবং শীতাতপনিয়ন্ত্রিত শ্রেণীর ভাড়া বর্তমানের ন্যায় থাকিবে।

এই ট্রেণ ১৯৫৬ সালের ২রা অক্টোবর, মঙ্গলবার দিল্লী হইতে প্রথম যাত্রা সুরু করিবে এবং নিম্নলিখিত মতে সপ্তাহে দুইদিন চলাচল করিবে:—

হাওড়া হইতে প্রতি বৃহস্পতিবার ও রবিবার

নয়াদিল্লী হইতে প্রতি মঙ্গলবার ও শুক্রবার

৩য় শ্রেণীতে শুধু বসিবার স্থান থাকিবে, তবে চেয়ারগুলিতে আরামদায়কভাবে ভিতরে নরম জিনিষ দেওয়া থাকিবে এবং হেলান দেওয়া (tilting) টাইপের হইবে। যাত্রা সুরুর ১০ দিন পূর্বে হাওড়া ষ্টেশনে আসন সংরক্ষণ করা যাইতে পারে।

A newspaper ad with details about the A.C. Express published on 1st October 1956

The WCM2 class lococmotive ran under 3kV DC traction. The first electric train to Burdwan started its regular run from 15th August 1958.

India to opt for 3kV D.C. in India and then became the second [Sealdah being first] to shift to 25kV A.C.

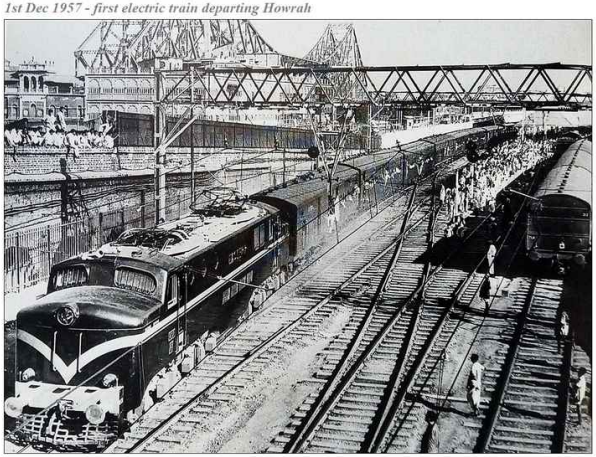
First Electric Train Of Eastern India

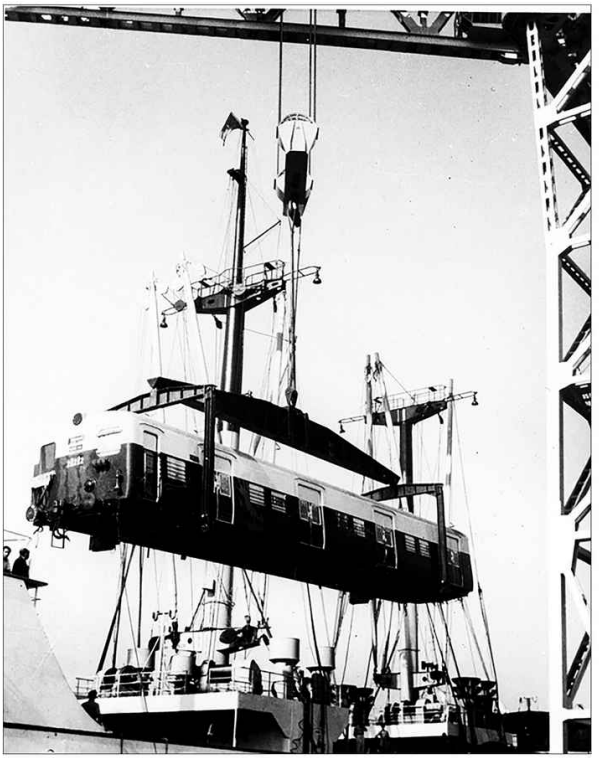
Although there had been several investigations done since the first half of the 20th century for electrification of railways in and around Calcutta, they were mostly clung to the Eastern Bengal Railway side as they had a railway terminus within the city of Calcutta. However, following a report submitted by the Railway Board in 1954, Howrah became the centre stage for electrification of the Calcutta suburban railways. The first electric train, hauled by the English Electric/Vulcan Foundry made WCM2 class locomotive and with 8 conventional coaches, rolled out of Howrah as a Sheoraphuli local on 1st December, 1957 at 11:38 hrs. from platform no. 1. This was India's first commercial run under 3kV D.C. traction.

First E.M.U. Of Eastern India

India's first Electric Multiple Unit to run under 3kV D.C. traction was inaugurated on 14th December, 1957 from Sheoraphuli station for Howrah. These were from the first batches of E.M.U. rakes developed by M.A.N./L.H.B. of West Germany for the Howrah suburban. They were soon followed

1st Dec 1957 - first electric train departing Howrah





MAN-LHB EMU rakes being unloaded at Calcutta Port

by S.I.G. E.M.U. rakes from Switzerland. By 1965, all of these were transferred to Bombay suburban as the changeover from 3kV D.C. to 25 kV A.C. traction around Calcutta made them redundant. These [as well as the WCM2 class locomotives] were maintained at the then brand new E.M.U. carshed at Howrah and were the first rakes to sport the ever popular green-cream livery. With the transfer of these rakes, Howrah also became the first division ever to transfer E.M.U. rakes to a different division/zone!

First Pre-Stressed Concrete Masts

During the electrification of the Sheoraphuli Tarakeshwar section of Howrah division in 1957-58, Eastern Railway, for

One of the surviving pre-stressed concrete masts

Jessop EMU from Chandmari Bridge c.1960s

the first time in India, used pre-stressed concrete masts instead of the conventional all metal ones. Although, some of them suffered from some unforeseen events, most of them survived the onslaught of time and some of them are still standing strong.

First 'Make In India' E.M.U. Rakes

Howrah division also has the distinction of receiving and operating India's first 'Make in India' E.M.U. rakes when on 6th June, 1959, the then Railway Minister of India, Shri Jagjivan Ram inaugurated the first E.M.U. rake made by Jessop & Co. at their Dum Dum unit. Initially, for the first order, 16 units of 3 cars each were ordered from Jessop & Co.

India's First A.C. – D.C. E.M.U. Rakes

During the period of conversion from 3kV D.C. to 25kV A.C. between 1963-67, Howrah division not only became the first in India to do so, it was, at that point in time, one of world's most complex job of converting the traction from one to another. During this time, few of the yards within Howrah division also became the first in India to sport both 3kV D.C.

One of the AC-DC Jessop rake [left] and a pure AC ICF rake just outside Howrah c 1960

First NG railbus 7000 with modified look. 1993 (c) Werner & Hansjörg Brutzer

and 25kV A.C., of course at two separate areas. Howrah division also became the first in India to have both A.C. and D.C. traction working within the same section during the conversion period.

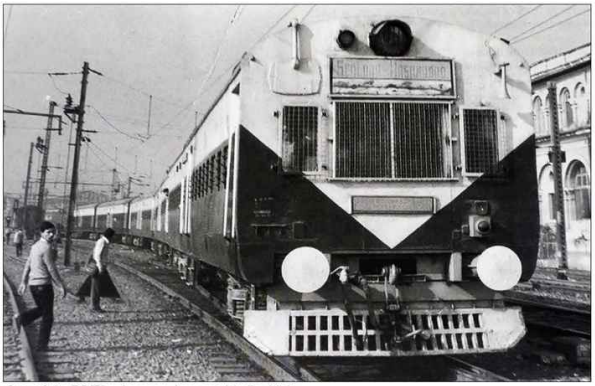
India's First 'Make In India' Narrow Gauge Rail Bus

Eastern railway bought the privately owned routes of Burdwan Katwa and Katwa Ahmadpore on 1st April, 1966 and 1st July, 1967 respectively. But even before that, the concept of rail buses was afloat on and from March 1965 with the actual work starting in February 1966 in order to replace the already over aged rolling stocks of these two routes. The experimental narrow gauge rail bus had a 100 H.P. 'Comet' Engine from Ashoke Leyland while the structural skeleton of the body was provided by Allwyn Metal Works, Hyderabad. Interestingly, all three workshops of E.R.-Liluah, Kanchrapara and Jamalpore were involved behind this. The rake had one power car and 4 trailer cars with only III class accommodation for 186 passengers with a maximum speed of 56 kmph. The diesel rail bus started working regularly from 3rd September, 1968.

India's First Rajdhani Express

India's first Rajdhani Express, also inaugurated to run on the Howrah – New Delhi route was another feather in the cap for Howrah. The train, India's first 'high speed' one, initially

The ICF rake of Rajdhani Express



One of the DMU rakes seen just outside Sealdah

inaugurated from Howrah on 3rd March, 1969. It was introduced as a bi-weekly train.

India's First Diesel Multiple Unit

Liluah Workshop, pretty much within the jurisdiction of Howrah division, was entrusted to build India's first D.M.U. rakes to serve the non-electrified routes in the hinterlands. The very first of these – with a diesel loco in the middle and a driving trailer coach at each end was inaugurated on 15th July, 1990.

India's First Mainline Electric Multiple Unit

India's first Mainline Electric Multiple Unit (M.E.M.U.) service was formally inaugurated on 11th July 1994, plying between Burdwan and Asansol to address the ever-growing demand for swifter, more efficient connectivity along this vital section of the Eastern Railway. This pioneering initiative was aimed at enhancing commuter comfort and reducing travel time for the high-volume passenger traffic of the route. In its formative years, all M.E.M.U. rakes serving this corridor were commissioned and maintained at the Howrah E.M.U. Car Shed, until a dedicated and fully equipped maintenance facility was subsequently established at Asansol to cater exclusively to these units, ensuring greater operational efficiency and timely upkeep.

India's First Air Conditioned Double Decker

India's first Air-Conditioned Double Decker Express was

One of the MEMU rakes between Burdwan and Asansol

AC DD Express during a special run which turned out to be its last!

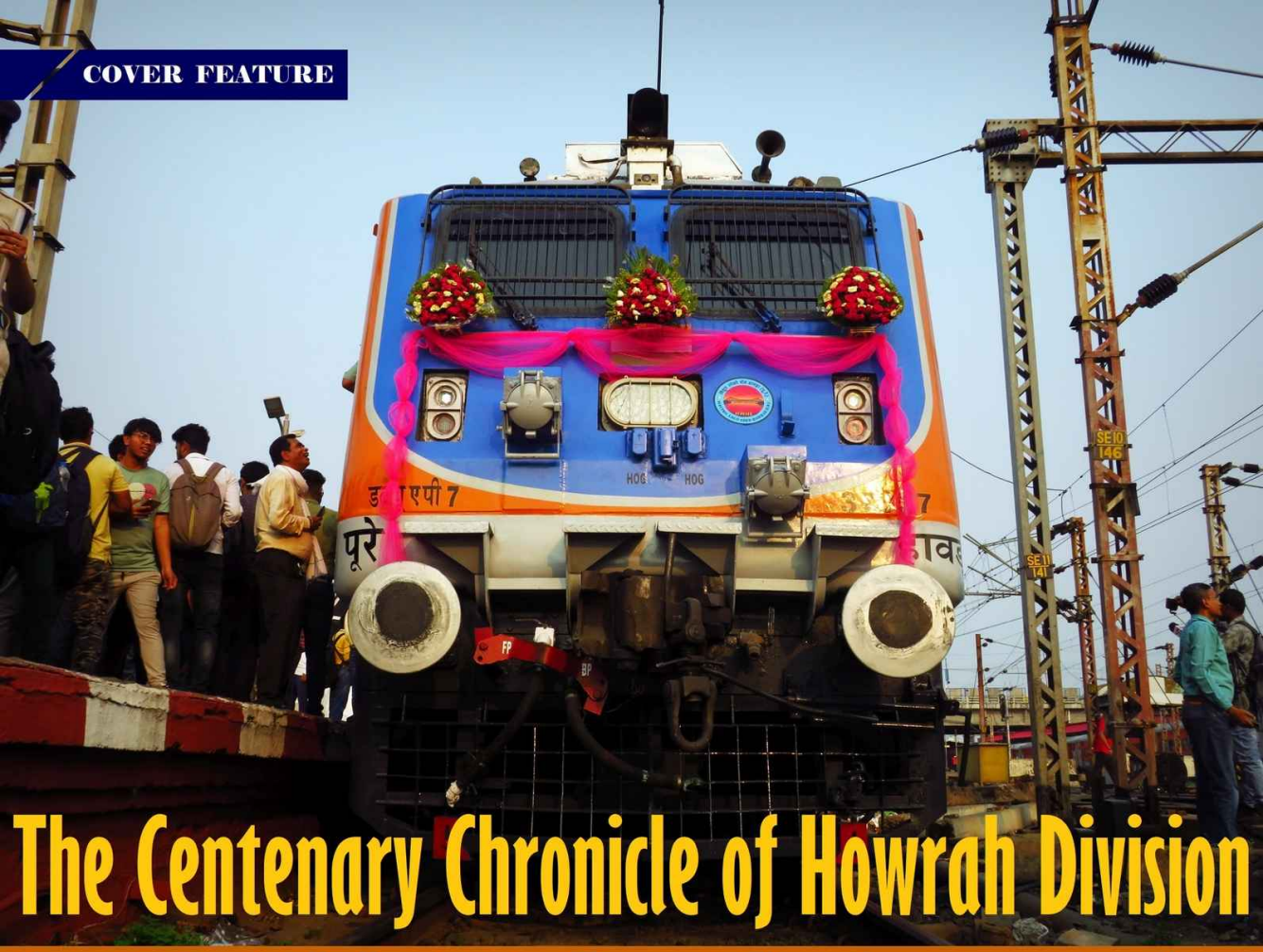
ceremoniously inaugurated on 1st October 2011, introducing a new chapter in Indian Railways' passenger service by operating between Howrah and Dhanbad. Designed to offer enhanced seating capacity along with modern travel comfort, the service embodied both novelty and innovation. However, despite its technical and aesthetic appeal, the train struggled to attract sufficient ridership, and a few years later, it was withdrawn from service owing to consistently low patronage.

Unique Features of Sampreeti Bridge

Sampreeti Bridge, constructed as a replacement for the age-old Jubilee Bridge and in use since 17th April, 2016 [although the formal inauguration happened much later], has some unique records. This bridge was the first continuous girder bridge within Indian Railways and also the first bridge to sport spherical bearings. It also has the record of being the tallest girder within India.

With an enviable array of 'firsts' to its credit, the Howrah Division of Eastern Railway has carved an enduring niche in the annals of our national carrier. Over the decades, it has distinguished itself through an unwavering commitment to public service, pioneering ventures, and pathbreaking innovations that have often set benchmarks for others to emulate. In every sense, the Howrah Division stands as a resplendent emblem of advancement and progressive vision.

The Jubilee [left] and the Sampreeti bridges. Notice the difference in height.



The Centenary Chronicle of Howrah Division

Part-I : An Initiative by the Howrah Electric Locomotive Shed

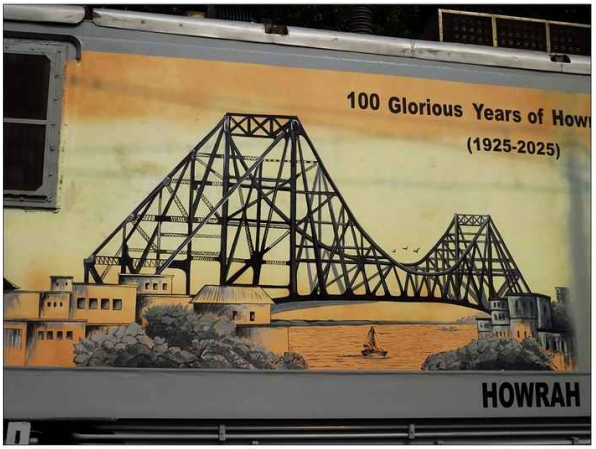
Anamitra Bose

Among the many initiatives of the Howrah Electric Locomotive Shed (ELS), the one that stands out was celebration of a landmark event in Indian Railways, i.e., a Centenary of Railway Electrification in the nation. Howrah ELS homed WAP7 # 37400 christened as *Anubha* had got wrapped up in a special livery with inputs from Team TrainTrackers and other fellow rail enthusiasts. It had won many hearts. Shortly after this initiative, news poured in about Howrah taking up another WAP7 for livery implementation but for a different occasion. The occasion this time was about celebrating the Centenary Year of the Howrah Division under the Eastern Railway. If Anubha was painted to commemorate and celebrate 100 years of electric traction in India, this time *WAP7 #37357* was for celebration of completion of 100 years of one of the oldest divisions of our national carrier. And it was apt that the Howrah Electric Locomotive Shed executed plans to commemorate the landmark occasion of its parent division.

The oldest division of the then East Indian Railways, now Eastern Railway, was established on January 1, 1925. Then the division witnessed immense change from steam power to 3-Phase EMUs and Vande Bharat trainsets. The glory of Howrah division is still intact with the historic and ever bustling Howrah station as its crown of elegance.

As the occasion demanded, Howrah Division urged its sole Electric Locomotive Shed, TRS/HWH to paint one of its premium workhorses in a special livery. With this, discussion started as Sr. DEE/TRS/HWH wanted to get things done with ideas and participation from railway enthusiasts which included Team TrainTrackers and other railway enthusiasts like Sourav Dutta and Sumit Nath. After frequent meetings and deliberations before undertaking the initiative, Sr. DEE/TRS/HWH suggested many improvisations and modifications over the basic design provided by the participating ferroequinologists. The pictures which were taken up for sketches were decided with thorough discussion with Sr. DEE across many meets.

According to the basic layout of the livery, the WAP7 body



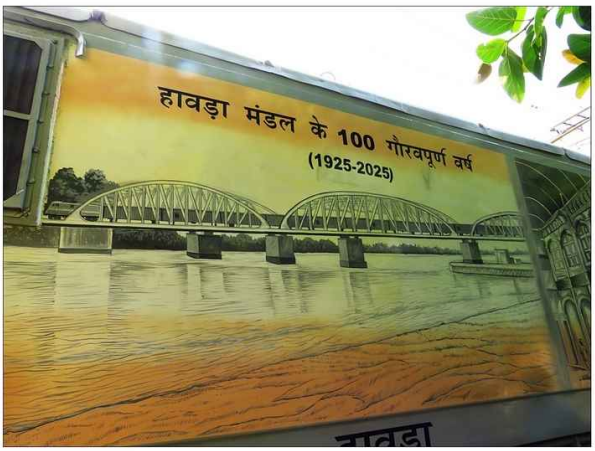
between two cab doors and blower vents will be the canvas. Within that space in the canvas, important landmarks and historical events that define the legacy of the division would be depicted. The face of the locomotive and its edges were to be given a special livery instead of regular white and orange. For the canvas, it was decided to paint the sketches in monochrome, instead of vinyl as a paintjob would be more vivid and lively than vinyl stickers. But such monochrome sketch would require a highly skilled artist to execute things properly.

At first, there was an attempt to bring Mr. Ashim Banerjee from DLS/UBL/SWR on deputation to HWH ELS to get the work done. Mr. Banerjee has the distinction of coming out with flying colours while executing such paintworks over locomotives of Hubli and Krishnarajapuram Sheds. But being pre-occupied with other assignments, his participation was nullified. Instead, Mr. Banerjee suggested the name of one his juniors from NCC cadets, Mr. Sudipta Das to get the job done. Action was prompt on the part of Howrah ELS which saw an immediate deployment of Mr. Das. For him, as an artist, it was a project that was first of its kind. He has never been directly associated with a rolling stock project of Indian Railways before.

After commencement of work, the locomotive face and edges was first painted in a blue and orange livery while most of the locomotive body was left blank for Mr. Das to demonstrate his artwork which would feature the following selected photos.

One one side it had the following depictions –

1. *A Jessop EMU and a steam locomotive sharing a frame at Howrah Junction* : The iconic frame by William Cope where one first generation ICF #10353 electrical multiple unit or local train stands side by side with a huffing and puffing CLW made WG #9455 at Howrah Junction in 1977. The frame tells about the change in technology and operations undergoing in Howrah at that time.
2. *The Howrah Bridge or Rabindra Setu* : The second picture from left features the iconic Howrah bridge which links the twin cities of Calcutta and Howrah across the river Hooghly.
3. *Old Howrah Station Building* : The picture shows the




हावड़ा


हावड़ा मंडल के 100 गौरवपूर्ण वर्ष
(1925-2025)
हावड़ा

historical Howrah Station with the old building and the then new building in the early 1900s.

4. *First Rajdhani Departure* : On 3rd March 1969, the first Rajdhani Express of India from Kolkata (Howrah) to New Delhi chugged off from Howrah junction embarking the start of an era of luxurious, comfortable and speedy journey in Indian Railways.

On the other side of the Locomotive, there were four more pictures –

1. *Rabindranath Tagore on his last journey* : As we know during his stay at Shantiniketan, Rabindranath Tagore travelled to Shantiniketan from Kolkata frequently using the Howrah Bardhaman routes and Sahibganj Loop upto Bolpur. On his last journey in 1941 also, an ailing Tagore travelled to Kolkata in a saloon car.

2. *The Jubilee Bridge* : The Jubilee Bridge on river Hooghly between Bandel in Howrah division and Naihati in Sealdah division is an iconic architecture in Indian Railways. This bridge is now retired and is replaced by Sampritee Setu. Opened in 1885, Jubilee Bridge definitely became a symbol of Howrah Division's legacy.

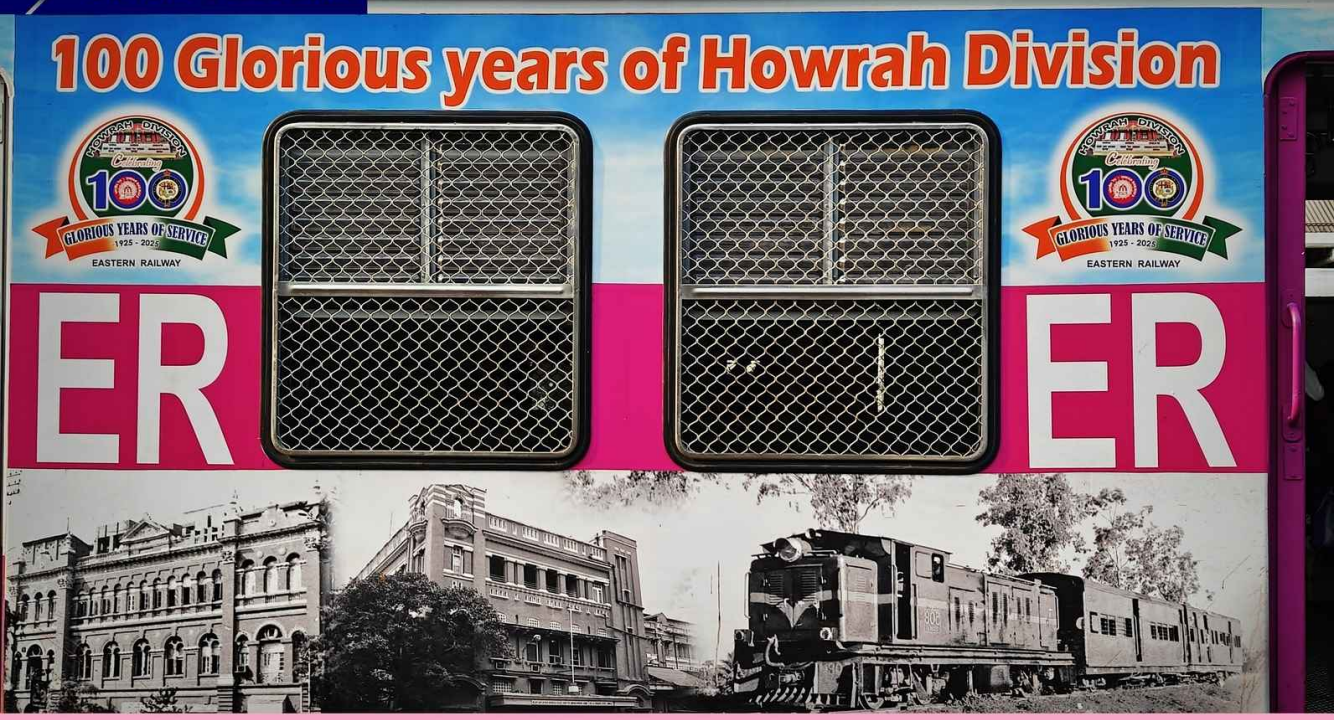
3. *Big Clock of Howrah Station* : Apart from the technical aspects of Howrah station, it connected with the veins of millions of passengers. Many stories of real life have started and ended with the station. One of the prime and iconic locations of this heritage station is the Big Clock, which has been a common meeting point for centuries.

4. *Pointsman litting up the lamp of semaphore signal* : In a dive to nostalgia, the picture depicts a pointsman lighting up the oil fired lamp in the semaphore signals as dusk descends. This picture is an artistic illustration or impression of the original photo by Team TrainTrackers at Khagraghat Road Station in August, 2011.

All these photos have been aptly illustrated by Mr. Sudipta Das which definitely demands appreciation and applause. The role of Mr. Pranab Chakraborty, Staff of G1 of HWH ELS has been as pivotal as Mr. Das in executing this task. Without the efforts of these two personas, this initiative would not have met such a success. After completion of the sketches on an off-white canvas evoking nostalgia, the locomotive was released for extensive testing before being pressed into mainline service.

Finally, the day arrived on 15th May, 2025 when the then DRM /HWH Mr. Sanjeev Kumar along with Sr. DEE/TRS/HWH and other officials of the Howrah Division flagged off the locomotive leading none other than the prestigious Howrah-New Delhi Rajdhani Express. The locomotive was also decorated for the occasion in sync with the paintings which were the primary attraction. At 16:50 hrs., the locomotive honked its way for New Delhi showcasing the beautiful artworks and livery as media and railfans thronged the site.

This initiative was true and one of its kind to commemorate the Centenary Year of Howrah Division. We express our sincere gratitude to Sr. DEE/TRS/HWH for accommodating and approving our ideas and suggestions for the initiative.



The Centenary Chronicle of Howrah Division

Part-II : An Initiative by the Howrah EMU Car Shed

Arkopal Sarkar

The centenary year of the Howrah Division under the Eastern Railway, a milestone marking a full century of service, heritage, and progress, inspired a wave of tributes across its constituent establishments. The celebrations first found splendid expression in the initiative undertaken by the Howrah Electric Loco Shed, which marked the occasion with grandeur befitting the Division's stature. This gesture soon set in motion a ripple of enthusiasm, reaching the Howrah EMU Car Shed, which was encouraged — indeed, urged — by the Division to contribute its own unique homage to the historic occasion.

Rising to the call, the DEE (EMU) and his team conceived an idea that blended technological modernity with historical reverence: to dedicate one of the Shed's gleaming modern rakes as a living, rolling tribute to the Howrah Division's hundred-year saga. The vision was not of a mere commemorative plaque or static exhibition, but of a train that would carry history itself into the daily rhythm of the rails — a piece of heritage in motion.

Thus was born Shatadru — a radiant, Pink-Faced ICF 3-Phase EMU, powered by the advanced Medha Propulsion System. More than just a passenger train, Shatadru was to be a rolling chronicle, a visual and symbolic embodiment of the Division's century of achievements. Its inauguration, held on 23 April 2025, was a moment of pride not only for the EMU Car Shed but for the entire Division, as officials, staff, and enthusiasts gathered to witness the unveiling.

The rake's exterior told the story before one even boarded. The first and twelfth coaches were adorned with vibrant vinyl wraps, richly illustrated with historical scenes that traced the arc of Howrah Division's journey. From sepia-toned vignettes of steam-era glory to full-colour portrayals of modern express trains, the imagery was both a history lesson and a celebration, a reminder that the rails themselves are silent witnesses to the march of time.

Inside, the transformation continued. The interiors were converted into a travelling museum — bright panels and photo displays narrated defining chapters from the Division's history. Among the exhibits were the first PRS tickets ever issued, images of the very first train to depart from Howrah Station, photographs of the construction of the grand Howrah Terminus, and the momentous day when the first

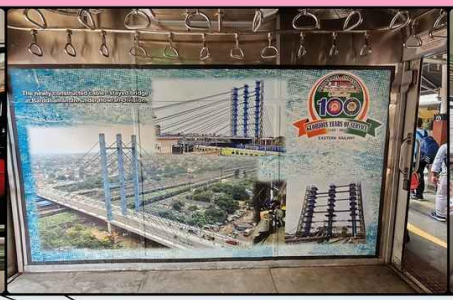
electric train departed from its platforms. Equally iconic were scenes of the Cab Road, thronged with passengers and porters in its bustling heyday, and the proud Calcutta Rajdhani Express, the nation's very first Rajdhani service, whose inaugural run from Howrah set a new standard for long-distance travel in India.

Every image was chosen with care, every caption a thread in the tapestry of the Division's heritage. The effect was immersive — passengers aboard Shatadru were not merely travelling between stations, they were journeying through time.

In this initiative, the Howrah EMU Car Shed matched the fervour of its counterpart at the Howrah Electric Loco Shed, proving that the spirit of commemoration runs strong in every arm of the Division's operations. Together, they honoured the hundred glorious years of Howrah Division with creativity, reverence, and pride — ensuring that the centenary would not pass as a mere date in the calendar, but would live on in memory, in photographs, and in the hearts of all who witnessed it.

It is fitting that trains themselves became the medium of celebration — for what better tribute can there be than to let the rails carry forward the story, mile after mile, so that the legacy of the Howrah Division is not just remembered but experienced afresh by every traveller, every day.

All photos were provided from TrainTrackers archive & are copyright protected.



Rake Info:

258041 DTC
258043 MC
258051 D/HC
258047 C
258044 MC
258048 C
258049 C
258045 MC
258050 C
258052 D/HC
258046 MC
258042 DTC

THE RISE AND FALL OF THE RAILWAY TOWNS

Santulan Mahanta

A recent order passed by the divisional railway authority asking people to vacate railway lands has created quite a ruckus in the railway township of Lumding. You probably have often come across such news. I too have, numerous times. But this time it evoked an entirely different reaction in me – that of not just a rail loyalist but also a curiosity about those people who have unlawfully settled down there. If you look into townships like Lumding, these are characteristically different from any other townships. These are railway townships where the urbanisation grows around railways instead of railway entering an urban space. This can be intriguing study. While trying to understand the situation at Lumding, several comparisons also came into mind about the other railway towns.

Railway town is another thing the British gave us with the legacy of the railway – along came a railway life. These railway towns like Kharagpur, Jamalpur, Mughalsarai (now Deen Dayal Upadhyay Nagar), Bondamunda, Ratlam, Itarsi, Parel, Siliguri and its twin city New Jalpaiguri, and even our Lumding – all such townships have their lives revolved around the railways. From the early establishment of these railway towns, they remained secluded from the other traditional cities, they differed both socially and economically from them and their daily clocks were set to the whistle of the first train of the day instead of the call of the rooster or the dawning of the day. Night comes to these townships not when the sun sets but with the departure of the last train. If you don't believe me then visit the markets in Lumding which opens at a time when other traditional townships have already done half the day's business. In the township where I work goes for the closure of the market by eight at night, and at eight in the evening, someone just lifts the shutter of his shop at Lumding. At four in the afternoon, people usually return home from the office but at four in the afternoon in a railway town, another shift starts. Post offices close their window at 4 in the afternoon but you can go to the railway station and post your letter through the Railway Mail Service (RMS) at eight in the post meridian. Any mishap that happens in the railway premises or the territory that belongs to the railways is investigated not by the Civil Magistrate and State Police but by the Railway Magistrate and the forces under the railways. Therefore, the life of 1.3 million people directly in employment in the Indian Railways and many more millions employed or dependent indirectly on the

system have an altogether different lifestyle.

One may freely commit the mistake of considering all the railway towns identical in their existence since a common driving force called the railway controls them. Things may appear like that in a passing glance, like a passerby looking at a railwayman and failing to recognise the difference of his or her work from another railwayman. But a rail enthusiast is not just a passerby and the curious eyes eagerly discover the numerous differences. And if our attention can be delimited from solely concentrating upon the tracks and rolling stocks, we perhaps would find an amazing social world of the railways. Looking at this social world of railways, we definitely need to be aware of the difference from the mechanical system of the railways and at the same time the impact of the system on the society and what things this mechanically controlled society melts down. When I said mechanically controlled society, it must not be understood as a society devoid of emotions and social customs or lack of cultural heritage as such – it is not at all the same or similar to the internet boom which has been creating a crack in the familial space. One thing for sure the railway had been taking care of was the provisions for the familial space while the internet boom is demanding from the familial space. Both these greatest purveyors of changes fundamentally differ here.

There have been many studies on railway's impact on the society making it a cliché, but my point here is that we need to explore the socio-cultural space within the railway's territory which is comparatively least investigated upon.

Birth of a Railway Town

I have already mentioned a few railway towns. When we call a settlement area a railway township, the important point to remember is that such a township exists only because of railways or came into existence only because of railways. This entails that these townships were not naturally born out of our familiar age-old socio-cultural activities. But once it is born, it must survive like any other normal township. However, surviving like any other normal township does not entail pouring into the existing familiar casts. If we trace the history of these townships, there would be genetic variations among them which certainly shape the local lifestyles in each and every town.

Railway townships, therefore, had all the necessary social institutions of the time. Other townships had their differences in growth and progress – not every town in India saw modern hospitals or clubhouses or schools at the same time. All these institutions came to other towns and cities when the dwellers felt the need for them. But railway townships were planned townships from the day they were envisaged. They may not be planned like Chandigarh or Bhubaneswar which are believed to be India's two of the first planned cities, but a railway township definitely had some stipulated criteria. They were all purpose-built. Jamalpur was established mainly to deal with the works related to metal forging because of availability of skilled metal-forgers near Munger which are now twin cities. Kharagpur was established to create a juncture for the lines going through the ore-rich Chotanagpur and lines towards Cuttack to meet the lines from Calcutta (now Kolkata). Ratlam was of little to no importance before it became a railway junction for the Bombay-Delhi broad gauge and the sole metre gauge rail link between North and South India to cross each other there. It later became the divisional headquarters and the district headquarters too. It was the importance of the railways, that after the Independence, the Assam Rail Link was deemed vital and hence came the New Jalpaiguri which later on became more prominent than its twin city Siliguri in terms of providing railway connectivity. After Independence, the southern part of the Assam-Bengal Railway or the Bengal Assam Railway lost its mainline status and the branch line from Lumding to Guwahati became the mainline which catapulted Lumding as the changing point for the Barak Valley. Even before that, it came into existence as the most critical junction point of the railways in northeast India. No one would have heard of that place otherwise. Tinsukia in Assam became a commercial hub after the arrival of the railway as it provided marshalling activities which were convenient for the traders in the nearby areas in both Assam and Arunachal Pradesh. Although Dibrugarh was the first city to see a railway in Assam, yet Tinsukia stole the importance of being located at a more convenient space for trade and commerce. As a result, the demographic change was of such a magnitude that a pre-Independence Tinsukia junction had its name board also in Urdu!

Demography in the Railway Townships

All these settlements had brought in chosen best men for the job and they were given the houses not just to live in but to settle in. Because in earlier days before the Railway Board recruitment system, railway trades were usually transferred from father to son. Railways provided the best of the facilities of the day to the dwellers of this created society. Markets, schools, hospitals and clubhouses were some things the other nearby cities and towns lacked. As an organisational policy, most of these were of similar standards. These were quite modern in social perceptions and acted as models for other Indian societies.

Another aspect about the railway colony dwellers is that the newcomers although joined a mechanical society, yet they did not forget their ancestry and soon they started forming their community bonding among themselves. Anglo-Indians had their own societies, the Bengalis had their own, and others too had their own community bonding. Based on the demographic structure these railway towns had had gradual entrance of various institutions like the Notre Dame Academy in Jamalpur due to the significant presence of the Anglo-Indian and European employees. So, within the railway towns, we had a diverse tapestry of Indian culture. And yet they were all aloof from the traditional Indian townships. A railway town is, therefore, standardised but non-homogenised society as we can see. And yet they all had

the common sense of belonging to the railways as well. If two persons meet at the marketplace, the talk would be about the happenings in the workplace which indirectly control their lives – just as two ordinary Indian persons would talk of the weather which affects their farming and economy.

The other day I was sipping tea with a rail enthusiast sitting at a roadside stall in the civil administrative area of Lumding. Of late, this tiny railway township is having a clash of civil administration and railway administration over demarcation for the collection of municipal tax. We were on the outer circle of such disputed areas and definitely in the civil municipal area. Railway administration has no legal authority over that area; NHAI on the other hand may act as new developmental stimulant. We happened to overhear two other people discussing the matters of Hill Section of the NF Railway – about the derailment of the banking locomotive of the Kanchanjunga Express some three years ago and ensuing departmental investigation; the drivers of the banking locomotive and the trackmen blaming each other for not being cautious during that incident – and a third person joining them with a new information of the ADME visiting the Stores which had nothing to do with the derailment and not at all affecting all these three trackmen in conversation. Every small talk, every gossip of the railwaymen essentially revolves round the organisation in a railway town (or surroundings thereof). I would not say it is a trait found among the railwaymen only; it is rather a common trait to talk about things which immediately affect our lives. Living in the village I was accustomed to the weather talk and its affect on the farming, and when left the village and settled elsewhere due to the academic job, my entire talk and life revolves around academics and that's what we discuss when I find another colleague from another college at the market in a similar situation like the railwaymen I had already mentioned. You must have understood how big is the impact of the organisation on the lives of the people serving and anyhow associated with it.

Therefore, the people in a railway township live differently and talk differently than the rest of the country. Their day-to-**day lives are not bound by solar hours.** However, to sustain this society, it needed substantial transactions with other parts of the country, but weighing more towards the railway townships during these transactions. It was due to obvious relation to the parent organisation, the others had to match the timings for the transactions. On the superficial level itself, any layman can see auto rickshaws or taxis waiting past the midnight at otherwise deserted stations like Mariani at the time of arrival and departure of trains.

We do not get significant accounts of the railway townships and their life. Golden Rock in Tiruchirappalli has the Divisional Railway Hospital which is in fact the city's oldest hospital. Therefore an entire existing city's healthcare facility arrived only when the railways arrived. The city of Tiruchirappalli, therefore, did not only survive solely being a temple town, its residents had become dependent in some way or the other on the railways. How the existence of the

railway changed the ways of that city can obviously be a good study in literature, social sciences and of course, the economic history.

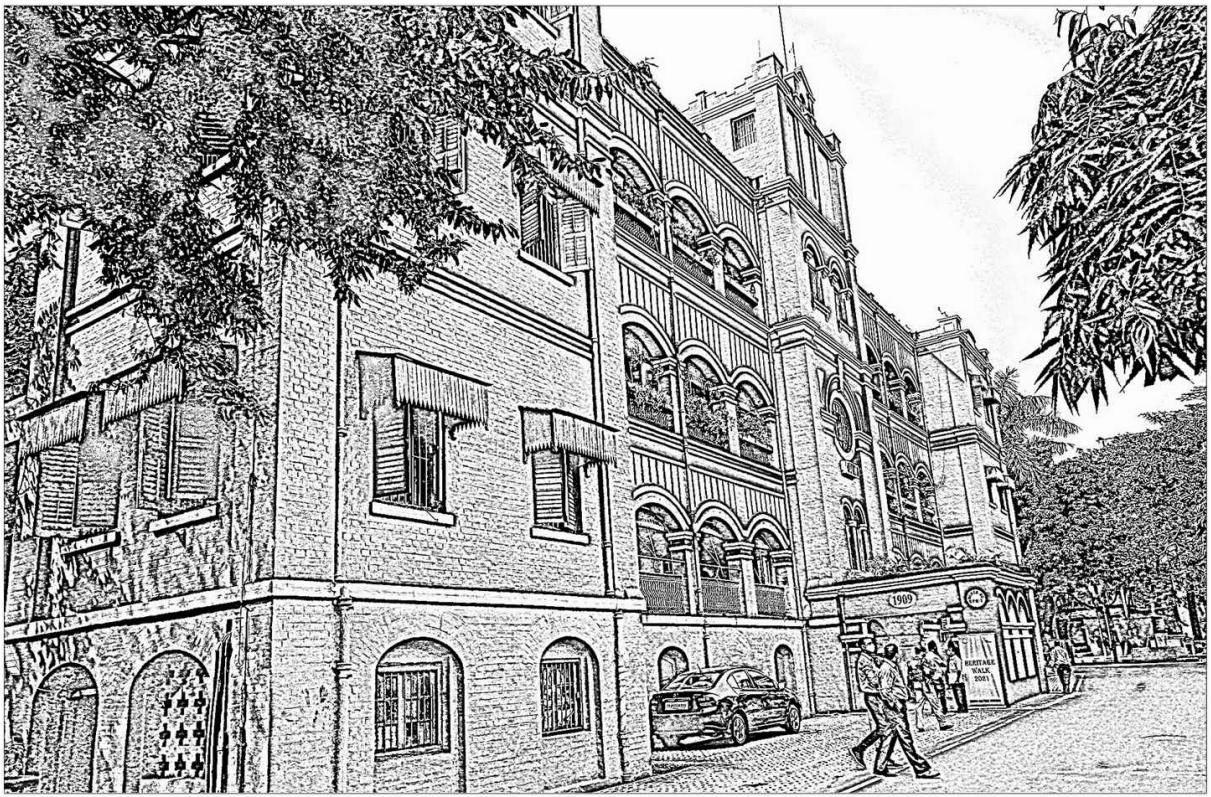
Relation Between a Railway Town & The Nearest Railway Hub

The nearest railway hub of a railway town then controls the life of the township that grew around it. But here we must not overlook the fact that all those railway hubs are not similarly functioning and all came into existence with different purposes for the railway system. The townships around them grew up around the activities of the main railway hub. For example, Mughalsarai was founded as a major freight yard and Jamalpur was established as a workshop. Both had two totally different roles in the railway operations which needed the employment of altogether different types of employees too. Barauni came into existence as a transhipment point where people had to deboard a train and cross the Ganga to catch another train from the other side. As a terminating point of trains, Barauni had to become a major station and later with the opening of the railway bridge it became a junction. Becoming a junction led to the establishment of industries around it. Therefore the functioning of the Barauni junction is again different from either Mughalsarai or Jamalpur. All these railway towns, therefore, had different lifestyles from each other due to the variations in their works. Mariani once acted as the major shipping hub for the plywood and tea industry and during metre gauge days it had upto 108 loop and siding lines to serve that purpose. It also had a Steam Loco Shed which provided the much-required intense maintenance of the steam locomotives. It had workers with different skill sets. The majority of the railway workers in any of these places had no counterparts in the other three places. Therefore their lives are varied by their works. Even though these townships had the standard railway town structures, yet the ways of the dwellers are different. What impact does the workplace environment leave upon the population of the railway townships is a hitherto unexplored domain.

What Changed ?

As I said, each and every railway town had specific purposes to serve. Almost every major railway towns had come into existence due to two basic factors – availability of skilled labourers and locational benefits. The particular set of skills determined the dominant nature of the particular town, which differentiates one town from another. These were the skills acquired or passed down through generations and for a long time Indian Railways also recruited generations of employees. Three generations of proud railwaymen living in the same allotted staff-quarters is not a rare story.

However, to function as an organisation and as a civic society surrounding that organisation, only one set of skilled employees would not suffice. There arrives the incoming population, with separate set of job profiles. For a long time, railways allowed them all to live happily ever after joining the organisation – a secured employed life for generations. A son not entering the father's trade was a rare thing. In the year 1998, two things happened to Indian Railways on the surface



level and a bigger unseen result entailed.

1998 was the year India went for final closure of steam operations – the biggest legacy of father-to-son trade. Steam locomotive driving, maintenance, shed activities – all these valued generational knowledge over an ITI certificate. Steam technology and operation was such that real life operations could not be acquired by technical studies. All the mathematics and engineering knowledge in steam operations end in the design and manufacturing while operational part was best left for tradition and individual talent. No two steam locomotives would behave the same and thus any work related to those needed more individualistic approach. And what we fail to realise in the statement "Steam is labour-intense" is that for everything in a Steam Loco Shed we had to depend on a human workforce who sometimes surpass the number of total employees in the adjacent station or junction. So far this huge population had a secured job and secured residence. But withdrawal of steam all of a sudden did not only make them change their job titles, but also put an end to the future prospect of their children continuing the same trade. Is it such a big problem? Apparently not. But in reality, yes.

Remember, while building a railway line and by forming the railway towns, India actually had a huge population displacement just like the tea garden labourers – only the benefits enjoyed by the railwaymen while at job makes us blind towards their problem of displacement. One of my acquaintances was posted at the Hill Section of the Northeast Frontier Railway, and so were his previous two generations. The forefather had joined the railways in the initial days with a hope of escaping the caste atrocities of the eastern part of the United Province of British India. Some others at that time had fled from India as bonded labourers in other colonies like West Indies etc., which today form the Indian diaspora population. All these people had one thing in common – they were landless lowly class people who just needed some kind of escape from that reality where they had been so far. But these guys joining the railways as permanent employees of some lowest cadre were fortunate that they didn't have to suffer either like the tea garden labourers or the Indian diaspora in terms of job comfort and secured stay arrangements. Would the others be not jealous of such a thing? And when the railways allots you a staff quarter, and where you know that your son is going to pursue the same government job, would you think of owning a piece of land in the hills which would be opposed by local people who are also jealous of your job and wary about you? And this was not a single family, there are thousands such in the railways.

But the moment steam locomotives were gone and with no employment security for the children because of the stricter recruitment policy, these people all of a sudden needed an alternate future plan outside the familiar space of the

railways – a space which they had been quite oblivious for almost a century! Now if you retire, then you must vacate the quarters. If that was not enough trouble, some states prohibited selling of land to outsiders. For so long these people living under the comfort of the railways had got detached from the place where they had some kind of forgotten root; and the new place where they had been living is significantly isolated from surrounding societies to make them acceptable as one of their fellow countrymen. What has been their residential address so far? They have the voting rights in the place where they are serving but their citizenship is based on solely being employed by the railways and not because owning a piece of land somewhere in the Union. So it was a situation beyond the comprehension of our policymakers today that railway created a new set of landless people since 1998 when generational recruitment practice practically ended with the steam. Where does it take the new landless population to?

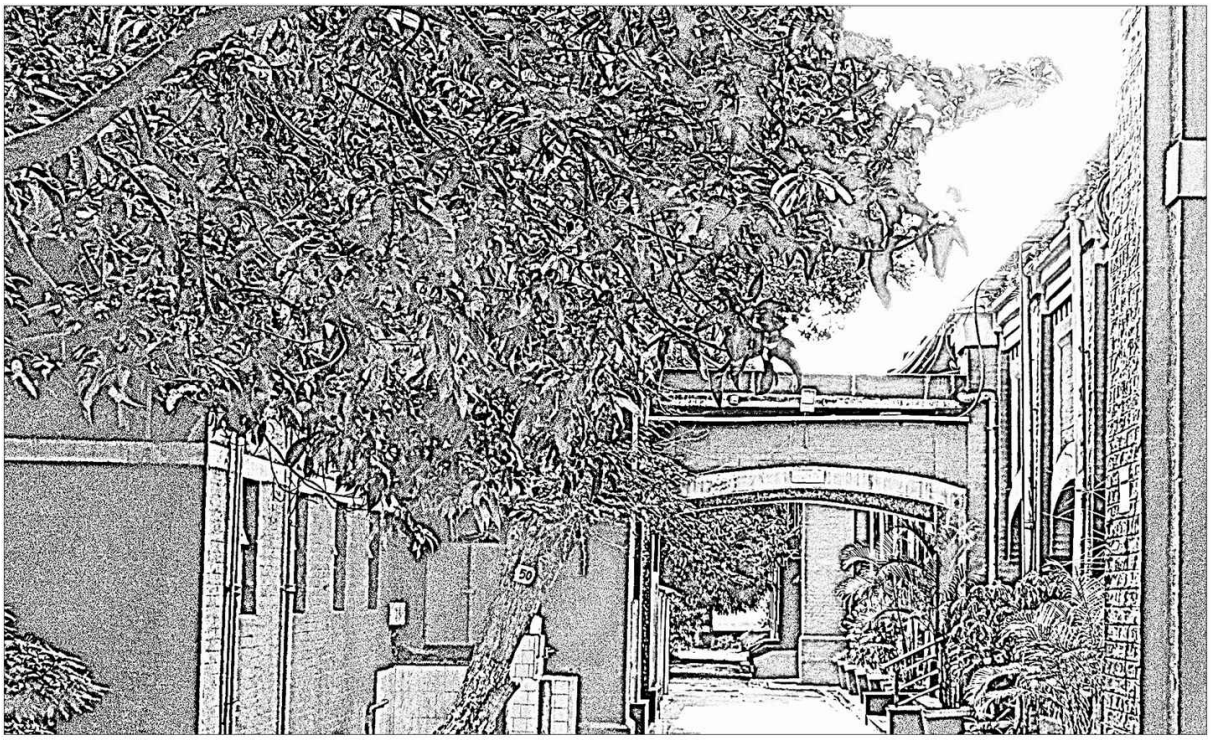
Due to obvious reasons and familiarity with the surroundings, this new homeless and landless population started settling down in the regions surrounding their nearest railway head. Accustomed so far living in a world of railway ghetto, they cannot go far away. Some perks like post-retirement access to healthcare also make them stick close to the railways. And as such they become the encroachers of the land owned by the organisation they served! Encroachment of railway land by railway staff is a major phenomenon across the Indian Railways.

Whether to blame them for encroachment or not would attract a plethora of opinions to which I am not yet exposed. These are beyond rights and wrongs. But for now we may return to the condition of the railway towns with the displacement of its older employees or residents.

Temporaneity & Death of Organic Development

Railway towns in India started out of a mechanical need, but the dwellers had gradually formed a new social order or were becoming a part of a new social order which was dictated by ranks within the organisation. Age old caste system had melted in the workspace of railways. But in the railway colonies a hybridisation of traditional caste and creed with organisational rank led to a new way of existence. A new type of communal bond arose among the dwellers of the railway colonies – based on linguistic, ethnic or some other common factors. Organisational ranks, however, still held a significant role. Just as this society created by the railway towns was ready to go past the traditional class and caste system with the help of the dignity and pride offered by the railway jobs, the loss of inheritance of job stopped it from evolving further. As the former employees vacate the staff quarters and newer employees occupy them, the very warm and stable social bonding that was developing earlier now ceased to exist. It is no more a different scenario than any other urban landscape today.

Is it only the older employees moving away that caused the loss of identity of the railway townships? With the advancements of the road transport, some railway towns lost their earlier unchallenged position as transhipment hub. I had mentioned Mariani Junction as an example. Back in 1997, when the Hon'ble Supreme Court of India banned felling of trees in natural forest areas, it had an unimagined



impact on the plywood industry in Assam. Till the 1980s, present day districts of Tinsukia, Dibrugarh, Lakhimpur, and Jorhat in Assam used to produce 60% of the nation's plywood. For the district of Jorhat, Mariani was one major plywood marshalling point which was hit by the ban on tree felling. A huge industry vanished from the vicinity and along with that Mariani junction lost all the relevance to maintain a large yard. Without any marshalling job, a huge number of railway employees too were shifted from Mariani. The fate of Tinsukia was saved by being the district headquarters as well as the divisional headquarters, but operational relevance were reduced to a great extent with the disappearance of plywood industry and the Steam Loco Shed in Tinsukia as well. Tea industry meanwhile had shifted to road transports. Thus, we find the railway towns with once throbbing marshalling yards in a deserted condition today. In some places such railway towns are being engulfed by the adjacent municipal townships. How does it allow a railway town's organic evolution then?

Shall we look at the death of the railway towns only in terms of organisational changes and economic activities? When I mentioned them gradually assuming an organic growth before meeting a sudden death or at least a paralysed limping state, one important factor we should keep in mind is the human factor which makes the entire existence organic. Death of the railway towns is as complex a phenomenon as the human mind itself. Devoid of human population led to this kind of death in one way. But consider some larger railway towns, which can be considered as railway metropolitan cities in terms of the area they occupy and the organisational variations they are home to, let's consider Jamalpur or Kharagpur. Here you will find a considerable population still living in there. Such townships are too large to get single handedly killed by any technical or operational changes. These places had displayed a greater organic growth by manifesting into diverse array of departmental activities. As part of that, these townships did not just have railway bazaar or railway hospitals or railway clubs and railway sports fields, they had another kind of commitment towards the railway employees – the railway schools and such educational institutions. When the railways opened these institutions, these had been the prestigious organisations for a wide area surrounding the township, catering to the benefits of the railway employees for sure and also becoming a place of aspiration for those not working under the railways.

Why? Firstly, because those were many a times the first such institutions for a large area, and secondly, they had set a standard unmatched and as prestigious just like the railway itself in those days. You can compare them with the status of the Kendriya Vidyalayas today. But gradually that craze for the railway schools and inter-college seemed to have waned – just like the government schools these days. I have not much idea of the scenario in Kharagpur or Jamalpur, but I have noticed it in Lumding which is still an isolated place to go further away for studies. The reasons here are change in taste and availability of alternatives. With the boom of the private institutions with charming marketing strategies, the

railway general educational institutions have been reduced to mere 'sarkari' schools or colleges. And do remember that these private alternatives are outside the railway's land. So instead of inflow to the railway-built institutions, now there is an outflow towards those institutions which has reduced these older railway schools to deserted places. You cannot blame anyone here when there are multiple options. If I had to eat only rice then I would have chosen the best of the rice varieties. But if I have the options of many other dishes, I might end up choosing the one gaining the most popularity, let's just say pizza! But even without the blame or the debate of right and wrong, we can say that these deserted buildings definitely do not add any more life to a railway town. Such absence of the general educational institutions intensifies because of the organisational barrier to establish any newer alternatives. Barring a few old Christian schools, can we imagine a new St. Joseph's or Don Bosco's inside a railway town? Do not assume this question as a justification for establishing a private school inside a railway town. It is, in fact, homage to the railway schools which were established purely with a view of employees' and public welfare and the fine job they did in their prime. Late Lal Bahadur Shahstri was a student of Railway Inter College at Mughalsarai. Bigger town railway schools are still in a better position though, like that of the Central Railway School in Kalyan.

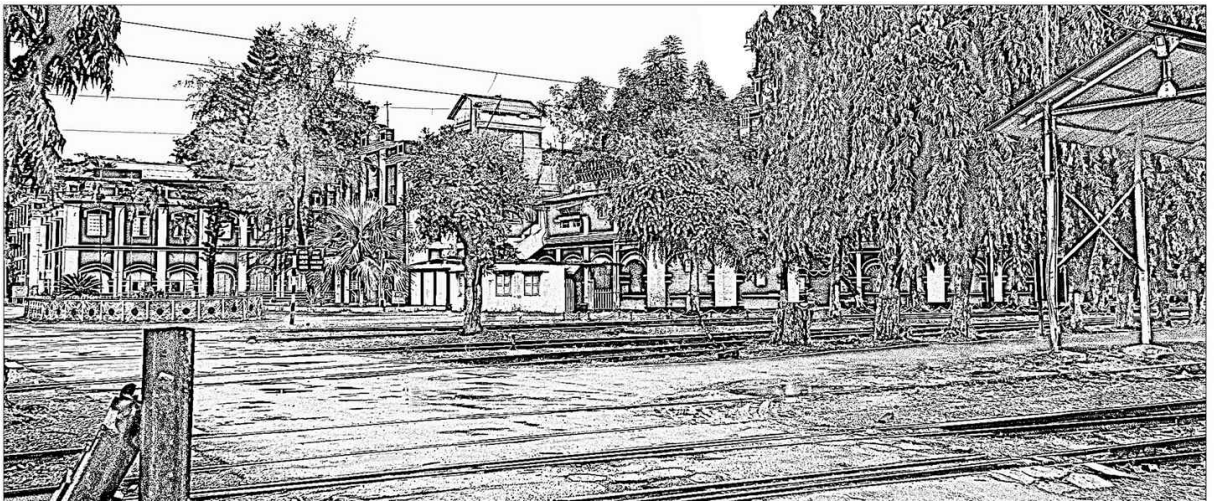
Need of Narrative Documentation

The railway narratives abundant till date have been inclusive of a very small space of the entire railway ecosystem. We have kinds of narratives as we have seen earlier which gives us a glimpse not more than the views of a normal train traveller. Of course, we see an organic development of narratives in this space.

On the other hand, not much heed is paid to the history of the development of the railway townships – probably due to the colonial era dichotomy of looking at things. An outsider was not encouraged to enter that space and the outsider also grew a sense of otherness towards this space. This outlook stayed with us even after three quarters of a century since the Independence. Therefore, we lack narratives on the birth and growth of the railway townships which once acted as the model for other urban areas but are now lagging behind.

Apart from the townships, we lack the narratives of the railway town dwellers. As narratives are essentially about the people, this space should have been a lucrative space for writers. Travellers come and go carrying with them some quick sets of superficial impressions, but railway people and their families stay with the railway for a substantial period of time. It is their story that could give us the insight into the railway's world. The once dominating 'Anglo-Indian community', in both the visible and invisible spaces of the railway, is now an extinct specimen. But very little has been published about their lives and relations in the railway sphere. There was no other space where Anglo-Indians were found so prominently. What prompted their departures and how their lives were affected during the Partition when the trains of the dead were driven by an Anglo-Indian driver holds scope for probing !

How as a community the railway town dwellers function is least spoken about. The stories of how the township of Lumding in central Assam observes different Bengali festivals or how the railway-centred Jorhat Provincial Railway colony people celebrate the Durga Puja in a different way than the rest of the city or how the Anglo-Indians in Kharagpur celebrate the Easter or Christmas can not only impart a sense of festivity to the reader, they can also give insights to very fact that in an artificial township too people are bound by the sense of their ethnicity and cultural background and all these variations of beliefs exist side by side and believers work together in the same organisation just like people of different faiths and ethnicity live in the same nation and strive for the overall progress and prosperity. Is not a railway township an ideal space for demonstrating such unity among diversity? But sadly enough, haven't we so far ignored this larger space of the Indian Railways in our narratives of any form and of any kind?



Railway Sketches

WAP5
The OG Electric Speedster

Anamitra Bose

1990s saw a sea change in India, not only in Indian economy or politics but also on the fronts of our national carrier – Indian Railways. In rolling stock, newer technologies finally penetrated the Indian market. In Diesel sector, General Motors invaded the ALCO stronghold with WDP4 and WDG4 classes of locomotives whereas in electrics, the rule of tap-changers and DC motor powered locomotive was challenged by Swiss-firm ABB (ASEA Brown Boveri). Government of India awarded ABB the tender to supply 11 passenger locomotives and 30 freight locomotives to usher an era of higher speeds and higher powered locomotives in the Indian Electric rolling stock. Herein, I shall focus on the passenger locomotive domain only. The passenger locomotive referred here was named as WAP5 which had many firsts and had been initially allotted with road numbers starting from as 30000. In our country, WAP5 was the first electric locomotive to have Bo-Bo wheel assembly, it was the first electric locomotive to break the 180 kmph barrier during trials, it was the first one to house AC traction motors and also the first locomotive to have wheel disc brakes. So many new features – all packed in one machine!

The initial shell, bogie, wheels and underframe were manufactured at ABB's Dandenong plant in Victoria, Australia. Then they were transported to Zurich, Switzerland by Russian Antonov planes. In the Tramont factory in Switzerland, the electrical and electronic equipments were fitted in the locomotive. The WAP5s were charged up there and underwent initial trials. After turnout from the Swiss plant, they were transported by road to Rotterdam from where an Indian cargo vessel reached Calcutta (now Kolkata). In Calcutta dock, they were unloaded and attached to a dummy train on Indian Railways tracks and were taken to Ghaziabad ELS for further testing and subsequent commissioning. As of Indian Railways has 250+ WAP5 locomotives and they are homed at Ghaziabad ELS under NR, Vadodara ELS under WR, Howrah ELS under ER and Royapuram ELS under SR.

During shipment to India (out of 30000 to 30010 imported ABB locomotives), 30008 was gutted in fire. Its shell was

First ABB Imports - # 30000, 30001, 30002 & 30003

Last import - # 30010, First CLW assembled locos # 30011 & 30012 & the phoenix - # 30013

later used by the Chittaranjan Locomotive Works to build 30013, christened as 'Navkirti'. The first WAP5 built from semi-knocked kits at CLW was 30011, named as 'Navodit'. The ABB built WAP5s had a stark distinction with the indigenous ones, as they sported flutted body shells. Gradually, WAP5 became the customary link of many Shatabdi Express trains originating from Delhi and a few Rajdhani Express services.

The 3-phase AC drive system, i.e., the propulsion system is like a human body, it has a brain, lungs, heart and limbs. Here, brain is the software, viz. VCU (Vehicle Control Unit), the lungs as the transformer, the heart is the hardware viz. the traction converter, auxiliary converter and in cases, the hotel load converter while the limbs are the traction motors, bogies and wheelsets.

:: THE CONVERTERS ::

At first, coming to the heart, i.e., the hardware part of the AC drive system. It is the primary driving force steering the wheels on the rails with thousands of tonnes of load. Like many compartments of the heart, it consists of different converters for different purposes. Now, what is a converter? A converter is an electrical equipment which takes the voltage from secondary winding as input and gives voltages as required, as its output. The converter which is directly associated for moving the wheels, i.e, powering the traction motors, as the name suggests is 'Traction Converter'. The converters which run the ancillary and auxiliary equipments in the locomotive like blowers, lights, battery charger is 'Auxiliary Converter'.

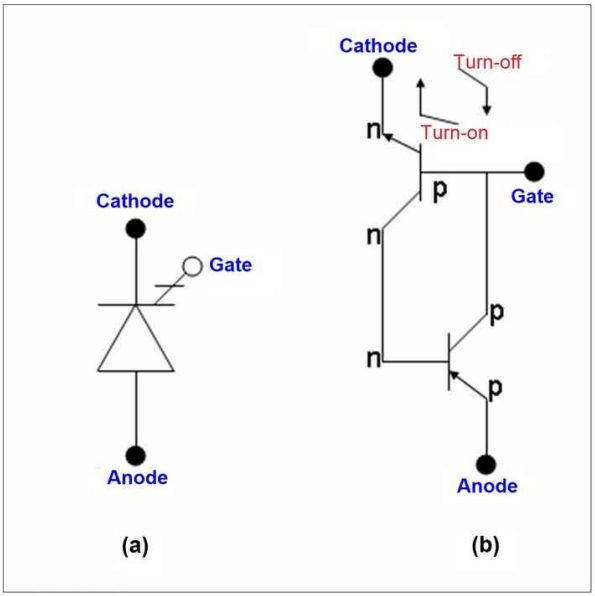
Another set of original imports - # 30004, 30005, 30006 & 30007

Traction Converter

In the modern three phase locomotives, three phase asynchronous motors are used widely for their high efficiency, easy control, low maintenance cost and regenerative capability. WAP5, WAG9 and WAP7 uses three-phase asynchronous squirrel-cage induction motors. To control the speed, both traction and braking effort of the traction motors can be controlled by varying the voltage and frequency of three phase AC voltage. To derive to this requirement from single phase 50Hz AC output from the secondary winding of the main transformer, we need traction converters.

The fundamental limitation of three phase induction motor is inability to start with huge load from zero speed. This is due to inability of supplying high torque at a fixed frequency. This has been solved with the advent of modern power electronics module like GTO, IGBT. The frequency of output voltage to traction motors is lowered in order to maximise the rotor torque at the starting and gradually frequency is increased to accelerate rapidly. The amplitude is also adjusted correspondingly to maintain constant torque at the rotor. This technology of varying both frequency and voltage of output of the converter to feed the traction motors is known as Variable Voltage Variable Frequency (VVVF) drive.

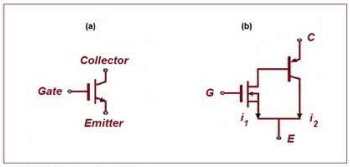
Before knowing the details of traction converter, we should know a bit about the power electronics devices i.e. GTO, IGBT, SiC etc. As conventional locomotives had tap changers, chopper controls and later thyristors, the basic unit of



GTO Circuit Symbols

converter units is the power GTO/IGBT. GTO is Gate-Turn Off Thyristor which is fully controlled bipolar semiconductor device. Fully controlled means both its turn-on and turn-off can be controlled by adjusting the gate current. GTO requires a quite high negative gate current to turn-off the device.

IGBT or Insulated Gate Bipolar Transistor is a modern power device which has a excess minority carrier region, to decreasing the ON resistance, thereby decreasing transition loss. It has minimum power loss but a little greater switching time during turning off. IGBT is mostly preferred now over GTO in all converter applications for its easy driving and more controllability.



IGBT Circuit Symbols

Now back to converter, a traction converter has three main stages – input stage or Line converter (NSR), intermediate stage or DC link and output stage or Drive Converter (ASR).

Line Converter

It takes input from the secondary winding of the main transformer as constant frequency single phase AC input and converts it into a constant DC link voltage of about 2180V. As it is a 4 quadrant PWM converter with GTO or IGBT, it has almost a unity power factor and snubber circuit is not required.

DC Link Stage

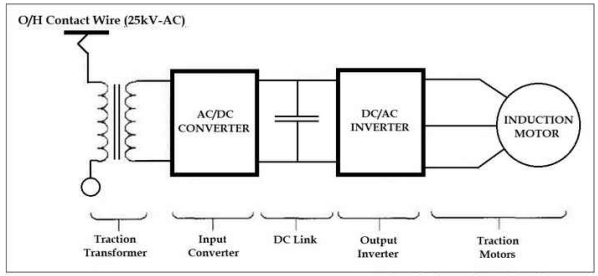
This stage has a filter circuit to filter out unwanted second-order harmonics and then a DC link capacitor in the middle for handling the high DC link voltage and also providing constant DC in case momentary power failure at the input side. It supplies reactive power to the induction motors. There is also an over-voltage protection unit.

Drive Converter

It is a single-source voltage inverter that converts the DC link voltage into three phase voltage with variable frequency and variable amplitude. Hence, it is a VVVF converter that drives the traction motors. The voltage can be varied from 0 to 2180V and the frequency from 0 to 160 Hz. The firing of the GTOs and control of IGBTs is done by control electronics.

During braking effort, the traction motors act as induction generators by controlling output frequency through negative slip value. The resultant generated 3 phase power is converted to single phase AC through the DC link and then fed to the catenary. This is efficiently done by the converter and thus acts also as a voltage stabiliser.

To control the speed of the locomotive, the tractive and braking effort needs to be adjusted accordingly by varying the voltage and frequency of the traction motor which is efficiently done by the traction converter.



Circuit Photo of Traction Converter

Traction Converter : Three stages, Input and Output

Now all new locos are getting equipped with IGBT based converters instead of old GTO technology. The principal advantage of IGBT based propulsion is individual control of every traction motor leading to higher adhesion and reliability. Also, IGBT leads to reduction in space, snubber circuits and switching losses.

Auxiliary Converter

Another compartment of the locomotive heart is the Auxiliary converter. The main motive of Traction converter is to drive the traction motors, but for the other requirement of the loco like air compressor, blowers, lights etc., the purpose is served by the Auxiliary Converter. The Auxiliary converter is fed by the Auxiliary winding from the main transformer. It has a similar configuration of converter, DC link capacitor and an inverter to feed the load. There are three Auxiliary converters in three phase locos, designated by BUR1, BUR2, BUR 3.

BUR1 is in a separate cubicle and supplies 110V three phase voltage to mainly oil cooler blowers. BUR2 and BUR3 is

voltage to mainly oil cooler blowers. BUR2 and BUR3 is integrated in a separated cubicle and oil pumps for both converter and traction motor work due to BUR2. The scavenge blowers are connected to BUR3.

In addition to this, CAB ACs, Compressors, Battery charger are also fed by Auxiliary Converters. There is a separate Auxiliary winding for supplying 415V/110V AC single phase voltage to machine Room Blowers, Cab Heaters, Cab lights and Fans.

Composite Converter

Initial WAP5s had a provision for Hotel Load with Hotel Load Couplers (HLC) in front for supplying power to coaches. A special secondary winding on the transformer provides 750V AC supply feeding to filter cubicle. The filter cubicle consisted of hotel load contactor, surge arrestor, current sensor and earth-fault relay. The hotel load sockets on each end received power from filter cubicle which was rated at 750V single phase AC and 850 KVA capacities. But this hotel load sockets deemed of no use for LHB non-self generating coaches and a need for separate converter was felt.

Composite Converter is a type of IGBT converter which is recently used in WAP5 type of locomotives mainly, where space for separate Hotel load converters was not available and fitted with IGBT power modules instead of GTO, thereby reducing traction converter space. This type of converters has two line converters, two DC link capacitors and two drive converters – one for each bogie. In addition to that, it had a Hotel Load Converter fed by Hotel load winding from the transformer. Thus, for the traction and hotel load, both output was derived from a single converter unit naming it as composite converter. It was fitted into a GTO-type converter cubicle. The hotel load converter shall be fed from separate hotel load winding of the main transformer LOT 7775 KVA with increased hotel load capacity of 2x622.5 kVA, single-phase at 960V. The output of the converter is 750V three phase AC supply with 2x500 KVA per locomotive.

GTO-Based Converter and Hotel-Load Coupler (HLC) Equipped initial WAP5s, unfit for Hotel Generation Use

:: SOFTWARE ::

Now, after the heart of the locomotive, it's time for a tour into the brain of the locomotive, i.e., the microprocessor, control electronics and software running locomotive.

The VVVF converter and 4-quadrant converter if, wired by hardware, will be very complicated. Therefore, the loco uses MICAS-S2 (Micro Computer Automation System-Series 2) type of microprocessor control to control the converter units, traction motors, monitor the loco and fault diagnosis.

MICAS-S2 control electronics control all function of locomotives. It is in the form of bus stations and processors. Microprocessors are adopted as hardware optimization tool. The remote arrangement of computers for control electronics means that not much wiring is required for control signals.

MICAS-S2 control system has three layers – Train Bus, MICAS Vehicle bus, Drive control bus. The train control bus communicates between different multiple units (MU) and controls the braking system. The MICAS Vehicle Bus controls the converter units, diagnoses the faults and monitors overall condition of the loco. The drive control controls the converters and traction motors.

The demand from drivers' cab for speed, i.e., traction and braking are efficiently calculated by control electronics and communicated to Traction converter through the vehicle bus. The control electronics and main hardware are connected via optical fibre bus. These are resistant to electromagnetic interference. The control electronics is based on microprocessors connected to each other by MICAS vehicle bus. Each loco (vehicle) contains a Vehicle Control Unit (FLG). Each converter contains a converter bus station. The converter bus station contains the Converter control Unit (SLG) and Drive control unit (ALG). The ALG contains both line and motor converter control units.

Depending on the speed demand from the cab, the FLG calculates required braking or tractive effort and sends it to the SLG. SLG compares this value with the actual torque value from ALG and thus the required torque is calculated from the difference of the two. The ALG generates required firing pulses and turn-off pulses for the GTO. These are communicated through bus to the Gate Units. The line converter is also controlled by ALG and maintains a constant DC voltage.

In newer three phase locos due to obsolescence of MICAS based proprietary loco control, an indigenous VCU based on TCN (Train Control Network) Protocol was developed by CDAC (Centre for Development of Advanced Computing), Ministry of Electronics and IT, GOI under Make In India special scheme called NamPET. It uses international standard communication Protocol IEC-61375. Here, the Train Bus is known as the Wired Train Bus (WTB), Vehicle Bus uses the international bus standard called Multifunctional Vehicle Bus (MVB) and Controller Area Network (CAN) between the digital/analog cards. The Driver Display Unit (DDU) communicates with the MVB with the

help of a main host called MVB administrator using RS232 network. The cards, inputs, outputs to other controller are controlled by two application-specific processors. Whole of the Control Electronics is based on QNX Real-Time Operating System (RTOS). CDAC VCUs can be easily tested on a test bench in an ELS and simulated using a 3-phase Loco Simulator anywhere. MICAS based locos are also gradually upgraded to CDAC TCN VCU for greater reliability and control.

:: TRACTION MOTORS ::

WAP5 is provided with four fully suspended traction motors. TM-1, 2 are mounted in bogie-1 and fed from traction converter-1 whereas TM-4, 5 are mounted in bogie-2 and fed from traction converter-2. The traction motors are 6FXA7059 three-phase traction motors, 6 pole asynchronous squirrel cage rotor-motor. It is force air cooled through a vent in non-drive end housing. The traction motor blower supplies filtered air to cool the traction motor. The flexible bellows connect the traction motor vent and the air outlet of the blowers on the locomotive under frame. The rotational force from the traction motor is transmitted to gear box by a drive coupling. The opposite end of rotor shaft is enclosed by an end plate. The gear ratio is 67:35:17. The continuous ratings are 1150 kW, 2180V phase-to-phase, 370A and 1585 RPM.

The stator is constructed from a stack of laminated plates secured together by wrap-around rings and traction rails welded to the end-plates. To protect the stator windings from thermal overload, temperature probes in the stator stack monitor the temperature of the stator windings. The bearings are lubricated with grease and provided with radial non-contacting seals which protect the bearings from the loss of grease and ingress of foreign debris. The non-drive end acts as guide bearing.

The advantages of 3-phase AC traction motor over DC conventional motors are many, viz. –

i) The size of traction motors for the same output power is much less for 3-phase motors. With permissible axle load and available space in bogie, high-powered locomotive with small dimension is possible.

ii) Brush-gear/commutators is absent in 3-phase motors reducing maintenance cost and time.

iii) Superior drop characters in speed vs torque graph, helps in better adhesion.

iv) Rated power of dc locomotive reduces beyond field weakening, 3-phase motors provide maximum power at highest speed.

v) Weights of three-phase motors are much less, making the locomotive much lighter.

The traction motors are supported in a bogie frame and connected to gear box through a crowned gear coupling HZK 100-280 supplied by ZF Hurth, Germany, commonly known as Hurth coupling. Gear box is connected on the driving axle. The motor torque is transmitted to gear box through this gear coupling.

Alternate Drive Gear Assembly

Some WAP5s have been fitted with an Alternate Drive Gear Assembly because traditional Hurth coupling faced regular issues. The alternate drive gear assembly does not have rubber membrane rather has combined curved tooth coupling/ring disc coupling.

:: BOGIES ::

The pinpoint of attraction and the reason behind the limelight on WAP5 is primarily the bogie of the locomotive, which helps it to become the fastest locomotive in India. WAP5 uses Bo-Bo Henschel Flexicoil fabricated bogies with quill drive. Bo-Bo is the UIC indication of wheel arrangement for a loco, which has two bogies each having two axles and both are independently driving axles. This allows higher cornering speeds due to smaller wheel base, where high speed takes priority than high torque.

The bogies are fabricated and lateral guidance between bogie and loco body is provided by flexi-coil action of secondary suspension springs, thus Flexicoil bogies. Similarly, Flexicoil action of primary springs permit lateral movement of axle along the bogie frame.

The bogies are designed to withstand the stresses and vibrations resulting from normal rolling stock applications. An important feature of the bogie is to absorb and isolate shock caused by variations in the track bed. The suspension systems minimize the shocks transmitted to the locomotive underframe. Yaw (longitudinal) dampers control loco body pitch rate. Guide rods control the fore and aft movement between the axles and bogie frame, while link rod control the fore and aft movement between the bogie frame and loco body.

Primary suspension, located between axles and bogie frame, is provided by twin coil springs and a vertical hydraulic damper on the axle journal box fore and aft the axle line. Vertical hydraulic dampers are used to dampen the rebound rate of the springs. This "Flexi Coil" arrangement permits lateral movement of the axle. Guide rods provide the longitudinal control of the axle. Spheribloc rubber bushes in the guide rods allow unrestricted axle lateral movement.

Secondary suspension is also provided with coil springs and vertical, lateral and yaw dampers located between bogie frame and loco body. The Flexi Float arrangement of the secondary suspension allows the locomotive body to move both laterally and vertically within certain limits.

The traction link transmits traction and braking forces from the bogie to the locomotive superstructure (underframe). Although the traction link maintains the relative longitudinal position of the bogie to locomotive underframe, but it also allows lateral movements. The link rod is situated between two pivot points, one on locomotive underframe and the other on the end transom of the bogie.

:: BRAKES ::

WAP5s are been equipped with three types of braking applications - Pneumatic Brakes (Train Brake and Loco air Brake), Regenerative Braking, Parking Brakes and Anti-spin brakes.

The Automatic Train Brake (A9) is utilized in charging and discharging the Brake Pipe. In both cabs, a Driver Brake Controller (DBC) is provided to send electrical command to the brake valve (E70). A pneumatic emergency brake valve is provided alongside electronic emergency brake.

The Loco Brake (SA9) is provided in both cabs, which are direct air brake valves. The direct brakes are used to apply loco brakes. In WAP5, direct brakes are applied on wheel disks with a pressure of 5Kg/cm^2.

The three-phase locos have been provided with the electronic regenerative braking, which uses the traction motors as generators, thus reducing speed as well as saving energy. When the throttle is in BE position, the regenerative braking is activated. The best application happens when regenerative brakes are blended with pneumatic brakes to stop the train. Thus, brake blending is also available.

For types of Brake Electronics Control, two types of control systems are available – Conventional (E70) braking system and Knorr-Bremse braking electronics. Knorr-Bremse is fully Computerised Controlled Brakes (CCB) which improves control and efficiency of brakes.

WAP5 Upgrade to WAP5H - A Magic Happened Through Codes

As the 5440 horsepower of WAP5 seemed inefficient with rising demands of rolling stock, CLW and RDSO decided to tweak the software of WAP5. With lot of hard work in the labs and drawing board, the magic happened through software modification. Power output of WAP5 got increased to 6000 horsepower. With the same locomotive, all it was needed to reload the new software in the locomotive brain. Gradually, all WAP5 locomotives were upgraded to 6000 hp version, Ghaziabad fondly marked them as WAP5H! Now all the new locomotives from CLW were 6000 hp WAP5 ones.

A Few Experiments on WAP5

1) In 2017, Vadodara ELS started trials with Multiple unit WAP5, i.e., WAP5 twin units connected with MU cable. To avoid disturbances in OHE at higher speeds, the locomotive twin unit used only leading pantograph of the front locomotive and the trailing locomotive was powered by a High-Voltage (HV) cable that ran along the roof of the locomotives. Later, Ghaziabad also adopted twin WAP5 operations and a Bandra-Nizamuddin Rajdhani Special used to run regularly with GZB WAP5 twins.

2) In some instances, 12951/12952 Mumbai Rajdhani Express was seen with two Vadodara WAP5 locomotives in push-pull arrangement as a part of Mission Raftar trials. This helped the train to climb the ghats near Ratlam and Kota without much wheel slip, which was the case for the train when it was powered by single Ghaziabad WAP5 locomotive in early 2000s. But it faced regular communication loss between master and slave locomotive and other issues forcing the train to go back to its regular WAP7 link.

First WAP5 Locomotive with Aero-dynamic Cab profile

3) In 2019, Chittaranjan Locomotive Works designed a WAP5 with both aerodynamic cab profile to reduce air drags and aiming for speeds greater than 200 kmph. The locomotive was numbered was 30164 and allotted to Ghaziabad ELS. The locomotive had a cab profile with 45-degree inclination, modified gear ratio of 59:35:19 and curved tooth coupling gear assembly to achieve higher speeds. Though in all practicality, the locomotive rarely hauled trains above 150 kmph.

4) In October 2020, CLW rolled out a pair of WAP5 35012

Tejas Liveried Aerodynamic WAP5 # 35012 & 35013

and 35013 with leading face as aerodynamic and trailing face as flat face. The locomotive was wrapped in Tejas vinyl livery and intended to haul Tejas Express as push-pull locomotives.

WAP5 Modification to Amrit-Bharat Type

From 30th December 2023, Indian Railways introduced a new type of train segment, Amrit Bharat Express consisting of an LHB rake with General and Sleeper coaches powered by two WAP5 locomotives at two ends acting as push-pull arrangement. For this purpose, WAP5s are being produced and modified into special Amrit Bharat WAP5 locomotive pairs. Each locomotive driving cab has been modified as aerodynamic cab and non-driving can has been modified into flat-face cab.

The salient features of Amrit Bharat WAP5 locomotives are –

1) The front locomotive in the rake is master locomotive and the locomotive at the rear is slave locomotive. While reversal, master and slave locomotives get interchanged.
2) In normal HOG-compliant WAP5 locomotives, there are two UIC couplers – one for Hotel Load and another for Push-Pull/Train Bus. In AB WAP5, four UIC couplers has been provided on the flattened end of the loco and aerodynamic side has no UIC or IV couplers.
   a) The farthest most 22-pin UIC couplers are for push-pull operations and both are redundant. LP side UIC connects with Line B-WTB channel and ALP side connects with Line A-WTB channel. Here, WTB means Wired Train Bus.
   b) The middle-most 13-pin UIC connectors are for HOG operation. Both are redundant.
   c) UIC couplers for HOG and Train Bus on loco side are female sockets. On rake side, each power car is having male sockets.
3) During service, HOG units of both locomotives should be in service but in separate supply feeder lines.
4) The driving cab of WAP5 has been revamped in-line with Vande Bharat Express with single-windshield among other aesthetics. Some additional switches have also been provided in the cab, like an additional BL key, BLDJ and BPFA switches for rear-loco has been provided. The Kavach and DDU HMI panels are also accommodated in the driver panel.
5) The pneumatic wiper system is replaced by motorised wiper system.

Flat faced Cab of WAP5 # 35032

Howrah based Amrit Bharat WAP5 # 30093, 30106, 35031 & 35032

After a few initial years of operation, the shortcomings of WAP5 got pronounced. The Bo-Bo bogie is not suitable for undulating terrains and most of trunk routes in India had considerable amount of ghat sections where WAP5 clearly struggled with limited tractive effort and bogie structure. The advent of WAP7 with higher horsepower and much better adhesion pushed WAP5 to be a limited choice for few selected trains with speeds greater than 140 kmph.

Nonethless, WAP5 is a milestone in passenger train operations in India with onset of Bo-Bo bogies and high-speed electric locomotive which powered Bhopal Shatabdi and Gatiman Express at 150 kmph and 160 kmph respectively which made them the fastest trains of their time before the onset of Train18. With the advent of high-speed trainsets, their exclusiveness to haul high speed electric trains has diminished. But now they have acquired the new role of pulling and pushing the Amrit Bharat Express genre of trains across the nation thereby rising above their redundancy.

EXCLUSIVE

SUNDARBAN TRAMJATRA

Tram Routes and Mangrove Roots

30 years of Tramway Friendship between Melbourne and Kolkata

Robert D'Andrea

"It is unbelievable but true that a Tram Conductor of Melbourne Tramways has visited Calcutta a number of times since 1994 singly or in a group – all the way from Australia at his own cost – only to save Calcutta Tramways from abolition. He spoke his pro-tram views through cultural activities and exchange programs like *Tramjatra* maintaining diplomatic ties. His altruistic love for CTC is unparallel and unimaginable. Sitting in Melbourne, he can see every inch of Calcutta tram network on the surface and below the surface."

- Dr. Debasish Bhattacharyya

The last time, the Kolkata Melbourne Tramjatra reported into Rail Canvaz was after the hugely popular 150th Anniversary of Kolkata's tramway in 2023. Two years later, Tramjatra was back in Kolkata for the 2025 Sundarban Tramjatra (STJ). The STJ gave us an opportunity to focus our attention on the Sundarban, the largest mangrove forest in the world, its relationship to Kolkata and to show how trams are not only a friend of people, but also a friend of the 'natural world'.

Last year Tramjatra celebrated our 30th Anniversary of tramway friendship. It's been a privilege to update the broader Indian Rail fan community via Rail Canvaz. Why does Tramjatra love trams and our friendship with Kolkata? It's because trams are efficient & environmentally friendly forms of urban transport. Melbourne & Kolkata are two of the rare surviving tramways of continuous use & members of a prestigious global tram family. Famous cities that also have continuously use tramways include Hong Kong, Toronto, San Francisco, Amsterdam, Prague, Budapest, Vienna, Zurich, Milano, Rome & Torino. Today, to help lower traffic congestion, toxic levels of air pollution and carbon dioxide emissions in a world where global heating and climate change has become a major issue for all of us, continuous use of tramways with expanded operations is the need of the hour. Thus, tramway revival in large cities has continued at a rapid pace around the world. Often called light rail, cities across

France, Turkey, England and other cities of Europe, the US, Canada, Brazil and Australia have rebuilt extensive tramways at great expense. Cities around the world are decarbonizing their transport systems, 'electrifying' and rebuilding tramways. *It should be noted that Kolkata's tramways is under threat of closure, which goes against the global trend and is leaving this once beautiful city in a traffic congested mess with dirty air that is not good to breathe for its millions of citizens. Kolkata is the last place in the world where political leaders lie to their own people by saying trams cause congestion!*

MELBOURNE and KOLKATA

Melbourne and Kolkata started tramway operations in the late 1800s at a time when cities worldwide were laying tracks and building tramcars. Both cities retained trams when systems worldwide were destroyed in the 1950s & 60s and replaced by cars, freeways and buses. In the mid-1990s, trammies from two tram cities with a shared British colonial heritage formed a tramway friendship. South Melbourne and Belgatchia Depots met and Melbourne tram poetry was translated into Bengali. In October 1996, back in Calcutta for the 2nd time, I arrived with a travelling tram show. A performing Melbourne tram conductor and driver who was invited to decorate Calcutta Tramways Company (CTC) trams and conduct with CTC trammies on the friendship trams. K Class CTC tram 349 was the first of 16 decorated tramcars in Kolkata and 6 in Melbourne since. Friendship trams with names like Bondhu, Calbourne, Tramjatra, Sundari Sunrise, Cricket, Baccha, Paribesh-bandhu, Gitanjali, 20th anniversary trams in both cities, Durga and two 150th Anniversary trams preceded this year's Sundarban Tramjatra tram. All of these trams involved artists, trammies and passengers from both cities when designing and decorating the tram. We have staged over 20 Tramjatra events in both cities in over 30 years of tramway friendship.

2012 PARIBESHBANDHU TRAMJATRA - PLANTING THE SEED FOR THE SUNDARBAN TRAMJATRA

The 2012 Paribesh-bandhu (Eco-friendly) Tramjatra planted a seed which grew into the Sundarban Tramjatra 13 years later. Back then, we wanted to show how trams are a 'friend of the natural world'. We wanted to highlight how plant, animal & human habitats are threatened by climate change, pollution & people. At the Nonapukur Tram Workshops, tram 687 was painted and decorated by Craig, Roberto and many Nonapukur trammies. Electrical Shop worker, Ujjal Dhar,

Green tram with Aussie friends

SOUMITRA DAS

A tram with colourful wildlife from both Down Under and India painted on its body trundled out of the Esplanade tram depot late on Saturday morning. Two Australian men dressed in blue shirts and shorts with leather bags slung across their shoulders in the two compartments were pretending to be conductors but handing out swap cards with photographs of animals printed on them instead of tickets.

Children as well as grown ups, some running alongside the compartments, demanded the cards out of curiosity.

The two men are Roberto D'Andrea, a veteran "tram-mie" and artiste who loves clowning, and Craig Allen, an artist who works for Bush Heritage Australia Private National Park. Both have been here from the first day of this month to raise awareness about pollution and create an eco-friendly tram so that this "clean" mode of transport running on electricity is not junked, as it has been in many cities around the world.

Roberto communicates effectively with his "passengers" with the few words of Bengali he has picked up, or else depends entirely on gestures with a few English words thrown in.

The two men are from Melbourne, the last redoubt of trams in Australia. Roberto D'Andrea, who was a tram conductor by profession, first arrived here way back in 1996 to distribute free fictional Melbourne tram tickets, and was also part of the large team of artists, filmmakers, folk artists and tram activists from both countries that was here in 2001 to launch Tramjatra that had taken the city by storm.

Tramjatra was staged in Melbourne as well. Calcutta and Melbourne, both of which have a shared history having once been the capitals of their respective countries during colonial times, became linked ever since.

Subsequently the Tramjatra book was launched and now the tram activists are back again.

Craig is here for the first time, and he has spent much of his time at the Nonapukur tram depot painting the "Paribeshbandhu tram" with pictures of the kangaroo, koala bear, kingfisher, kookaburra, and tiger and gharial as well, whose photographs were printed both on the swap cards and on the small posters pasted below the roofs of the two tram compartments.

He was assisted by artists who are CTC employees, like Ujjal Dhar, who had participated in earlier Australian endeavours as well.

The cards were created by Connies, a small company Roberto has formed that organises popular festivals and engages with schools to raise environment awareness. They are in Calcutta to celebrate the 10th birthday of the company.

The tram will continue to ply in north Calcutta around Chitpur and Bidhan Sarani even after the two Australians are gone.

Craig Allen and (right) Roberto D'Andrea pose with the wildlife swap cards on the eco-friendly tram. Picture by Sayantan Ghosh

was the principal artist. Bird and mammal emblems like the Orange-bellied Parrot, Great Indian Hornbill, Bengal Tiger and Leadbeater's Possum were boldly painted on the tram. Frogs, lizards, plants, butterflies, sea dragons, fish & insects from Australia & India were also featured. Melbourne Connies performed with CTC trammies to yarn and give away cards with animals painted on the Paribesh tram as it tracked from Belgatchia to Howrah, Esplanade, Park Circus, Gariahat, Kidderpore and Tollygunge. By the time we returned in 2012, mostly, all of the CTC's worn tram track had been replaced by new track laid in long lasting mass concrete and the overhead electrical system was new. It was wonderful to return to new tram track, smooth running and increased tram speeds....and most importantly, tram derailments, which were a common back in the 1990's and early 2000's, had dropped by 90 plus% which gave passengers confidence that they would arrive safely at their destination. Tram patronage had increased in north Kolkata on narrow roads. South Kolkata, on wider roads lost most of its track reservation and safe and assessable tram stops where passengers could enter and exit trams safely. Still more work is required to fix this problem.

TRAMWAYS - A FRIEND OF PEOPLE AND THE NATURAL WORLD – SUNDARBAN TRAMJATRA

The 2023 Tramjatra - 150th Anniversary of the Kolkata's tramway helped create a mass 'public love in' with the tramways. Decorated trams, performing conductors, song, dance, tram theatre, a historic tram parade and a huge amount of media coverage raised the tram's profile at a time when the Government of West Bengal wanted to close the tram system and only leave Kolkata with a short 'heritage' tram line. This hugely successful tram festival ran for 6 days and raised the tram debate amongst media and citizens. Once again, the Tramjatra team argued for a high frequency passenger tram service and we had some success helping to reopen Route #5 from Shyambazzar to the Esplanade, and 'empowered' the WBTC Managing Director to start the driver training program at the Tollygunge Depot (30 points men trained as tram drivers). After the event, the Australian Consul General in Kolkata who had been a great supporter, encouraged 'Tramjatra' to apply for Australian Government funding via the Maitri fellowship program, which aims to grow the friendship between Australia and India. Our Sundarban Tramjatra proposal was chosen and funded by the Centre for Australian and Indian Relations. This gave us an opportunity to focus our attention on the Sundarban and once again take the opportunity to show how trams are a friend of the 'natural world'.

SUNDARBAN TRAMJATRA – A LEARNING FESTIVAL

We also called the STJ a 'Learning Festival'. The CTUA and other pro-tram organisations did not talk much about the global trend, led by the United Nations, to 'decarbonise and electrify transport' to help reduce carbon dioxide emissions and reverse Global Heating, which is by far the biggest threat to global humanity and our natural world. This gave Tramjatra the opportunity to highlight another important reason for tramway revival. We wanted to keep growing our existing links with tram workers, artists, environmentalists and passengers, one more time. Before decorating a WBTC tramcar with a Sundarban 'environment' theme, our project team visited the Sundarban to learn about the effects of

TRAM RIDES TO CAMPAIGN FOR SUNDARBANS

Indranil Das

Former Melbourne tram conductors Roberto D'Andrea and Tony Grahams paint a tramcar at the Nonapukur depot ahead of the tram festival, themed 'Sundarban Tramjatra'. The tram, bearing motifs of mangroves and wildlife, will ferry people free of cost between Gariahat and Shyambazar on festival days to spread awareness about climate change and the geological relation between the Gangetic delta and Kolkata

Climate Change, biodiversity, people, culture and stage a workshop-performance at the Premaya Foundation Headquarters (one of our NGO partners) in the Sundarban.

SUNDARBAN TRAMJATRA – TRAM ROUTES & MANGROVE ROOTS

The STJ celebrated the largest mangrove forest on planet earth, the Sundarban and its neighbouring megacity Kolkata. Both places have seen increasing social, economic and ecological pressures with extreme vulnerability to climate change. Sea level rise, extreme summer heat and stronger cyclones are already starting to take their toll. *'Mangrove Roots & Tram Routes'* was one of our themes. The extensive Sundarban mangrove forest and Kolkata's trams are linked. The Sundarban breathes in carbon dioxide and gives us clean air oxygen, is a huge 'carbon sink' and rich in biodiversity. This helps lower the damaging effects of strong cyclones reaching Kolkata. The Sundarban mangrove ecosystem supports a wide variety of animal species including a large population of Chital, the largest Indian tiger population, Wild Boar, Fishing & Leopard Cats, small Indian Civets and the Common Otter. Kingsfishers, long distance migratory birds and an impressive list of birds of prey also inhabit the Sundarban. Superbly rich in fauna, there are 693 species of wildlife. When researching, everything we read about the Sundarban fascinated us. A huge Tiger reserve, Unesco World Heritage site, Ramsar listed wetland for migratory birds and a large mangrove filled National Park.

In turn, if the Kolkata Tramways was revived, this would help lower large volumes of air pollution from being 'dumped' on the Sundarban. As Abhijit Chatterjee (an air pollution expert from the Bose Institute) said at our Citizens Assembly, "close to 50% of the toxins found in the soils and waterways of the Sundarban come from 'transport sector sourced air pollution' in Kolkata. For every 1 degree increase in global temperatures, this will lead to a 15% decrease in photo synthesis of mangrove trees". It was made clear by numerous people and groups that 'Kolkata's' survival was dependant on a healthy Sundarban. Extreme summer heat, sea level rise and stronger cyclones would become the norm if Kolkata did not revive its tramways and other Indian and global cities did not decarbonizes transport and change their ways!

We launched the Sundarban Tramjatra event on Friday, March 28. Four days of tram related activities culminating in a Citizens Assembly on Monday, March 31.

Photos courtesy: TrainTrackers Archives

THE DECORATED TRAM & ESPLANADE HUB/DEPOT

On return to Kolkata, we chartered Gariahat Depot tram 256 from the WBTC. The outside of 256 was decorated with biodiversity, culture and climate change imagery from the Sundarban by our artistic director Mahadeb Shi, Sumantra Mukherjee and his team at the Nonapukur Tram Workshops. Inspired by their visit with the project team to the Sundarban, Patua Swarna Chitrakar's drawings were featured inside. To help increase 'understanding', I trained Sajal Mondal to join Tony and me as performing Tramjatra conductors onboard the Sundarban tram. Sajal speaks fluent Bengali, Hindi and English and was a great addition to the conductor team. Each conductor had a series of Climate Tiger, Sundarban biodiversity and a new series of colourful tram and bookmark tickets to yarn and give away to passengers, both inside and outside the tram. Rajesh Shinde performed a specially written STJ play complete with tiger puppet in Bengali and Hindi. The Sundarban Tram tracked on the two remaining tram routes from north to south Kolkata between Shyambazar and the Esplanade (Route #5) and the Esplanade and Gariahat on Route #25 for 3 days between Friday, March 28 and Sunday, the 30th.

Sumantra and his team, Mick Douglas and Mahadeb Shi also designed and built a Sundarban Boat-pandal hub, centrally

located in the Esplanade. The STJ hub served as our tram depot where we staged a range of environment, biodiversity, climate and tramway themed activities. Our tram was often 'parked' on the siding track close by. Activities included tram drawings by the Kolkata Sketchers, the youth led Thoughtshop Foundation giving us 'totem' animals to look after, Mumbai designer Sangeeth Sarkar and his adapting to place and climate workshops and make your own tram tickets with Rob Eales and Neal Haslem. In the evening, a Sundarban soundscape, Swarna, Rajesh and Biproy and his band Ektara Desi staging musical performances, guest speakers and more. Thousands of locals, trammies and media attended and our depot turned into a meeting place with the tram picking up and dropping off passengers.

Sandip Roy, a freelance journalist who writes for the BBC and other publications wrote an article about the Sundarban Tramjatra. Sandip followed the 150th Anniversary celebrations and knows Tramjatra well. Titled - 'The Nostalgia of Trams - everyone has a story', and subtitled, 'The Sundarban Tramjatra aims to raise awareness about trams and the Sundarban'. But the struggle to save trams in the teeth of government opposition remains an uphill one.

SUNDARBAN TRAMJATRA CITIZENS ASSEMBLY

On Monday, March 31 we staged a Citizens Assembly. 'Reckoning Climate Crisis in the Sundarbans & Kolkata' was staged at the ICCR Rabindranath Tagore Centre, Satyajit Ray Auditorium. The bio-regional arranged marriage between the Sundarban and Kolkata was explored. MC Jayanta Basu and Artistic Director Mahadeb Shi invited a variety of Bengali and Sundarban based academics from the environment, climate, arts and transport sectors to present on stage. The event was held at the ICCR Rabindranath Tagore Centre and focused on the importance of protecting the Sundarban's unique biodiversity, understanding the causes and effects of climate change, support for Kolkata's tramways and 'decarbonising transport' solutions. In a Times of India report on Tuesday April 2, journalist Krishnendu Bandyopadhyay wrote, "The City's historic tramways took centre stage in discussions on urban sustainability and climate resilience at a gathering of experts on Monday. The event, which marked the historic Sundarban Tramjatra, brought together specialists who

Keeping trams on **track**

Australian trammie **Roberto D'Andrea's** Tramjatra marks thirty years of tramway friendship between Melbourne and Kolkata

BY PRUTHA CHAKRABORTY

"My friends and family joke that I am a tram baby," laughs Roberto D'Andrea.

Born in 1961 to Italian migrants [Giuseppe and Immacolata] who met, courted, and even married along Melbourne's No. 70 tram line, Roberto's earliest memories of trams are foetal ones - safely nestled in his mother's womb as she commuted through the city. Little did he know that that would not only shape his career as a beloved Melbourne tram conductor, but also inspire a unique cross-continental cultural movement: Tramjatra.

The SundarbanTramjatra, held in March 2025 in Kolkata, was a four-day festival that marked 30 years of tramway friendship between Kolkata and Melbourne. This year's edition was themed around the Sundarbans, the largest mangrove forest on Earth, which, like Kolkata's tramways, faces immense environmental and political threats. The festival saw a Kolkata tram transformed into a moving artwork featuring biodiversity-themed designs by patua artist Sarna Chitrakar and illustrator Sumantra Mukherjee, supported by public events, and folk performances.

But where is Roberto D'Andrea in all this, you ask? He is the beating heart of this enduring movement.

Roberto in Calcutta trams in 1996

Calcutta calling

For Roberto, the tram was never just a mode of transport. It was a stage, a classroom, a community hub - and at times, a protest platform. After traveling the world in the 1980s and seeing trams vanish from urban landscapes in North America and Europe, he returned to a Melbourne that had defiantly kept its tramways alive.

"Conductors had a smart looking uniform, leather bags and old-style paper and cardboard tickets. It was like stepping back in time. I wanted to become a tram conductor," he says with fond nostalgia.

Each depot had a group of theatrical-entertaining conductors (affectionately called 'Connies' by Victorians).

"Drivers and conductors supported each other, comrades. I was also a conductor trainer and then became a tram driver. I loved driving the old wooden-bodied W Class trams," he shares.

Eventually, he became a trammie at the South Melbourne Tram Depot, which Roberto calls "the most 'eccentric' of all eight Melbourne depots, with more entertaining connies and trammies that were proud of Melbourne's unique tram history".

In October 1994, Roberto's tram journey took a transcendent turn. A girlfriend, Sarina, convinced him to join her on a holiday to India. Before departing, fellow tram enthusiasts (also called 'gunzels') told him that the only tramway to survive in India was the Calcutta Tramways Company. Naturally, on his first day on Indian soil Roberto managed to hear the tram bells (called gongs) at a distance from his Chowringee accommodation.

"All I had to do was follow the sound until I reached the Esplanade tram terminus in central Calcutta. The trammies there took me to the Belgachia Depot...we played like tram children comparing life as a trammie in Melbourne and Calcutta," he remembers.

Trams matter

From that serendipitous encounter, the Tramjatraprogram was born. A grassroots celebration of tram culture and sustainability, Tramjatra became a creative alliance between Melbourne and Kolkata tram lovers. In 1996, Roberto returned to India with a "travelling tram show" launching a movement that has since seen 16 trams in Kolkata and six in Melbourne transformed into moving artworks - canvases for messages of cultural diversity, climate action, and community resilience.

"Melbourne has a wonderful tram decorating tradition that formally started in the late 1970s," he explains. "This is the tradition that we took to Calcutta. Our 1997 Calbourne Tram was a co-design between Michael Douglas (co-founder of Tramjatra), myself and the tramway workers from Belgachia depot. Friendship trams with names like Bondhu (meaning friend in Bengali), Calbourne, Sundari Sunrise, Cricket, Baccha, Paribeshbandhu, Gitanjali (an ode to Rabindranath Tagore's book), 20th anniversary trams in both cities, Durga (Hindu goddess) and two 150th anniversary trams preceded this year's SundarbanTramjatra tram."

Despite political roadblocks and route decommissions, Roberto's resolve is unwavering. "Kolkata has a perfectly good tram system. In an age of climate emergency, we should be investing in trams, not dismantling them."

Today, trams are making a global comeback in cities from Edinburgh to San Diego to help lower congestion, carbon emissions and air pollution. Roberto's decades-long mission to preserve trams in Australia and India deserves attention.

"Trams are more than vehicles - they're symbols," he says. "Of inclusivity, of history, of resistance. They connect us physically, emotionally, and culturally."

And while he remains based in Melbourne, his heart is permanently docked between two depots: South Melbourne and Belgachia.

"Each Tramjatra is a new beginning," he says. "It's not just about preserving the past,it's about imagining a better future."

Sundarban Tramjatra festival to raise awareness on climate change

OUR CORRESPONDENT

KOLKATA: The City of Joy is set to host a special four-day festival, Sundarban Tramjatra, from March 28 to 31.

The event will celebrate the unique connection between Kolkata's trams and the vital Sundarbans mangrove ecosystem. It also aims to raise awareness about climate change and its impact on both the Sundarbans and Kolkata, both recognised as vulnerable hotspots.

The festival, supported by the Australian Government under the Maitri Cultural Grant and RMIT University, will use art, discussions, and community engagement to highlight the importance of preserving the Sundarbans, the world's largest tidal mangrove forest, and its connection to Kolkata. Artistic director Mahadeb Shi said: "For three

The Festival

- The event will celebrate the unique connection between Kolkata's trams and the vital Sundarbans mangrove ecosystem
- Filmmaker Ashoke Viswanathan will lead discussions on how both Kolkata and the Sundarbans can adapt to climate change

dialogue for livable cities and nature protection. This festival now brings the Sundarbans into the conversation, supporting local communities in their environmental work."

The festival's opening event will take place on March 28 at 9:30 am at the Esplanade Tram Terminus. A specially transformed tram, decorated with artworks showcasing the bio-

begin its journey at 10:30 am, running along two active Kolkata tram routes—Gariahat to Esplanade and Syambazar to Esplanade—offering free rides to the public until 5:30 pm.

Melbourne tram conductor Roberto D'Andrea, co-curator of the festival, expressed his excitement, saying: "This event continues to strengthen the bond between Kolkata

celebrating biodiversity, and enhancing the human connection." "The injustice of climate change is confronting," said Mick Douglas, festival co-curator and associate professor at RMIT University.

"Communities least responsible for climate change are the most at risk. By learning from the Sundarbans and Kolkata, we hope to provoke global citizens to act justly and urgently," Douglas said.

From March 28 to 30, the Esplanade Tram Terminus will become a cultural hub between 4 pm and 9 pm, with workshops, live music and soundscapes of the Sundarbans. Filmmaker Ashoke Viswanathan will lead discussions on how both Kolkata and the Sundarbans can adapt to climate change. On March 31, a Citizens' Assembly at the ICCR Rabindranath Tagore Cen-

ট্রামযাত্রায় সুন্দরবন রক্ষার বার্তা ট্রামপ্রেমীদের

স্টাফ রিপোর্টার: ট্রামেই যেন একফালি সুন্দরবন। ঢং ঢং করে ঘণ্টা বাজিয়ে এঁকেবেঁকে সে ছুটবে শহরের রাজপথে। আর ভিতরে হবে সুন্দরবনের লোকগায়কদের নাটক, গান, আড্ডা, নানা অনুষ্ঠান। ট্রামে চেপে সুন্দরবনের মানুষের দিনলিপি সম্পর্কে অবহিত কলকাতার মানুষজন। ট্রামযাত্রার মাধ্যমে বিশ্বের বৃহত্তম ম্যানগ্রোভ সুন্দরবন রক্ষার বার্তা দিতে শহরে আসছেন বিভিন্ন দেশ থেকে ট্রামপ্রেমীরা। আগামী শুক্রবার ২৮ মার্চ থেকে শহরে হতে চলেছে চারদিন ব্যাপী অনুষ্ঠান। নাম দেওয়া হয়েছে 'সুন্দরবন ট্রামযাত্রা'। একটি সুসজ্জিত ট্রাম সুন্দরবনের প্রাণশক্তিকে কলকাতায় নিয়ে আসবে।

মেলবোর্নের ট্রাম কন্ডাক্টর রবের্তো আন্দ্রেয়া ও অস্ট্রেলিয়ার একটি প্রতিনিধি দল প্রতীকী টিকিটের মাধ্যমে যাত্রীদের শুভেচ্ছা জানাবেন ও আড্ডা দেবেন। বুধবার প্রেসক্লাবে একটি সাংবাদিক সম্মেলন করা হয় ট্রামপ্রেমী সংগঠনের তরফে। সেখানে উপস্থিত ছিলেন এই ট্রামযাত্রা উৎসবের আর্টিস্টিক ডিরেক্টর ও

সাংবাদিক বৈঠকে ট্রামযাত্রা উৎসবের প্রতিনিধি মহাদেব শী, মেলবোর্নের ট্রাম কন্ডাক্টর রবের্তো আন্দ্রেয়া-সহ বিদেশি ট্রামপ্রেমীরা। —প্রবীর বন্দ্যোপাধ্যায়

বিখ্যাত চিত্রনির্মাতা মহাদেব শী। তিনি বলেন, "তিরিশ বছর ধরে ট্রামযাত্রা ট্রামকেন্দ্রিক অনেক ধরনের সাংস্কৃতিক কাজ করে চলেছে। এই উৎসবে সুন্দরবন এবং কলকাতার জলবায়ু সংকট নিয়ে কথা বলার একটা পরিসর তৈরি করা হয়েছে। কীভাবে এই সংকটকে প্রতিহত করা যায়, তা নিয়ে প্রতিনিয়ত আমরা ভাবছি। আমরা বলছি, শুধু হেরিটেজ হিসাবে ট্রাম থেকে যাওয়া নয়, ট্রামকে আরও বেশি করে যাতে ব্যবহার করা যায়, আমরা সেই আবেদন রাখছি।"

অস্ট্রেলিয়া থেকে আসা প্রতিনিধিরা প্রত্যেকেই চান, পরিবেশরক্ষায় কলকাতায় ট্রাম চলুক তার নিজের ছন্দে। আগামী ২৮-৩১ এই চার দিন ধরে চলবে কলকাতা-মেলবোর্ন ট্রামযাত্রা। তার জন্য এখন থেকেই শুরু হয়ে গিয়েছে প্রস্তুতি। রাজ্য সরকারের একটি ট্রাম ভাড়া নিয়ে চালানো হবে উৎসবের চার দিন। এই দিনগুলোয় সকাল থেকে সন্ধ্যা পর্যন্ত গড়িয়াহাট-এসপ্ল্যানেড-শ্যামবাজার রুটে বিশেষ ওই ট্রামটিতে বিনামূল্যে ভ্রমণ করতে পারবেন শহরের মানুষ। এই উৎসবের অন্যতম উদ্যোক্তা অস্ট্রেলিয়ান কন্ডাক্টর রবের্তো ডি আন্দ্রেয়া বলেন, 'বিশ্বের সব শহর 'লাইট রেল' হিসাবে ট্রাম ফিরিয়ে আনছে। এর লক্ষ্যই হচ্ছে, ভিড় কমানো, দূষণমুক্তি ও কার্বন নিঃসরণ।" রবার্তোর কথায়, "সুন্দরবন ট্রামযাত্রা নানারকম রঙিন ট্রাম, জীববৈচিত্র উদযাপন করে বানানো তথ্যমূলক টিকিট এবং মানুষে মানুষে যোগাযোগকে প্রাধান্য দিয়ে অস্ট্রেলিয়া ও ভারতের মধ্যে বন্ধুত্বের পরিসর বিস্তৃত করার লক্ষ্যে ক্রমাগত কাজ চলছে।"

আরেক উদ্যোক্তা মিক ডগলাস বলেন, "ট্রামকে বাঁচাতে সকলকে উদ্যোগ নিতে হবে।" এ বিষয়ে ৩১ মার্চ বিকেল সাড়ে চারটেয় সুন্দরবন ও কলকাতার জলবায়ু সংকট নিয়ে সেমিনারের আয়োজন করা হয়েছে আইসিসিআর রবীন্দ্রনাথ টেগোর সেন্টার সত্যজিৎ রায় অডিটোরিয়ামে। এদিকে এসপ্ল্যানেড ট্রাম টার্মিনাসে উৎসবের চার দিন সন্ধেয় সাংস্কৃতিক অনুষ্ঠানেও উঠে আসবে সুন্দরবন প্রসঙ্গ। সেখানে তৈরি করা হবে নৌকোর আদলে মণ্ডপ। সুন্দরবনের পরিবেশের বিভিন্ন ধ্বনি নিয়ে হবে একটি বিশেষ অনুষ্ঠান।

Sunderban Tramjatra: Kolkata trams carry message of conservation

OUR CORRESPONDENT

KOLKATA: A specially-decorated tram featuring artistic depictions of the Sunderbans took to Kolkata's streets on Friday as part of the four-day Sunderban Tramjatra. Running until March 31, the event aims to raise awareness about the world's largest mangrove forest and its link to climate change.

The inauguration was held at Esplanade tram terminus, where a stage resembling a

The nostalgia of trams—everyone has a story

The Sundarban Tramjatra aims to raise awareness about trams and the Sundarbans. But the struggle to save trams in the teeth of government opposition remains an uphill one

CULT FRICTION

SANDIP ROY

A tram decorated for Sundarban Tramjatra.

Tram joins Sundarbans' climate-change fight

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Kolkata: An increase of 1% in carbon emissions in Kolkata will reduce the photosynthesis of mangroves by 15%, Abhijit Chatterjee, an air pollution expert from Bose Institute, said on Tuesday to underline why trams remain central to the city's decarbonisation efforts, offering a solution that no other mode of transport can match.

The city's historic tramways took centre stage in discussions on urban sustainability and climate resilience at a gathering of experts on Monday. The event, which marked the historic Sundarban Tramyatra, brought together specialists who underscored the link between Kolkata's transport emissions and the fragile ecosystem of the Sundarbans.

Given the crucial role of mangroves in protecting the region, and particularly the city of Kolkata, from climate change and natural disasters, this revelation reinforced the urgency of decarbonisation efforts. Experts at the event stressed that Kolkata, a city highly vulnerable to climate change, cannot afford unchecked motorisation.

Bhargab Maitra, a transportation expert

(Top) A file photo of eroded banks on Gangasagar island; (above) the tram on the 'Sundarban Tramyatra'

creasingly favour personalised transport.

Urban economist Malaya Chatterjee emphasized that trams meet all three criterias for successful public transport—cost-efficiency, regularity, and convenience. "Discontinuing the tram system would be the greatest suicidal act for the city," he warned.

Alok Jain, a sustainable urban mobility expert from Hong Kong, who previously managed the Hong Kong Tramway and Kowlo-

Despite their benefits, trams face an uncertain future. Pradeep Kakkar, a city-based environmentalist who has taken legal action against the govt's proposed tramway abolition, criticised the current policy. "Kolkata's tramways are being forced into extinction, which goes against progressive, citizen-focused global trends," he asserted.

"We need forward-looking, integrated planning—not just for Kolkata but for the entire region," said

underscored the link between Kolkata's transport emissions and the fragile ecosystem of the Sundarban. Given the crucial role of mangroves in protecting the region, and particularly the City of Kolkata from climate change and natural disasters, this revelation reinforced the urgency of decarbonizing transport efforts. Experts at the event stressed that Kolkata, a city highly vulnerable to climate change, cannot afford unchecked motorization. Bhargab Maitra, a transportation expert from IIT-Kharagpur, said, "Not only does it worsen emission levels, it also chokes the city as seen in urban centres like Bengaluru. Urban Economist Malaya Chatterjee emphasized, "that trams meet all three criteria for successful public transport - cost efficiency, regularity and convenience. Discontinuing the tram service would be the greatest suicidal act for the city". Calcutta born transport expert Alok Jain, CEO of Trans-consult, an urban mobility consulting firm based in Hong Kong said, "Kolkata is fortunate that it retained its tramway. It's ahead of its time. If the government gave him the tramways, he would increase patronage and run trams at zero-loss to the Government".

30 YEARS OF TRAMWAY FRIENDSHIP – MEDIA, WEBSITE & OUR VOLUNTEERS

The Sundarban Tramjatra event was a huge hit and received considerable media coverage across a variety of formats which included newspapers, television and online media publications. The Sundarban Tramjatra team prepared a media strategy which included preparing a series of performative conductor and STJ tram photos that media outlets could access via the website. Our first media followed up with a media release to promote the Citizens Assembly.

As a part of the 2025 Sundarban Tramjatra we have also prepared a specially designed 'website' which overviews the event. Podcasts from the Citizens Assemble, A Mahadeb short video and pictures of the Climate Tiger, tickets and Biodiversity cards will soon be added in:

www.sundarbantramjatra.net

ACKNOWLEDGMENTS WITH TOKEN OF THANKS

Special thanks to our many volunteers. Media volunteers Anurag Mitra and Souroshanka Maji, Deep Das for helping us with tram selection, media photos and logistics. The entire Sundarban Tramjatra event was filmed and photographed by Shaan and many of our volunteers like Tanmoy Ganguly, Sagnik Gupta and Anurag Mitra. To Indranil, Rudranil and all the volunteers that have helped stage the many Tramjatras over the years we sincerely thank you all!

Another special thanks goes to the citizens of Kolkata. Across the 30 years of friendship I've met many of you, had many a tram chat and always enjoyed your company. You're a very inquisitive and spontaneous people and long may that live. I know there's great support for the tramways and we (Melbourne) have helped to encourage the tram infrastructure upgrade in the early 2000's, with confidence returning on the new tram track and Nonapukur building a new series of trams from 2007. I wish we could have given you the high frequency tram system that you deserve. Kolkata would be a very different place. A proud Indian city

with an European flavour. It's a great lament of mine to see what has happened with the system resulting in wide closure of your tramways today. It breaks my heart to see good quality tram track being covered by bitumen and the system-wide closure with only 2 tram routes remaining. I had a close working relationship with the late Transport Minister Subhas Chakraborty. He deserves praise for investing in infrastructure upgrades and the relaying of new tram track. I also had close working relationships with the CTC's Chairman Cum Managing Directors and head office staff. To

Mr Dilip Chakraboty, Mr Sudhir Ke Dey, Mr Pal and Mr Nilanjan Sandilya, Nonapukur Works Managers and senior officials, special thanks for keeping an open mind and giving Tramjatra your support. To my comrade 'trammie-tram workers', a huge thanks goes your way. From the moment we met in the Esplanade and you took me to Belgatchia Depot, we have been on a wonderful 'jatra' together. You hold a special place in my heart and it has been a privilege to have been given respect and friendship as a fellow trammie and to have been invited into depots and the Nonapukur Workshops on multiple occasions. We've grown old together.

Over the 30 years of tramway friendship, this Sundarban Tramjatra will most likely be our last Melbourne Kolkata Tramjatra to be staged in Kolkata. The Tramjatra Australian and Indian team of Mahadeb, Mick, Tony, Neil, Rob, Phil and I are growing older. We would like to finish our long association and friendship in Melbourne and stage a Sundarban Tramjatra here. Climate Change is a global issue. It needs everyone to act and we don't have any time to waste. We sincerely hope that the present Government of West Bengal, Kolkata Municipal Corporation and Kolkata Traffic Police change their thinking and support the tramways before it's too late. Sadly, I don't think this will happen! Long live the trams of Kolkata, the CTUA and Tramjatra.

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THE LIVING LEGACY OF JAMALPUR

A Pursuit Curated by The Rail Enthusiasts' Society

Somsubhra Das

PRELUDE

Among the many key cornerstones of foundation on which our National Carrier was built and run, the name 'Jamalpur' holds the distinction of being one of those edifices. Jamalpur is not merely the name of another urban agglomeration; it rather happens to be a Railway Town which is handed down as a legacy of the railway from the era of Colonial Administration. Thus, life here still revolves around the railways and why not! Jamalpur hosts the largest and the oldest Locomotive Railway Workshop of Asia apart from holding a Diesel Locomotive Shed as well. So, it's not difficult to comprehend as to why the city has found its place in the annals of Indian Railways. Ergo, being a ferroequinologist, it is obvious that a visit to this Railway Town is no less than a pilgrimage.

Jamalpur also enjoys a special connection with the Nobel Laureate, Joseph Rudyard Kipling, who has his roots to India – the country of his birth. Born in Bombay in 1865, the prolific English journalist, novelist, poet and short-story writer had stayed at Jamalpur in the winter of 1887-1888. So, there is no surprise that Rudyard Kipling and Jamalpur are often named in the same breath. Many references of Kipling's stay at Jamalpur can be traced in his literary works. One of the famous excerpts include "*The heart of Jamalpur is the shops and here a visitor will see more things in an hour than he can understand in a year*".

The members of the Rail Enthusiasts' Society (RES from here on) had been exploring the possibility of a probable visit to Jamalpur and finally 13th and 14th of June, 2025 was earmarked for the purpose. Apart from the visit to the Jamalpur Workshop and the Jamalpur Diesel Locomotive Shed, some other iconic sites like the Jamalpur Tunnel, the Munger Rail-cum-Road Bridge and the old Munger (formerly spelt as Monghyr by the British) station also featured in the itinerary. A drop by the Indian Railway Institute of Mechanical and Electrical Engineering was later added to the list. Enthusiasm was at its peak as 15 members of the RES, hailing from different parts of the nation, arrived the railway town by the proposed date to assemble at Yantrik Niwas – the establishment's hostel for breakfast.

DAY 1

- TOUR DE WORKSHOP

After breakfast, it was time to get into the thick of things and

start our 'mission'. Mr. JL Singh, the Secretary of the RES, who has spent years of his apprenticeship period with the Workshop from 1966 for being a railway man, was by default the best person to lead us. He unraveled one fact after another, some not to be found elsewhere. For us, it seemed like we were taken back to those days of mercurial rise of the workshop. With Mr. Singh showing way, everything was in order.

Legends have it that Jamalpur derives its name from the 16th century Sufi Saint – Jamal Baba, whose dargah is still present in the city. Jamalpur earned the sobriquet of being the 'Crewe of India' from none other than Rudyard Kipling. However, our first destination was the workshop that forms the genesis of the settlement. The Jamalpur Workshop was established on 8th February, 1862 as a Locomotive Workshop of the then East Indian Railway (EIR). Being the first workshop, Jamalpur assumed importance of gargantuan proportion. It was the Headquarters of Locomotive Department of East Indian Railway till 1925 wherein assembling, maintaining and overhauling of steam engines was done at full throttle.

During the first decade, Jamalpur Workshop had assembled a whopping 452 locomotives. As per the account from Rudyard Kipling's book "From Sea to Sea – Among the Railway Folk" (Chapter-II- the shops), dated 1988, it comes to the fore that Jamalpur had made a tender in 1885 and 10 steam locomotives were being manufactured by it. Thus, it can be safely considered that the workshop had started manufacturing locomotive by 1889 itself. Such was the electrifying performance that by 1952, it had POHed (Periodic Overhaul) around 30,000 locomotives, while another 11,000 for intermediate repairs and by the late 1960s it had touched an astounding figure of 50,000 locomotives. A record that still stands good!

As a web of nostalgia enamoured us, a question popped up. Why the then British Government chose Jamalpur over other cities for the workshop? Well, the Brits were no noobs and were well conversant with the fact this city on the southern bank of Ganges has been a den of skilled local blacksmiths.

Thus, building a workshop there meant availability of skilled labours at cheaper price. Another factor that worked in its favour was its location being near the Sahibganj Loop alignment that used to be the principal trunk route at the time. This decision was vindicated as Jamalpur Workshop became a self-sufficient or as they call these days 'Atma Nirbhar'. Right from rolling mills, nut and bolt shops, foundry to metallurgical lab facilities and machine tool facilities – this workshop had or has it all. The first railway steel foundry in India was also setup here in 1899. The presence of a workshop for repairing and building boilers along with availability of steel from the steel foundry had made the Jamalpur Workshop totally equipped to start producing locomotives but for the wheels. Soon, by the 20th century, it had started rolling out its own locomotives. CA 764 christened as "Lady Curzon" after the Mary Victoria Curzon, Baroness Curzon of Kedleston, was the first turned-out locomotive in 1899.

With the Steam Engines gathering steam across the nation, Jamalpur Workshop reached the peak of its powers. The introduction of Diesel Traction in the late 1950s, because of the imports from the American Locomotive Company (ALCO), marked the beginning of the end for steam power in the country. This radical shift in policy had dramatically and drastically changed fortunes of the workshop in a negative way. The workshop had remained deep rooted to steams for all these years during which the diesels had begun to breach the steam barrier. Thus, sooner rather than later, the 'Invincibility' factor about the workshop had to be busted. As steams faced relegation, Jamalpur Workshop was quickly losing its relevance as most of the diesel-oriented work had gone to Golden Rock, Kharagpur among others. It became a question of its survival!

Jamalpur Workshop had to stay in the hunt and for that, it needed to rediscover and reinvent itself in a big way. It shifted priorities to overhauling of diesel locomotives along with various types of wagons, manufacturing and overhauling of diesel hydraulic break-down cranes up to 140

tons capacity and various types of tower cars. This opened a vista of opportunities for the workshop.

The ALCOs had brought something with them – a Whitting Jack. Jacks have their own advantages as they require lesser space than cranes with fewer handling issues. This caught the imagination of the Jamalpur authorities as they began manufacturing a couple of their variants as 25 tons and 35 tons. A combination of four such jacks constituted a complete set capable of lifting 100 tons or 140 tons with another option of operating in combination or in isolation. While in use as a set combination, it has a unique feature of shutting down in case of detection of fault in any of the four jacks. This path breaking innovation made Jamalpur come back to limelight as its jacks found place across all railway establishments in the country. Every nook and corner of the 'Jack Shop' with intricate details was demonstrated to us with immense pride.

Onto our next stop – the Wagon Manufacturing Shop. We witnessed waterless toilet equipped caboose being built along with BLC Wagons and other types of carriages like BOXN, etc. The manufacture of waterless toilet equipped caboose fulfills the long-standing demand of Guards for washroom-installed cabooses to help them discharge their duty with more diligence and care. This initiative shows how our national carrier has progressed with the demands of time. We also witnessed a BTPN rake being built, a first by the workshop. This shop showed the ginormous workforce in action.

Next up was the Crane Shop. At the entrance we saw a Tower Van being assembled. As we proceeded further, we saw a few 140 tons cranes being manufactured and another ready for rollout. After learning about some aspects of technicalities of the humongous cranes, we went to the museum only after a sneak peek of the Wagon Repair Shop.

On our way to museum, we saw the Motor Section Shop and CTRB Overhauling Section Wheel Whop. Within the Heritage Museum, we were greeted with artifacts, miniatures and various parts and drawings of steam locomotives. An insignia of a commemorative postal stamp on Jamalpur Workshop released on November 28, 2013 was also on display. Some antic clocks having historical significance have also been preserved. Some photographs of yore have also made their

way to the display stands. Just by the side of the museum, a ZDM3 having road number 133 from Motibagh NG DLS has been found plinthed. Another Motibagh NG DLS homed ZDM3 #132 has also been plinthed in front of Chief Workshop Manager's Office which was our next stop. But before that, we were looking for something special – 'Miss Muffet'!

'Miss Muffet' sounds a bit quirky, right? But hold on, it's a small steam powered locomotive! Miss Muffet has been the most celebrated shunter of the workshop. It is a Sentinel Patent Locomotive built by Cammel Laird & Co. Ltd. in 1928. It was a mesmerizing sight of a puny steam locomotive coupled with a decorated carriage from the yesteryears. 'JAMALPUR EXPRESS' is superscribed on the locomotive in bold fonts. The locomotive has one vertical boiler in the center and fireboxes on either side – a design seldom found elsewhere. We were allowed to climb on the 'live exhibit' where some wasps have found their shelter. Miss Muffet has a Tare Weight of 19 tons and a Gross Weight of 21 tons with Tractive Effort of 3383 Lbs. Touching and feeling Miss Muffet was really an amazing moment for all of us. Though many of us have seen photos of her being in action, yet most of us were not that fortunate to witness her exuding steam. May be another time, another occasion.

After this wonderful experience, we headed for the Chief Workshop Manager's Office whose Conference Room was laid open for us to have a formal meet with the man in charge, Mr. Vinay Prasad Barnwal, who has been instrumental in giving the members of RES this opportunity to explore his workplace. The meet was cordial which was followed by an interaction session led by Mr. Barnwal himself where we floated a proposal to fire up Miss Muffet on the Foundation Day of the workshop thereby enabling more people to know about the rich heritage of the place. He appreciated our proposal and our deep interests before making us aware about the golden days of the workshop which once saw about 14,000 to 16,000 workers discharging their duties during the 60s. That figure now stands at around 9,000. The workshop that started with the strength of around 2000 men saw this decline due to the emergence of the diesel locomotives over their steam counterparts. This had a definite role to play in these dwindling figures as diesel operations do not require such a high number of workers. The matter of the workshop foraying in the fields of manufacture of iron sleepers and other fixed-track fittings, points and crossings, signaling and interlocking along with other machineries for survival also came up and what circumstances led to the establishment of the "Points and Crossings and Interlocking Shop" in 1894. Information about the setting up of a Power House in 1901 which is 130 feet by 12 feet building with 3 U-Type Beliss – Holmes, Steam Engines set of 100 KW each, came up for discussion. Some of us had visited the same just behind the Crane Shop. It was also learned that the rolling mill and nut and bolt shop was closed down in 1984 following gradual outsourcing.

Mr. Barnwal also pointed out that very recently, just prior to our visit, the workshop had started overhauling of High-Horsepower (HHP) EMD locomotives, a precedence of it being only the second workshop after the Golden Rock Workshop

to undertake such task. As the POH and major schedules of many a HHP locomotives are pending since pandemic period owing to lack of parts and third-party vendor support, now it has resumed with full vigour as a large number of such locomotives await their turn.

Mr. JL Singh along with Mr. Barnwal expounded some interesting facts about the workshop and its role in the two World Wars. The workshop manufactured about 600,000 dog-spikes and 100,000 fish-bolts and nuts during the war. The World War-II saw the Rolling Mill of workshop catering to the needs of the Ordnance Factories of India. On the export front, the workshop had earned quite a name for itself as it had manufactured the standard cranks for Meter Gauge locomotives of Mesopotamian Railways along with fabricating Giant Lifting Screws (6 Nos.) measuring 9 feet long & 3 inches in diameter with Bronze Nuts (12 Nos.) for the Gurmat Ali Bridge of Mesopotamian Railways in 1918-19. Amazing! Isn't it ?

After a highly engaging exchange of thoughts and an escape from the sweltering summer heat of over 40 degrees for a good 45 minutes, it was time for a visit to the Periodic Overhauling and Repair Shop of Diesel Locomotives which was one final lap before the lunch break. This shop was started in 1982 to undertake periodic overhauling and repairs of accident affected locomotives. A WDP4 of Gooty DLS (#20043), a WDP4 of Tughlakabad DLS (#20032) and a couple of WDP4s of Siliguri DLS (#20015 and #20017) were undergoing overhaul clearly indicating the ALCO Days of Indian Railways are now a thing of past.

On the way to proceeding for lunch, Mr. JL Singh opened a box of anecdotes. Mr. Singh recalled how the Anglo-Indian community, once having a dominating presence in the railway jobs in various capacities, has disappeared without a trace. He also added that the Supervisors' job which was once manned by the Bengalis has undergone a sea change. As we passed by the golf course, Mr. Singh referred about an unusual incident when a 27-year-old British foreman was killed by a tiger within the workshop in 1864. He was buried in the golf course! Before we could reflect much on the issue, our cars had reached the destination for lunch.

• US AT IRIMEE

15 years after the Jamalpur Workshop had come up, the Jamalpur Technical Institute was set up to train workshop officers in 1897. It is now better known as the Indian Railway Institute of Mechanical and Electrical Engineering or IRIMEE and is the sole Engineering College run by the Indian Railways.

Thus, all these inputs stirred further interests in our post-lunch session. IRIMEE happens to be one of the oldest of the five Centralized Training Institutes (CTIs) for training officers with theoretical and practical inputs for a four-year undergraduate degree in mechanical engineering. It also offers professional courses to officers and supervisors of Indian Railways. Courses for non-railway organizations and foreign railways are also proffered here.

The Anglo-Indians have a special connect with this institute as in 1905, an Apprentice Mechanics Scheme was started for them. On graduating, the Apprentice Mechanics were appointed as Assistant Foremen or Assistant Superintendents in the then East India Railway. The scheme was extended to other Indians in 1911. From February 1927, it started training Special Class Railway Apprentice Mechanical and Electrical Engineers and from 1st April 1974, the school was made a Centralised Training Institute (CTI) and renamed as IRIMEE.

A devastating earthquake of 1921 had pulled down the original two-storied building of IRIMEE. But by 1924 it was rebuilt and restored to its old glory. The building houses Model Rooms for Carriage & Wagon, Train Lighting and Air conditioning in coaches, Freight, Air-brake systems, 140 Tons Crane, ALCO Locomotives and High Horsepower Locomotives along with a Reprographics Mechanics Lab, Mechatronics Lab, Computer Centre, CNC Trainer Machines and a Bio-diesel Lab. Our every query on different aspects was answered with a smiling face by Mr. Pankaj Kumar, Professor at IRIMEE coupled with live demonstrations. The transition from different classes of ALCOs to the HHPs was discussed in details. A visit here was enchanting to say the least as rail enthusiasts with technical and non-technical backgrounds were equally engrossed in the invaluable session of discussion. Mr. Kumar also disclosed the fact about two robots that had started operating there from November 2017. After a soul enriching symposium, we bid adieu for a visit to the Water Works atop a hillock and the imperial Gymkhana.

• A DROP BY THE WATER WORKS

Inaugurated by Sir Charles Stuart Bayley, the then Lieutenant Governor of Bihar and Orissa in 1913, this Water Works was designed by AH Aslett, the then District Engineer. Built under the supervision of EB Brook Fox, Resident Engineer and R Scrivener, Clerk, the project offered view of the entire city enveloped by hills on all sides. The Jamalpur

Diesel Locomotive Shed (DLS) can be seen in the far-off vista.

Water Works operates by taking out water from the Ganges near Munger by a high-powered motor on a floating pontoon. That water reaches Jamalpur through two pipes running parallel to Jamalpur-Munger rail alignment. The water is then stored in giant sedimentation tanks for a certain time from where it is pumped to another tank atop the hill for treatment. The entire system is equipped with 3 Slow Sand Filters each having capacity of 75,000 GPD, 3 Settling Tanks each with 2.5 lakh gallons capacity, 3 Rapid Gravity Sand Filters each with having capacity of 75,000 GPD and 6 Clear Water Reservoirs each with capacity of 1 lakh gallons. Water Works holds the key to Jamalpur's water supply as its 6 Clear Water Reservoirs are the source of water to Jamalpur DLS, Jamalpur Railway Station, Jamalpur Workshop, East Colony, Hospital and all the adjoining areas like Dhobi Ghat and others. Apart from its utility, the hill top offered splendid views and the project had a state of serenity about it. Here also, we were shown every step of the method that is followed for keeping a city hydrated.

- A QUIET SAUNTER DOWN THE GYMKHANA

Remember the adage – "All work and no play makes Jack a dull boy". The Jamalpur Gymkhana, which is home to generations of Special Class Railway Apprentices (SCRAs), has probably been built with such amenities so that the young apprentice officers of the Indian Railways did not feel like leading a monotonous life. It is just that center of excellence that has hostel facilities equipped with a club whose membership though lies within the confines of the inmates only. It offers an ambience that strikes a perfect balance between arduous technical training and recreational-social activities. Just like our Mr. Singh, many of its alumni share a special bond with this exclusive institute. The colonial structure built by the East Indian Railway Company is laced with a well-trimmed lawn amidst a heavy dose of greenery. It truly has an aura about it that echoes the ethos of discipline, teamwork and leadership. From 2015, the Indian Railways did away with the SCRA Recruitment Program and it was substituted by the Indian Railways Service of Mechanical Engineers (IRSME) whose valedictorians share the age-old legacy of the institution.

Before sipping and slipping into a coffee session with snacks, we checked out the plinthed EIR Steam Locomotive CS 773. As evening began to fall, our tired selves demanded rest and respite from a demanding hot day. We dispersed to our respective stays not before chalking out the schedule for the next day which included a morning visit to the Munger Rail-cum-Road Bridge along with the old Munger station followed by a trip to the Jamalpur DLS and the Jamalpur Tunnel.

We hung our boots for the day with one unfinished agenda – dinner. After a recharging the batteries for a while, we have had a sumptuous one tantalizing our taste buds !!

So, now it's all done for the day....

DAY 2

- BRIDGING THE GAP

Over to the next morning, the final day of the trip started a bit early. Some members preferred to visit the Munger Rail-cum-Road Bridge and the old Munger station at the start of

the day while some others preferred it for an evening stride. Thus, two separate teams visited the spot at different times of the day!

Munger and Jamalpur happen to be twin cities located on the southern bank of the Ganges. Munger used to be the ancient seat of rule – an administrative and political center. The city is home to the famous fort which is a historically significant monument dating back to the 14th century, now housing governmental offices, residences and a correctional home. While roaming around the city, one will come across these historical entities every now and then.

Munger has its roots tracing back to the ancient era when it was known as "Guptagadh" or "Guptagarh" and as per historical records, it was founded by Chandragupta Vikramaditya. Mir Qasim Ali, the Nawab of Bengal, had shifted his capital from Murshidabad to Munger and established an arsenal and cannon factory. Thus, Munger's gun manufacturing history dates to more than 200 years. Munger also homes India's oldest tobacco manufacturing unit which was established by the British and later taken over by ITC Limited.

Thus, for a city packed with historical flavour at its every nook and corner, Munger deserves to be intricately explored.

But time was not on our side, thus going beyond the schedule was uncalled for. So, we stuck to our plans which meant 'reconnoitring' nation's third-largest rail-cum-road bridge – the Munger Ganga Bridge. Also known as the Shri Krishna Setu after Bihar's first Chief Minister namely Dr. Srikrishna Sinha, it connects Munger with the North Bihar districts and the North-Eastern India like Khagaria, Begusarai and was dedicated to the nation in 2016. The bridge is a mega structure whose construction started in 2002 and it spans a good 3.685 kilometers while carrying the National Highway 333B above the railroad. The railroad continues in southern end of the bridge by a viaduct having length of 1.273 Km. Though the bridge looks wide enough to hold double line, the alignment is typically single. Before getting on the bridge, we had approached a police personnel member patrolling the site for climbing up the stairs leading to the deck of bridge. He obliged us without much ado. Once on the bridge, we were longing to catch sight of a train clattering by. After waiting for some time, came the 'dream come true' moment as the 73451 Tilrath-Jamalpur DEMU came trundling down the bridge. A sheer magnificent view. This bridge not only connects the either bank of the Ganges but as also acts as a key interzonal link connecting Eastern Railway's Malda Division with East Central Railway's Samastipur Division thereby opening a new gateway.

• OLD MUNGER MEMORABILIA

The bridge saga led us to the path of Old Munger station, now abandoned. Once trains used to terminate there following a branch line from Jamalpur to Munger on the Tin Pahar Junction-Rajmahal route. The line was abandoned long back, even before the road-cum-rail bridge had come into being. The usual sight of the old station entrance being occupied by the locals greeted us. Falling roofs, dilapidated building with overgrowing trees and shrubs nearly made the place inaccessible. Still some mendicants and bovines have found ways to make this abandoned workplace their 'home'. Station Board, Ticket Counters, Platform, Metal Benches, Station Master's Room and Station Master's Bungalow,

Waiting Hall, Water Tank – all are present, suggesting a busier past. The tracks have been covered in vibrant verdure. In the face of oddity of time, the old Munger station presents a site of a lost battle.

With this, the early morning itinerary was done and dusted and it was time to join others for the Jamalpur DLS visit, not before a touchdown to the present Munger station which is under renovation and strikingly different from its older version.

• WALKING ACROSS THE SHADES IN THE SHED

After the first session of the day, it was time for the final lap as we reported at the Yantrik Niwas, once again. There was some spring in our fleet as loco spotting was on the cards for our next destination being the Jamalpur DLS. From railway enthusiasts' perspective, Jamalpur has been a place symbolising stark contrast. The city not only hosts Asia's largest and oldest Locomotive Railway Workshop and country's oldest railway tunnel but also it has nation's newest Diesel Locomotive Shed – quite an antithesis.

While entering the Shed, one can't help but notice the sheer presence of the Madhubani Art on display over the walls and ceilings of the Main Office Building. The Shed had started functioning from 1991 and like many other Diesel Sheds of the nation, holds Electric Locomotives as well, since 2021, under the impact of the onslaught of 'Mission 100% Electrification' of Indian railway routes.

We were cordially greeted by Mr. Krishna Kumar Das, Senior Divisional Mechanical Engineer (Diesel) as he revealed during an interactive session that the Shed's present holding stands at 93 locomotives. Of these, 42 are Diesels while the remaining 51 are Electrics. Of the 42 Diesels, they hold 2 WDM3As and 40 WDG3As while for Electrics, they have 4 WAG5s and the rest are WAG7s. It is noteworthy that neither HHP Diesels nor 3-Phase Electrics have been homed here, at least for now. Mr. Das wears an ultra-positive outlook and yearning to make a name for his workplace by willing to accommodate more locomotives. The Shed has a unique ambience for it being surrounded by hillocks as we observed that maintenance of locos of both tractions being undertaken at different bays. Jamalpur Diesels once used to be regular visitors to the Howrah Division and were links of some prestigious trains across the nation but things have overtly changed over the past few years. Gone are the days when Jamalpur Super (13071/72) had Jamalpur Alco at its helm which had a loco sharing arrangement with the Howrah-Bolpur Shantiniketan Express (12337/38) for decades. But with the frantic and fanatic pace of electrification, often quite unnecessary in certain pockets, have made those days a history. Both trains now get hauled by Electric Locomotives and the loco sharing arrangement has been long done away with. Despite the invasion of Electrics in all major DLSs, the strategic importance of the Diesels makes them indispensable in face of any natural calamity, grid failure or even for accident relief. After documenting everything on offer at the Shed, we headed for our final destination – the Jamalpur Tunnel.

• TUNELLING OUR WAY

The final session was getting intense and interesting.

Exploring country's oldest railway tunnel, not by a mere journey onboard a passing train, but on feet, was becoming the epitome of engrossment! After a short drive from the Shed, we had reached where we were meant to be. The new tunnel comes to sight first but the point of attraction is the older one. Built between 1856 and 1861, across the Rajmahal Hills, it is 775 meters long, 8 meters wide and 7 meters high. The natural waterflow makes the tunnel cooler inside. The newer high-tech and concrete one, built adjacent to the first one, is 341 meters long and was made between 2019 and 2022. Reports suggest the use of Australian technology while building the second one. This old tunnel primarily helped in establishing a thorough rail connectivity from Howrah to Munger. Resident Engineer E.B. Harris, an archaeologist, who is credited with the discovery of the renowned Sultanganj Buddha statue supervised construction of the first tunnel.

Both tunnels offer thoroughfare for two wheelers as we walked through them with Mr. Singh's nimble feet showing the way. The tunnel can be accessed through some ballast quarries located behind the DLS. Never mind the sultry summer heat, photographing trains entering and leaving the tunnels were scenes of pure ecstasy for all of us. With the sun beating down, we took some time out sitting inside the cool shade of the tunnels. But back in our minds, we knew, the trip was done for us. We departed to slip in the comfort of the air-conditioned vehicles after taking group photographs of our adventure. We returned to Yantrik Niwas, one final time, for lunch before parting ways.

Sitting on the train back home, I remembered one of my favorite songs *'All Good Things'* by Nelly Furtado and Quarterhead which described my state of mind....

".... Traveling I always stop at exits
I'm wondering if I'll stay
Young and restless
Living this way I stress less
I want to pull away when the dream dies
The pain sets it and I don't cry
I only feel gravity and I wonder why
Flames to dust
Lovers to friends
Why do all good things come to an end? ...."


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After such a wonderful trip, I am sure that the essence of this song must have got reflected in every participant's mind.

:: POSTLUDE ::

A good two days seemed to have passed in a whisker. Every arrangement involving the trip, right from booking of train tickets to hiring of AC Cars to accommodation in Hotels and Yantrik Niwas went off without a single hiccup.

Thanks to Mr. JL Singh for all the official coordination with the Workshop, IRIMEE and DLS authorities that ensured that the trip got over without any hurdles. Mr. Singh also deserves accolades for making arrangements of accommodation at the historic Yantrik Niwas for some of the interested members. Mr. Singh's infectious personality for not only being the leader of the pack but also being a friend, a fellow companion and a story teller, made sure that there was not a single dull moment. His narratives throughout the tour immensely helped in giving sense and direction to this article.

Thanks to Mr. Sanjoy Mookerjee, heading the East and North East Chapter of the RES, for coordinating with Mr. Vinay Prasad Barnwal – Chief Workshop Manager of Jamalpur Workshop regarding the trip.

Thanks to Mr. Somanko Tiru, member of RES, for taking all the trouble of staying in constant touch with the participants who arrived and departed in different batches, from/for different cities, at different times, facilitating the trip in a great way.

Thanks to Mr. Anamitra Bose, member of RES and Team TrainTrackers, for taking up the initiative of arranging for accommodation of members who did not opt to stay at Yantrik Niwas.

Thanks to the authorities of Jamalpur Workshop and Jamalpur DLS for providing convenience facilities on their own accord. Thanks to the authorities of IRIMEE and Water Works for bearing the pain of entertaining a bunch of ferroequinologists. Thanks to all the participating members of the trip who made this trip even more memorable and enjoyable. And finally, thanks to Mr. Tapan Pal, member of RES, for providing invaluable inputs which have helped giving shape to this write-up.

As they say, "One good thing gives three", thus, the success of the 'Jamalpur Trail' sowed the prospect of the next RES initiative – the Gwalior Narrow Gauge Diesel Locomotive Shed visit. Let the details be divulged in the next session....

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From Meter-gauge To Wilderness

My Ride on India's Hidden Safari Route

Shourya Basu

It is about a train trundling down a unique line. Once upon a time, this route had 'mainline' status and many prestigious trains ran along it, including the Awadh Assam Express, formerly known as the Awadh Tirhut Mail, which used to operate from Siliguri Junction to Kanpur Anwarganj, later extended to further east to Kamakhya and eventually to Dibrugarh Town. It was once part of the all-important metre-gauge network that stretched from the far east to the northwestern fringes thereby offering direct connection. But that's not what makes this route so special.

What truly sets it apart is its alignment — it passes through the core areas of two reserved forests. Dudhwa National Park & Tiger Reserve and Katarniaghat Wildlife Sanctuary. In fact, the former even has an active railway station inside the core area, aptly named Dudhwa Railway Station.

Yes, this is the Mailani to Nanpara metre-gauge connect which I am referring to. Such a rare alignment offers a unique opportunity — a jungle safari onboard a train! One can experience this unique phenomenon by being onboard the Bi-weekly 52260/52259 Mailani–Bichia–Mailani Tourist Passenger which runs on Saturdays and Sundays towing a Vistadome Coach with it along with some General Second Class coaches. The train departs Mailani at 6:05 am and reaches Bichia at 10:30 am covering 108 km while halting at all stations en route. Vistadome AC Chair Car accommodations require prior reservation.

"The author is at present working as a research scholar in the field of Heritage Railways and Tourism at Indian Institute of Tourism and Travel Management which operates under Jawaharlal Nehru University, Delhi. He is fascinated by railways since childhood and likes undertaking offbeat rail journeys - all thanks to his grandfather, who was also a rail enthusiast. Besides all these activities, the author also works on the tramways in Kolkata."

The Vistadome coach is a modified coach from regular MG stock with 2x2 seating arrangement, wide windows and an observation deck at its rear. The coach is equipped with a toilet with water supply, an unused pantry area, six doors, 3 on either side and 4 split ACs. It also has LED lights, fans and numerous power outlets on the walls. The outside is wrapped with vinyls depicting different wild animals like tigers, deers, elephants, rhinos etc. Also, the coach needs an external power supply, which is provided by the attached generator car.

I had the opportunity to ride this incredible train in March 2025, from Palia Kalan to Bichia. The train arrived at the bustling town of Palia Kalan right on time at 6:57 am. I had reserved seats in the AC Vistadome coach. Being off-season, the coach had only four passengers but the general coaches were packed with locals. As the train departed, the landscape changed from the echoes of a busy town to quieter countryside with fields and ponds filling up the frames before entering the forest. The deeper we went, the thicker the forest got. Sunlight barely touched ground at places and the tracks were covered with fallen leaves. The surroundings soon transformed into beautiful and picturesque landscapes.

As we crossed a waterbody, we saw crocodiles sunbathing in the mud and soon we reached Dudhwa Railway Station, the third stop on the route but our first halt — located right inside the Dudhwa National Park. Barely anyone uses the station, but it is one of the few with a tea and snacks stall. We departed Dudhwa and continued deeper into the jungle, passing the abandoned Sonaripur station, now almost completely consumed by the forest. From the wide Vistadome windows, we spotted dancing peacocks, spotted deer, sambar, barking deer, bison and a wide variety of birds. Watching wildlife from a moving train was a truly an experience which is one of its kind!

After an hour of trundling through dense forests, the jungle began to disappear as houses and fields began to appear, signalling our arrival at Belrayan. After a brief stop, we rolled forward, this time through farmlands and small villages. Twenty minutes later, we began to see concrete houses and paved roads — signs of an approaching town. This was Tikunia, with a significant Sikh population. It's the second major stop on the route after Palia Kalan. Earlier, trains used

to start and terminate from Tikunia, back when the line ran from Mailani to Gonda. Remnants of that era are still visible — loop and stabling lines, one of which is still in use for crossings, while the others lie abandoned.

After a five-minute halt, we left Tikunia, once again surrounded by villages and open landscapes. Following a short stop at the Khairatiya Bandh Road halt station, we arrived at Manjhra Purab, on the banks of the Ghaghra River for our only crossing of the day. We waited around 20 minutes for the 52261 Nanpara–Mailani Passenger to roll into the loop line.

We departed and ran parallel to a highway before climbing onto the Ghaghra Barrage, which carries both railway tracks and a parallel roadway — much like the Farakka Barrage, on a much smaller scale though. The water below shimmered in blue-green hues and the view was stunning. Crossing the barrage, we re-entered the forest, this time the Katarniaghat Wildlife Sanctuary and were greeted with more lush green scenery as thickets began to crowd the alignment. After about an hour, a small village appeared — this was Bichia, our final stop.

Bichia is a small village located on the outskirts of the sanctuary. Here, all deboarded the train. With about an hour to spare before the return journey, I visited a local village shop and had a late but hearty and delicious breakfast with Puri Chole and Samosa-Chaat. I roamed around the village which had suddenly come alive with the arrival of the train. Many passengers boarded buses to continue with their onward journey.

After a while, I came back and went to the ticket window and bought general class tickets for the return trip, as the return train had no reservation facilities. Soon, the 52264 Mailani–Nanpara Passenger chugged in and I boarded for my return leg, this time in a General Second-Class coach, towards Mailani and beyond.

It was truly a ride on India's hidden 'Safari Route'. Without the Vistadome, the return journey was enterprising as well. However, I feel more and more of such services are required with aggressive publicity during festive seasons to attract revenue for sustaining such a beautiful initiative. It's important that people are made aware that such an age-old alignment still supporting smaller gauges has so much to offer!

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AMRIT BHARAT

A DREAM COME TRUE FOR AAM AADMI

Tapan Pal

He did his Post Graduation from Calcutta University in 1980. He joined West Bengal Audit & Accounts Service the same year to retire in 2019. Bappa to his railfan friends, he is a an avid railfan whose area of interest lies on rail history and rail-accounting and rail - economics. He is also a member of Bombay Natural History Society.

We, the people born in the Fifties, often feel nostalgic about 'Passenger' Trains. As I have no intention of getting gridlocked into semantic quagmire, let me clarify what I am denoting by 'Passenger' Trains. Rajdhanis and Durantos and Shatabdis and Superfasts are Passenger Trains too, as they carry passengers and not cargo; but here by 'Passenger Trains' I want to mean those passenger carrying trains which are not Mails or Expresses; and are therefore a lot cheaper to travel. I am, for the sake of convenience and generalization, keeping EMUs outside (they are more Locals than Passengers, is not it?). DMUs and MEMUs will, however, qualify as they operate collaterally with conventional Passengers.

Some of the common features of such Passenger Trains:

- They are usually of short distance traversing less than 300 Km.
- Their operating time is high when compared to distance, resulting into low average speed.
- Though its overall travel time is long, these trains do not run that badly, or to put it otherwise, their MPS is not that low. When they get sectional clearance, they run like Expresses, as their loco power is often the same as Expresses and their rake length is shorter.
- They give 'side' to be overtaken by every conceivable train on the section.
- They are mostly Class-II only, having Sleepers at best, though few like our homegrown Lalgola Passenger had First Class Coaches.
- They are mostly unreserved.
- Prior to the introduction of uniform five-digit number for all trains of India, they used to

all trains of India, they used to have three-digit numbers (Mumbai, unorthodoxly, had four-digit numbers for Passenger Trains).

Some of our iconic Passenger Trains were Sealdah-Gaya Passenger via Sahibgunj Loop, Howrah-Mughalsarai, Howrah-Puri via Naraj, Sealdah-Azimganj, Baidyanathdham-Asansol, Jajpur Keonjhar Road-Kharagpur Jn, Hatia-Adra Kharagpur Jn., Howrah-Jaynagar, Howrah-Azimganj Passenger and so on.

The siblings of these 'Passenger' Trains were the 'Fast Passengers'. They were introduced decades ago and post-pandemic, are nearly extinct. Well up to the Eighties and the Nineties, popularity of Fast Passengers was immense amongst the middle-class diasporas. Zonal Railways (ER and SER) treated them with high priority, they ran like Intercity Expresses, their scheduling were aggressive, they were provided with coaches of Mail/Express stock with vestibules and upper-class accommodations, they had daily watering, cleaning and maintenance of the coaches. Still their fares were low. For the commuter, it was a win-win situation. That was a different era when train specific revenue was not a factor for showering extra love and care for the service provided. Who could forget legendary 'Fast Passengers' like Sealdah-Lalgola Fast Passenger, Mayurakshi Fast Passenger, Viswabharati Fast Passenger, Shiromani Fast Passenger, Sealdah-Muzaffarpur Fast Passenger, Howrah-Adra Chakradharpur Fast Passenger, Baghajatin Fast Passenger, Howrah-Mokama Fast Passenger, Danapur Fast Passenger, Howrah-New Jalpaiguri Fast Passenger, and the like. Most of them had been elevated to Expresses without any commensurate improvement in services while some of them, like the Howrah New Jalpaiguri Fast Passenger, had been discontinued.

And there were some Passenger like Expresses too; e.g. 13007/13008 Howrah Sriganganagar Toofan Express, 13039/13040 Howrah-Delhi Janta Express, 13049/13050 Howrah-Amritsar Express, 13111/13112 Kolkata-Delhi Lal Quila Express, 13131/13132 Kolkata-Patna Express, 13119/20 Sealdah-Delhi Upper India Express among others.

Their discontinuation created some social problems. The slow, stopping at little known wayside stations trains go into oblivion without keeping the urban media informed. Their clientele can afford that 'luxury'. But it brings misery to the life of rural voiceless people. All these, once famous trains, were never less crowded. What will those people do now that 'their trains' have disappeared into thin air? The need to travel is eternal and universal in human nature.

We get annoyed when 'unauthorized' people sneak into 'our' reserved coaches. But please, for one solitary time, try to perceive the scenario from the other end. Where will these people go? Gone are their slow, all-station-stopping low-fare 'passenger' trains. Unreserved coaches have been drastically reduced in all trains with air-conditioned ones. And like us, the rural agrarian marginalized poor citizen, do also have to travel and have the right to do it with dignity.

12837 Howrah Puri Express has only four unreserved coaches. At Howrah, you see long queues to board those coaches with RPF handling the queues, and in between giving a blow or two if someone does not behave. Had there been 58001/58002 Howrah Puri Passenger via Naraj, Marthapur today – these people would be able to sit comfortably there at a lower fare and could get down at the nearest station to the village. But these Expresses/Superfast Expresses only stop at important stations. Getting to the village from there is troublesome and expensive. For this, some often opt to stop a train by pulling chain to disburse and vanish in the surroundings thereby throwing the train's schedule into haywire.

These so called stopping at all wayside stations 'super crawlers' served a noble social purpose. By connecting the small towns with the vast rural hinterlands, they brought the benefits of progress to the rural masses. That's why the girl with pigtails can go to college, the door of higher education opens for her, the world suddenly becomes larger and wider for her. For these slow-moving trains, the frail elderly rural grandmother could go to the city hospital, get her diagnosis

and after taking medicine for a month, she can return to her normal life in full glory. Abolition of such trains brought uncertainty to their lives, leaving a vacuum. Shatabdis or Vande Bharats, Rajdhanis or Durantos do not stop at these stations. Even if they did, it would be of no help as their fares are well beyond the means of most of the rural people.

Here are some of our now-extinct trains.

- 13007/13008 Howrah Sriganganagar Toofan Express
- 13039/13040 Howrah-Delhi Janta Express
- 13049/13050 Howrah-Amritsar Express
- 13111/13112 Kolkata-Delhi Lal Quila Express
- 13131/13132 Kolkata-Patna Express
- 58001/58002 Howrah-Puri Passenger
- 13039/13040 Howrah-Delhi Janta Express
- 53131/53132 Sealdah Muzaffarpur Fast Passenger
- 13013/13014 Barddhaman-Rampurhat Express
- 22821/22822 Jhargram-Purulia Birsa Munda Express
- 22875/22876 Kharagpur-Purulia Ol Chiki Express
- 22885/22886 Tatanagar-LTT Antyodaya Express
- 15691/15692 Cachar Express
- 15693/15694 Barak Valley Express
- 12525/12526 Indrani Express
- Howrah Haldia Express
- Howrah Madras Janata Express
- Sealdah Hasnabad Ichamati Passenger
- Sealdah Azimganj Passenger

Therefore, in many nondescript obscure stations, the number of trains has reduced. 13049 Howrah Amritsar Express used to stop at stations like Bihia (BEA) or Banahi (BYA); 13007 Toofan Express used to stop at stations like Idgah Agra (IDH) or Budhlada (BLZ); 58001/58002 Howrah Puri Passenger used to stop at stations like Panpana (PNPN) or Haridaspur (HDS). These trains were abolished and the number of trains at those stations decreased. People are in peril, their lives and livelihood got jeopardized. But who cares about that!!!!

Vande Bharat is claimed to be a benchmark in the annals of Indian Railways, it came with much hoopla and high price tag, though it did nothing that a WAP5 with conventional rakes cannot do. And even they are subsidized. We are not against subsidy per se, but as any student of welfare economics will tell you, subsidy needs to go to the weaker sections of the society who needs it most. So, Indian Railways has put the conventional wisdom upside down. As a policy decision, this seems to be lopsided as here the beneficiaries of the subsidy are not the needy. For a public funded organization, the priorities ought to be 'Aam Aadmi'; to cater to the needs of hoi polloi at an affordable rate. Indian Railways does just the opposite; it discontinued legendary Passenger Trains which were cheaper and provided excellent coverage to rural hinterlands by their frequent stoppages. It is sheer myopia of Indian Railways that it goes to compete with air-travel sector. The war is futile, as the real rich will travel by air as their time is precious. It is only the subsidized snobbery loving pseudo – rich who travels by these so called 'premium' trains – guzzling the subsidy without feeling insulted, and complaining about smaller fish fries. An egalitarian society is not against subsidy, but it is

important to ensure that the subsidy reaches its intended clientele; and is not hijacked midway by vested interest groups.

As Lewis Carroll had observed long ago, 'My dear, here we must run as fast as we can, just to stay in place. And if you wish to go anywhere you must run twice as fast as that.' In a dynamic world where obsolescence starts from the drawing board, technological upgradation is a sine qua non to survive. And that technology needs to be 'appropriate', dovetailing with wider social realities. And exactly here lies the social relevance of Amrit Bharats, whose social relevance is much much higher than that of the Vande Bharats as it targets the clientele that is neglected most – the poor. And we do feel solidarity with them as "If you are in trouble, or hurt, or need — go to the poor people. They're the only ones that'll help — the only ones" — John Steinbeck. "These days there is a lot of poverty in the world, and that's a scandal when we have so many riches and resources to give to everyone. We all have to think about how we can become a little poorer." — Pope Francis.

Amrit Bharat, the Common Man's train can do wonders to fill

the vacuum and give a fillip to long distance passenger friendly transportation in India. It is Push-Pull developed by the Integral Coach Factory (ICF) in Chennai. It has upgraded non-air-conditioned three-tier sleeper and unreserved coaches. The stainless-steel coaches are manufactured by the ICF, Chennai at the cost of ₹650 million per 'trainset'. In contrast to most Indian trains, they have two aerodynamically designed Chittaranjan Locomotive Works made WAP-5 locomotives at each end in a push-pull configuration, enabling better acceleration and shorter turnaround times. Each 'trainset' consists of 22 coaches – twelve 3-Tier Sleeper Class, eight Unreserved and two Luggage Coaches.

December 30, 2023 is a memorable day in the history of Indian Railways as on this day Amrit Bharat ran for the first time, inverting the priority perception of Indian Railways and making it people friendly. These totally Non-AC Superfast Express Trains with only Sleeper Class Coach (SL) and General Unreserved Coach (GS) with sleeping arrangements personified the aphorism enunciated in the Rigveda *'bahujana sukhaya bahujana hitaya cha'* translated as 'for the happiness of the many, for the welfare of the many'. Gautama Buddha in the fifth century BC suggested his disciples to work for the welfare and happiness of the masses under this dictum.

Though its scheduling is not much aggressive, with lots of slacks in segments, it provides excellent connectivity with amenities like Reading light, CCTV cameras, Bio-vacuum toilet, Sensor-based water taps, Passenger Information System and so on. The massive reduction in passenger accommodation availability in respective sections due to the sudden closure of those erstwhile 'Passenger' category trains has been neutralized to some extent with the introduction of the Amrit Bharat trains. These trains have somewhat brought back the glory days of 'Passenger' in Indian Railways. But to make it more people friendly, the prime clientele of the railway, the proverbial thee of "For whom the bell tolls; it tolls for thee" - John Donne's Meditation XVII, it needs to incorporate more stoppages. With its slack scheduling, it can be done without increasing total travel time.

Amrit Bharat can be a great empowering and emancipation tool for the poor, by providing him affordable connectivity with state-of-the-art comfortable travel. 'He' too deserves the good things of life.

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Kolkata's Maiden Voyage Into The Realm of AC EMUs

When AC Travel is a Sine Qua Non Not a Luxury Anymore

Anamitra Bose & Arkopal Sarkar

10th August, 2025 was a red-letter day for Eastern Railway as well as Kolkata, when the first air-conditioned EMU local train accelerated out of Sealdah towards Ranaghat. Kolkata became the third Indian metropolis after Mumbai and Chennai to receive approval for running AC EMU local train.

Only two decades ago, an AC Local train sounded like an oxymoron. But with gradual technological progress and socio-economic upliftment of the working class of Indian society, the planners decided to make this a reality. In 2017, Western Railway started operation of AC local in Mumbai. Despite receiving mixed response from commuters in the initial months, a revised fare structure made it hugely popular among the office goers.

The Inaugural Service was flagged off amidst much fanfare with all high officials and politicos. As is the trend these days, Social Media Influencers and Media persons had a field day. Stage was set up at the premises of the Sealdah Main Building which hosted cultural programme along with addresses to the public from dignitaries. A handout along with Entry Passes was distributed from thereof. The rake was embellished with faux flowers, balloons and ribbons which made the


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rake look plush. Inside, the decors were elegant. Aptly, the inaugural run had a lady Train Manager in Smt. Mampa Dhar. Not only the 'passengers' onboard, the two Motorman, namely Sri Biswajit Sil and Sri Soumen Kundu also looked excited and thrilled to be part of the historic occasion.

All the coaches of this train are fully Air-Conditioned with 2x15 ton Roof Mounted Packaged Unit (RMPU). The coaches are made of stainless-steel with straight side walls. All the 12 coaches of the rake are end to end connected by sealed wider vestibule gangways. All the AC EMU coaches have 4 electrically operated double leaf automatic sliding doors on each side. The coaches have wide and large double sealed glass windows providing panoramic views. 3-seater stainless steel seats are provided in all the coaches. Total seating capacity of the rake is approximately 1116. AC EMU rakes are now equipped with new generation bogies comprising of fully suspended traction motors, wheel mounted disc brakes and air spring suspension at secondary stage. These EMUs have been fitted with Medha-made underslung three-phase propulsion system enabling the option of vestibule in EMU structures.

Eastern Railway's Ranaghat EMU Carshed has been allotted with the two ICF, Chennai made AC Local rakes. The rake details are given as under:

Rake 1 (Grey – Navy Blue Rake)

258301DMC - 258303TC - 258309MC - 258304TC - 258312MC - 258305TC - 258310MC - 258306TC - 258307TC - 258311MC - 258308TC - 258302DMC

This rake was dispatched on 20.05.2025 from Chennai and had been received by the Ranaghat Carshed on 18th June.

Rake 2 (White – Navy Blue Rake)

258017DMC - 258019TC - 258025MC - 258020TC - 258028MC - 258021TC - 258026MC - 258022TC - 258023TC - 258027MC - 258024TC - 258018DMC

The rake had been initially rolled out on 31.01.2025 but was taken back by ICF to fix some major issues. Afterwards, the rake reached Chitpur Yard on 14.07.2025 which was received by the Ranaghat Carshed on 16th July. This very rake was utilized for the purpose of inauguration.

All the coaches are monitored by CCTV surveillance with four numbers of CCTV cameras inside each coach. The coaches are furnished with wear resistant rubber floor top, aluminium extruded modular luggage rack and GPS based LED displays for passenger information and announcement system to enhance passenger amenities and comfort.

Both the rakes are on regular service now and have had their commercial runs from the following day, i.e., 11th August. The schedule includes departure from Ranaghat Junction at 8:29 AM with a 10:10 AM arrival at Sealdah having stoppages at Chakdaha, Kalyani, Kanchrapara, Naihati Jn., Barrackpore, Khardaha, Sodpur, DumDum Jn. and Bidhannagar Road enroute. On the return leg, it departs Sealdah at 6:50 PM and reaches Ranaghat at 8:32 PM. We look forward to many more such AC services in other suburban sections as well for a cosier and better travel experience to workplaces.

Soumik Chowdhury

Photo Junction

Kiran Kumar

Irfan Khan


Sumit Nath

Sumit Nath

Kiran Kumar

Anish Banerjee

NEWS STATION

India Runs Its Longest Ever Freight Train 'Rudrastra'

In an unprecedented demonstration of logistical might and operational mastery, **Indian Railways** etched a new chapter in its annals by operating the longest freight train ever to traverse its vast network. This colossal convoy, christened as a historic first, was assembled by linking **six standard-length freight rakes** into a single, seamless formation. The mammoth consist measured an awe-inspiring **4.5 kilometres from coupler to coupler**—so long that its head would vanish into the horizon before its tail had even begun to move. Comprising **354 heavy-haul wagons** and powered by a formidable fleet of **seven high-horsepower locomotives** distributed strategically along its length, the train was a marvel of distributed power technology, crew coordination, and precision planning. The journey commenced from **Ganj Khwaja** in Uttar Pradesh and spanned **200 kms** of varied gradients, curves, and signalling sections, culminating at **Garhwa Road** in Jharkhand. This operation required meticulous route clearance, synchronised communication between multiple loco pilots, and absolute harmony in brake application across the kilometres-long steel serpent. Beyond its raw spectacle, this milestone symbolises Indian Railways' growing capacity to **move higher volumes of freight in fewer train paths**, thereby improving efficiency, reducing congestion, and enhancing economic throughput. For a nation where railways are the arteries of commerce, such feats underline the strategic role of rail freight in fuelling industrial growth while minimising environmental impact compared to road transport. A triumph of engineering, planning, and human skill, this record-breaking run stands as a testament to the national carrier's ability to blend scale with sophistication—proving once again that Indian Railways is not merely a transporter, but a mover of the nation's ambitions.

Konkan Railway to Run Cars on Train on Ganapati Utsav

For the first time in its history, the Konkan Railway Corporation will operate a Roll-on Roll-off (RoRo) service for private cars during the forthcoming Ganapati Utsav, offering a novel travel option for holidaymakers heading to Goa. Commencing on 23rd August, the service will operate between Kolad, near Navi Mumbai, and Verna in Goa, covering the picturesque coastal stretch in approximately 12 hours. The specially configured RoRo rake will have provision to carry up to 40 private cars. In addition to the vehicles, each booking will permit a maximum of three passengers to travel in the same train, with a choice of AC 3-Tier or Second Class accommodation. The transportation cost for each car has been fixed at ₹7,875 per trip, with ₹4,000 payable at the time of booking as advance. The inaugural timetable will see the train depart from Kolad at 5:00 PM, arriving at Verna by 5:00 AM the following morning. The return service will operate on the same day, departing Verna at 5:00 PM and reaching Kolad at 5:00 AM the next morning, ensuring a convenient overnight journey in both directions. By combining passenger and private car carriage in a single service, this initiative promises a seamless travel experience for those wishing to avoid the fatigue of a long road drive while still having their own vehicle at their destination. It also marks a pioneering moment in India's railway history, with the Konkan Railway once again demonstrating its flair for innovation in passenger convenience.

Chennai MRTS Handed Over to Chennai Metro Rail Ltd

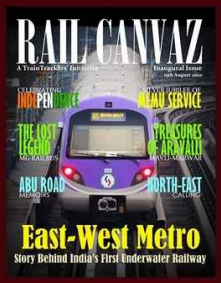
In a landmark administrative development for urban rail transit in Chennai, the Railway Board, on 31st July, formally approved the transfer of the Chennai–Velachery MRTS corridor from Indian Railways to the Chennai Metro Rail Limited (CMRL), an agency under the Government of Tamil Nadu. This transfer marks the beginning of the long-anticipated integration of the MRTS with the city's expanding metro network, paving the way for a unified urban rail system. Under the approved framework, the assets to be handed over to CMRL will include the entire fixed infrastructure of the MRTS — encompassing tracks, land parcels, station buildings, viaducts, signalling apparatus, and electrical installations. The transition will be undertaken in a phased manner to ensure service continuity and operational stability. A two-year grace period has been stipulated, during which Southern Railway will continue to operate MRTS services using its existing Electric Multiple Units (EMUs) and staff. In this period, CMRL personnel will undergo hands-on training in train operations, maintenance, and system management, guided by Southern Railway's experienced workforce. At the conclusion of this grace period, the operational arrangement will change: Southern Railway will reclaim its EMU fleet, unless the Tamil Nadu Government opts to lease the rolling stock from Indian Railways on payment of agreed fees. This strategic move is expected to harmonise Chennai's suburban and metro networks, offering commuters a seamless travel experience while enabling CMRL to bring its modern operational practices and integrated ticketing systems to the corridor.

Bangalore Metro's Yellow Line Thrown Open On 10th August

After a year-long wait marked by repeated delays and rescheduling, the Yellow Line of Bengaluru's Namma Metro finally saw the light of day, its inaugural run graced by the presence of the Honourable Prime Minister of India on 10th August. Stretching 18.8 kilometres from Rashtriya Vidyalaya Road to Bommasandra, this vital arterial link now threads together the city's bustling IT enclaves of Electronic City, Hebbagodi, and Bommasandra, while also connecting pivotal commercial hubs such as the Central Silk Board, long known as one of Bengaluru's busiest junctions. The rolling stock for this corridor carries an international pedigree—designed and manufactured by CRRC Nanjing Puzhen in China, but given a distinctly Indian imprint through local assembly at Titagarh Rail Systems, Kolkata. These sleek, modern rakes embody the collaboration between global engineering expertise and indigenous manufacturing capability. Yet, even as the Yellow Line promises transformative mobility for thousands of daily commuters, operations will initially be tempered by a constraint—an insufficient number of trainsets, resulting in a 25-minute frequency until the full fleet is inducted. The day's significance was not confined to Bengaluru alone. In a parallel showcase of India's rail modernisation, the Prime Minister also flagged off three new Vande Bharat Express services:

- Bengaluru to Belagavi, bolstering connectivity within Karnataka,
- Amritsar to Shri Mata Vaishno Devi Katra, strengthening pilgrim and tourist travel in North India, and
- Ajni (Nagpur) to Pune, enhancing links between the Vidarbha region and Maharashtra's cultural capital.

Together, these launches underline the Government's continued thrust on modern, high-speed, and efficient rail-based transport—knitting India's metros, industrial hubs, and cultural heartlands ever closer, one steel rail at a time.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Inaugural Issue
East-West Metro
Story Behind India's First Underwater Railway


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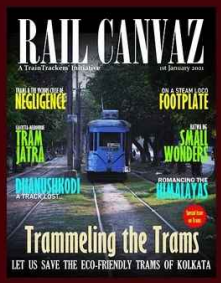
মেঘ পিওনের দেশে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Trammeling the Trams
LET US SAVE THE ECO-FRIENDLY TRAMS OF KOLKATA


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ছোট রেলের ইতিকথা
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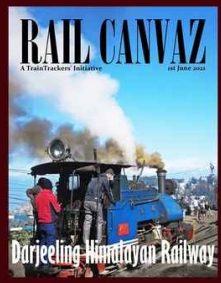
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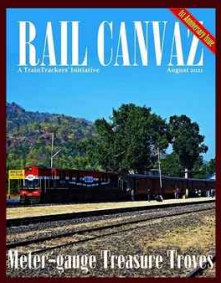
Darjeeling Himalayan Railway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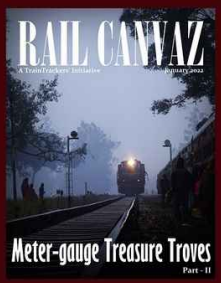
Meter-gauge Treasure Troves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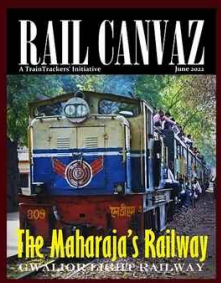
Meter-gauge Treasure Troves
Part - II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The Maharaja's Railway
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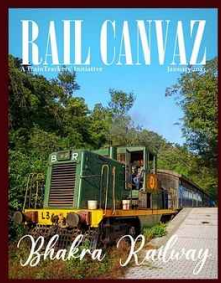
SAMBHAR SALTS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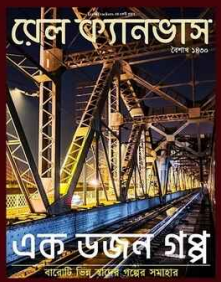
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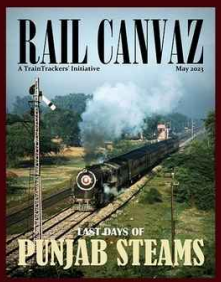
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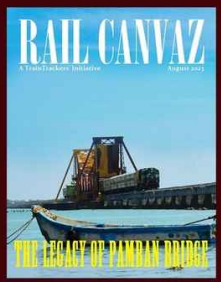
LAST DAYS OF
PUNJAB STEAMS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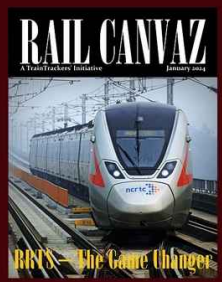
THE LEGACY OF PAMBAN BRIDGE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RRTS – The Game Changer


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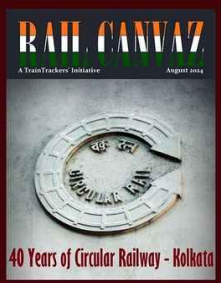
The Fairy Queen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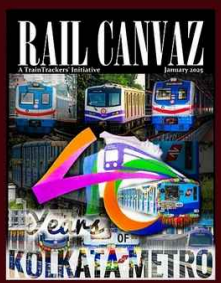
40 Years of Circular Railway - Kolkata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40
Years
OF
KOLKATA METRO


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GLORIOUS
100
A CENTURY ILLUMINATED
A Centennial Chronicle of Indian Railway Electrification