Observations in Calcutta

An International Introduction to our Workshops

(Maps contained in Appendix B)

Presenter: John Radcliffe, AETM, Immediate Past Chairman COTMA
Session Chair: John Shaw *Session Secretary: Keith Stodden*

The arrival from the Calcutta Airport at 1am from Australia can be something of a culture shock. Calcutta is teeming with life, much of it on this occasion surrounding the numerous multistory wood and hessian temples erected for the celebration of Duvali. Others were sleeping on the sidewalk, taxi-drivers were napping in their black and yellow Hindustan Ambassadors (aka 1954 Morris Oxford). The professionals at the airport were still alert for any commercial opportunities.

These observations were drawn as part of an expedition in November 1999 organised by Andrew Scott, Director of the UK National Railway Museum, York, and booked electronically through Trans Indus Travel, Northumberland House, 11 The Pavement, Popes Lane, Ealing London W5 4NG; tel +44 181 566 2729, fax +44 181 840 5327, e-mail trans.indus@dial.pipex.com. This company, which is highly recommended, arranged transfers at all points.

The trip included seeing the Calcutta tramways, described later, followed by an overnight train trip on the Indian railways' 5'6" gauge to New Jalpaiguri . It arrived there late, so a hire car ride ensued to catch up with the now world heritage-listed but rarely connecting narrow gauge Darjeeling train, which had left on time at 9 am. Catching up with this train, despite the narrow roads, is not unduly difficult as the service of 3-4 steam-hauled carriages, running perhaps three times each day, rises from the Indus Plains to a height of 7400 feet at Ghum, then descends slightly to Darjeeling, taking eight hours for the 60-mile trip. The operation employs 1400 people (the dry economists' school of transport management had not arrived there in 1999). Subsequently a further train trip from New Jalpaiguri took us to New Delhi for the International Association of Transport Museums Conference, hosted by the Indian National Railway Museum, which had its 1854 locomotive *Fairy Queen* in steam for the occasion.

In Calcutta, we booked into the Fairlawn Hotel, 13/A Sudder Street, Calcutta 700 016, phone +91 33–245 1510 or 33-245 8766 or 33-245 8767, Fax 33-244 1835. This was an experience in itself, being run in the style of the Raj by the same venerable European family since before Indian independence, though for how much longer could be arguable.

The Calcutta Corporation established a horse tramway from Sealdah to Strand Road via Dalhousie Square and the Customs House on 24 February 1873, but ultimately it failed as a loss-making operation. Subsequently, the Calcutta Tramways Company reintroduced horse tramways from November 1 1880, between Sealdah and the Customs House, before being

formally incorporated in England on December 22 1880. It unsuccessfully tried steam traction, then ran its first electric trams from March 27 1902. In 1951, the Government of West Bengal passed the *Calcutta Tramways Act* conferring on itself the right to purchase the company on January 1 1972 or at any time thereafter upon giving two years' notice. This served to discourage the company from further investment. In 1967, with the property greatly deteriorated, the West Bengal Government passed the *Calcutta Tramways Company (Taking Over of Management) Act*, permitting the government to operate the tramways. The CTC's Board and senior staff were thus relieved of their operational functions. In 1976, a further Act was passed transferring ownership of the tramways to the West Bengal Government (the original company continued to exist in receivership, awaiting compensation). Subsequently, the government passed another Act establishing the Calcutta Tramways Company (1978) Ltd., with shares held by the Government. Today, the CTC logo still appears on the trams, and also on a small proportion of local buses.

In 1985, the World Bank funded the Calcutta Urban Transport Project to improve and stabilise the system. A total of 105 cars were to be renovated, a further 60 given new bodies and trucks with old electrical equipment. Seventy-five new cars were to be built by Burns Standard, albeit to the old bogie articulated patterns, with heavy corten steel bodies weighing up to 31 tons. Seating capacity is 29 in first class, 34 in second class and 115 standing. Simple conventional series/parallel control systems were used. Workshops and depots were modernised, track, overhead, power distribution and communication systems strengthened, and some new sub-stations built. A track extension of 3.75km for new services – the first since 1943 – was laid from Maniktala to Bidhannagar in the median strip of Kazi Nazrul Islam Avenue, a project which involved the successful reestablishment elsewhere of 89 of the 90 trees which had to be removed from the reservation. On 31 December 1986, a further 6km extension from Behala to Joka was opened. At this time, the system has 438 cars with 300 in daily service, and a staff of 10 000. However, work had started on a heavy, Indian broad gauge underground metro from Dum Dum, north of the city, to Tolleygunge in the south, replacing the direct tram service via Ashutosh Mukherjee Road to Hazra Junction, and later its short working to the Birla Planetarium, though the latter terminal loop was still in position in 1999. In 1989, it was announced the system would close. This was reversed with the Kuwait oil war in 1990, then reconfirmed in 1992. In 1989, the peak requirement was 318 cars, with 19 articulated single-truck coupled cars still in use, but these were all withdrawn by 1993. Services over the Howrah Bridge and along Strand Road were terminated. By 1994, the number of trams in daily use had declined from 250 to 140. However, *Tramways and Urban Transit* advised in November 2000 that 169 of the 319 fleet of cars are in daily traffic.

The single-ended articulated cars are generally clean and tidy within, being fitted with fans to circulate the air. They are, however, appallingly dented outside. Motormen driving some of the older refurbished cars have windows, but most, including in all the newer cars, are protected by 'weldmesh' grilles. Cars have seating for two class, with sections of seats reserved for ladies. The newer cars have equal-wheeled trucks, with 710mm wheels front and rear. Only the front bogie is powered, having two 60hp motors. The unmotored bogies under the central articulation have 560mm wheels. Some rebuilt cars are maximum traction, the trucks apparently being remnants obtained from long closed British systems. Hornway wear in axleboxes can be impressive, with few axleboxes standing anywhere near the vertical.

A significant proportion of the suburban track is in reservation. Trackwork in the city streets is largely grooved or check-railed. Much is highly distorted. Though laid with tie rods, it is seemingly kept to gauge by the passing wheelsets. Broken joints are legion. In many cases, small inserts have been installed where a joint has been broken and worn, with the result that there are now two broken joints close together. In some cases where one rail has subsided markedly against the other, a triangular section of rail has been welded on the surface of the lower rail to let the trams down 'gently'. In other cases, this convenience is not provided. The Sealdah flyover of relatively recent construction between Howrah Junction and Entally Junction, having been built with very soft rail, is now appallingly corrugated.

The main terminus in the centre of Calcutta, at Esplanade, consists of a series of loops, some concentric. While now somewhat reduced with parts out of use, in its original formation it was a veritable tramway clover leaf. The equivalent of Queens Square in Sydney or Victoria Square in Adelaide, it is now virtually unsealed. Exhausting air keeps a fine cloud of dust suspended in the vicinity. It is presumably a quagmire in the monsoon. One half of a defunct articulated body has been tastefully located there for the convenience of crews who are presumably allowed meal breaks.

One's impression is of a city completely choked by vehicles physically jostling for space, whether cars, trucks, buses or trams. Most are well scraped from this jostling. Accidents are frequent. The horn is the principal signalling device. Lights at night seem quite optional on the motor traffic, often because the fittings are no longer there. Forcing one's way through physically, moving other vehicles in the process, is not unusual. If there is space on the opposite carriageway, it is used without fear. Buses pass trams on either side on double track centre-of-the-road lines. In crowed streets in the centre of the city, getting above second notch in the trams would be rare. Two-stroke 'tuk-tuks' (auto-rickshaws) weave in and out at half the price of a ride in an Ambassador, seemingly valuing human life at half the price as well.

It was, however, the bi-directional tramway traffic which quite took one's breath away in the streets with one-way motor traffic. After an evening ride, we disembarked at Entally Junction with a view to seeking a tram back to Esplanade via Lenin Sarani. Plenty were emerging from the outbound kerbside track in the street, but none appeared going the other way. In due course we noted it was a one-way street. We noticed overhead on the other side of the street near the kerb. No track was visible in the dusk and we assumed it had been lifted, so we proceeded to walk back to Esplanade against the traffic flow. Ten minutes later, we were truly amazed to find a tram on the other side of the road, running on rails sunk below the pavement, beating a difficult path against unwilling motorists and bus drivers travelling in the opposite direction. Before long, we came to Subodh Square, where in indescribable chaos a policeman was facilitating the entry and exit of trams to the north on Nirmal Chunder Street and to the South on Rafi Ahmed Kidwai Road. Our experience was completed the following day when we found a double track centre-of-the-road unsegregated line running with short but slow headways in the one-way southbound traffic of Rabindra Sarani.

Unfortunately all the workshops were closed due to Duvali during our visit, and it was not possible to visit them.

It is evident that the staff of the Calcutta Tramways Company continue to operate a major conventional tramway system under some of the greatest difficulties imaginable. The robustness of electric tramways in their simplest form is well demonstrated. Calcutta and its tramways are an experience not to be missed if the opportunity arises.

Additional Notes from the Session Secretary

John explained how at an international conference he had met someone who knew the Calcutta system and urged him to see it, promising to help with the arrangements.

En-route via New Delhi, John made a side trip on the 'toy train' to Darjeeling in the Himalayas. His slides showed features of the train, which runs for 60 miles three times a day, with six staff (including two to sand the tracks!) and uses Edmonson tickets!

In Calcutta, it was Juwali time (like Christmas) and traffic conditions were more overcrowded than usual. John's slides and transparencies reinforced that impression.

He outlined the routes passing the Maidan and Queen Victoria memorial building en-route to the main termini at the Esplanade and BBD Bagh, or Dalhousie Square.

Following a World Bank grant in 1985, new trams were introduced (600 and 700 numbers) with EE equipment. All the trams are single-ended, requiring balloon loops. Some maximum traction bogies are in use, the only cars with motors in each bogie. Trolley poles are standard. Colour schemes are mixed. Destination signs are largely missing, so boards are used instead.

The tram bodies are inevitably scraped, banged and bashed due to the traffic conditions (John spoke of two-directional trams running in a one-directional street!)

Of the 300 trams on roster, some 160 are in daily service.

The system dates from 1879, with horse-trams, followed by steam, with electric trams running from 1902. Calcutta was the capital of India until 1923. After further changes, the system is now owned by the Calcutta Tramway Company 1978 Ltd, but in fact the Government runs it now, a case of privatisation in reverse.

Chair John Shaw then called for questions.

Discussion

Richard Gilbert (BTM) asked about the power supply.

Answer: Substations had been upgraded with the 1985 World Bank money, but overall the situation was like the proverbial 'curate's egg'.

Greg Robinson (Limestone Railway) asked if colour schemes indicate the routes trams took?

Answer: This was not so. The fleet consisted of L-class and Sundari (Hindi for beautiful) trams. Coupled cars ran until 1993.

Murray McKay (Western Springs Tramway) asked about the equal wheel cars.

Answer: Their motors are on one bogie only.

Don Campbell (Sydney Tramway Museum) asked about staffing.

Answer: Trams have a motorman, first-class conductor and second-class conductor. Fares are very cheap (75 pei's – 100 to one rupee). Many conductors are graduates and all are literate in English, Hindi and a third language.

Bob Pearce (PETS) asked about the overhead.

Answer: It is conventional with steel poles (there is overhead without tracks and tracks with overhead).

John Withers (MTPA) asked about grades.

Answer: There were none. It is all flat running.

Bill Kingsley (BTM) queried the track construction on the Darjeeling line, especially the spacing of the sleepers (the rail would be 60lb or perhaps 40lb). This is of interest to the Portland group.

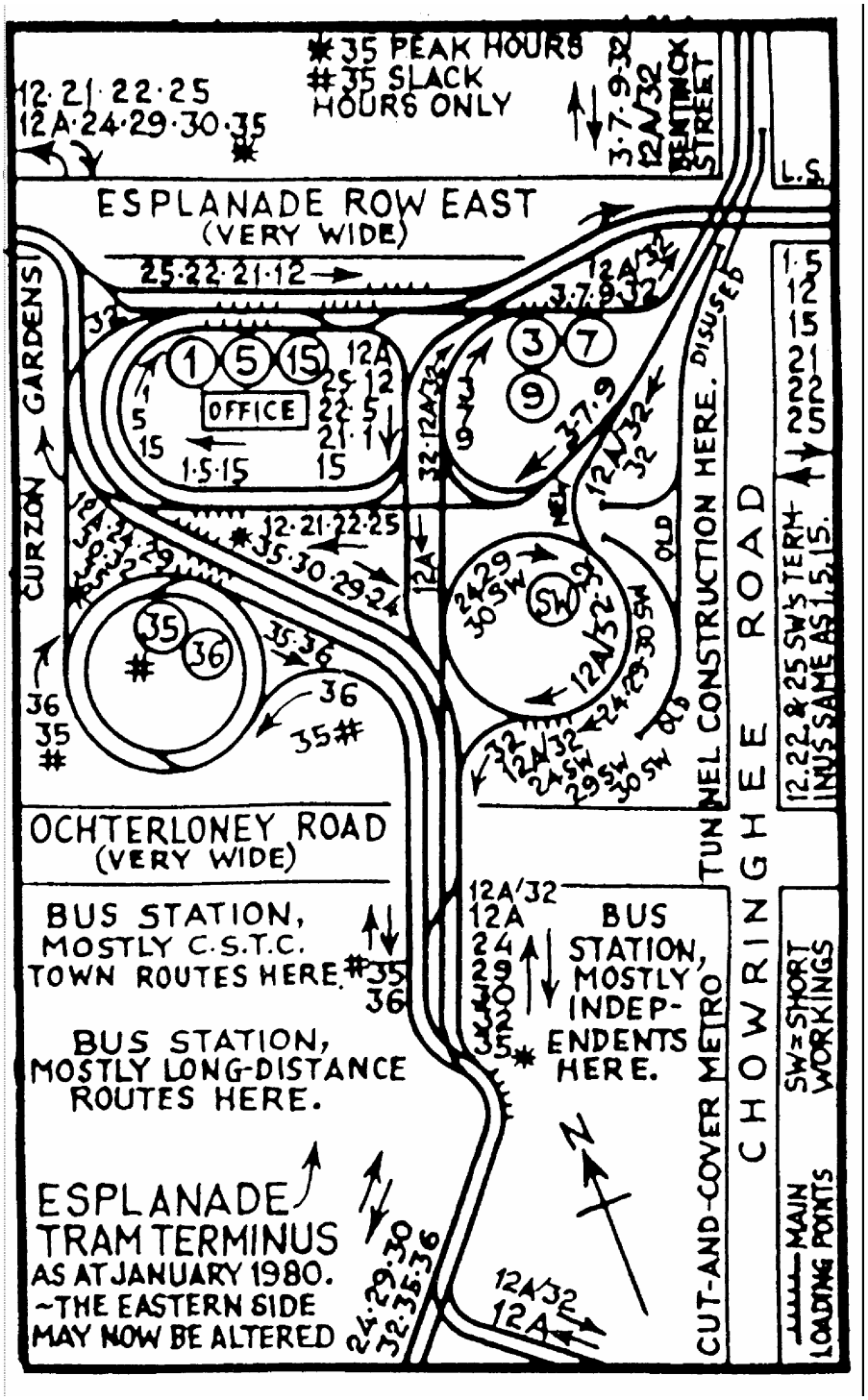
Lindsay Richardson (PETS) asked about loadings and odours on the trams.

Answer: Loadings were heavy and, yes, there was some smell of curry mixed with dust; nothing to worry about in the warm and dry season.

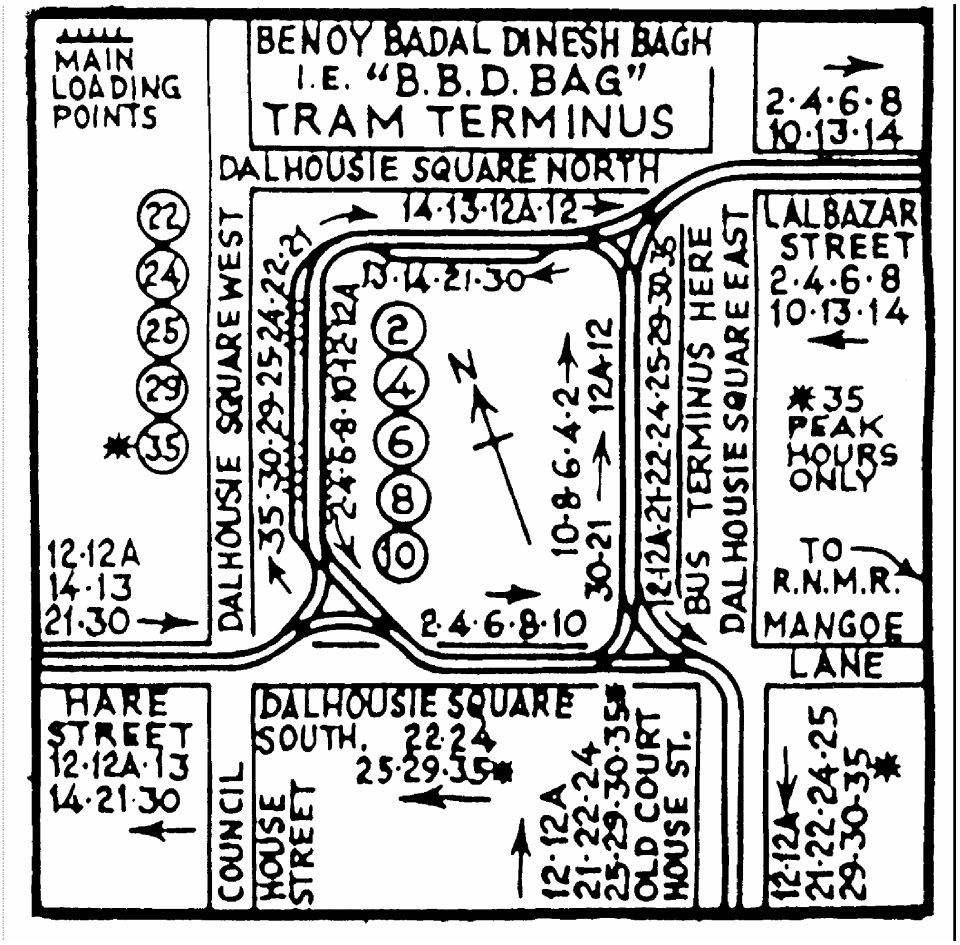
Chair John Shaw thanked Dr Radcliffe for his well-prepared session.

Appendix B

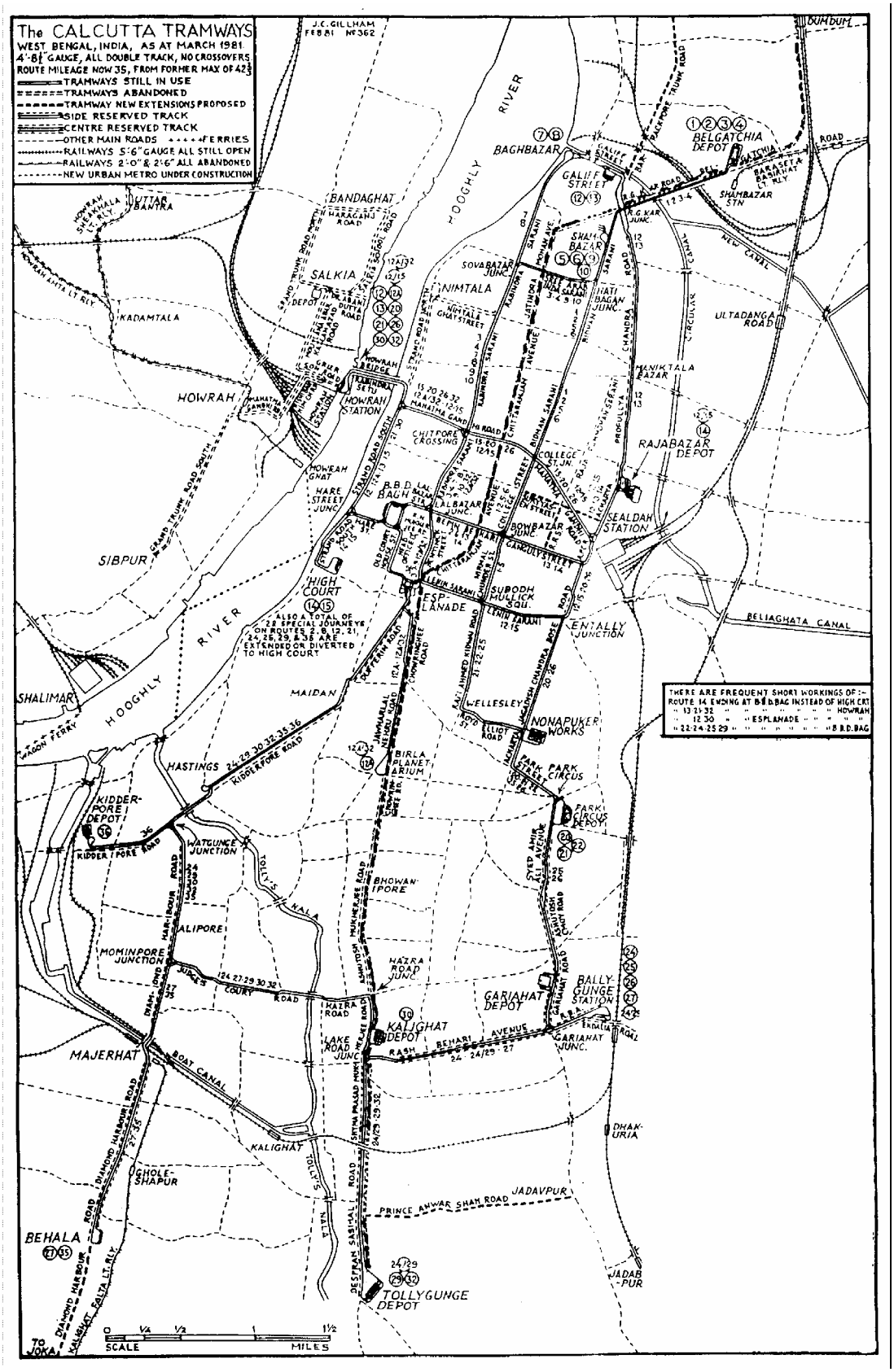
Maps from the Observations in Calcutta Workshop



Calcutta Esplanade Tram Terminus



Calcutta BBD Bagh Tram Terminus (Dalhouse Square)



Calcutta Tramways 1981