

A Question of Scale

We plan to make a three-dimensional plan of the IIT Madras campus to display at the Heritage Centre. Such a plan would give visitors a bird's eye view, just as a map does. And maps are intrinsically interesting things to study in general. I believe it is something about the irregular outlines and contours of the typical map that makes it so fascinating to pore over. Your eye traces the non-geometric lines so that your mind can internalise them, interpret them.

In the past, specifically in the 1960s, there had been a large three-dimensional plan of IIT Madras. And then it had vanished, leaving no trace behind. Prof. Kolar has pointed out to me that three things of IITM's early years have 'gone missing'. The big bell (see Letter from Heritage Centre dated 30 December 2024) is one; two human figures stood at Gajendra Circle near the elephants at one time—they are another. Along with these, the three-dimensional model, or plan, of the campus makes up the three. Anyway, this was mostly the inspiration of our project.

We know where the three-dimensional map had stood. It had been there in the foyer of Building Sciences Block (BSB), the building where the institute's administrative offices had functioned before the construction of 'Ad Block'. The model of the campus had been displayed there in a transparent enclosure on a table.



A three-dimensional model of the IIT Madras campus. In the picture, Prof. Sengupto is seen using it to explain something to Linus Pauling and his wife, Ava Helen. Looking on are Prof. Sampath and C.V. Sethunathan, Registrar. Date: 18 January 1967

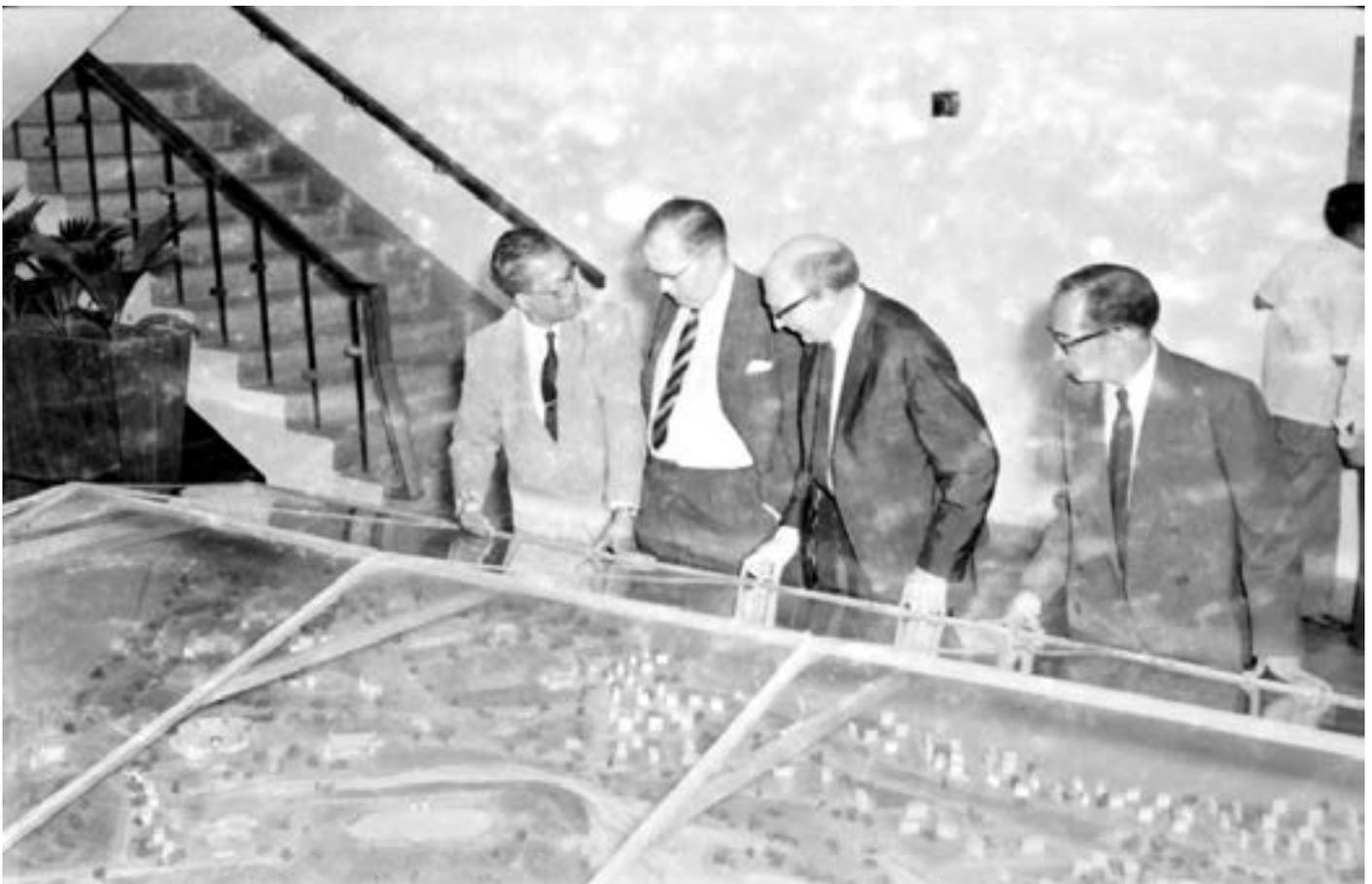
No doubt this plan had been created by the architects who had designed the first buildings and roads of IIT Madras, around 1960. It must have helped the planners understand the layout of the campus as it was being created. We know from various photographs that Director Sengupto used it to explain the IIT Madras campus to distinguished visitors, including Indian and German leaders and at least one Nobel Laureate, Linus Pauling.

It seemed a good idea to show all the buildings that have come up on the campus in the new three-dimensional plan that we proposed to create. How tall would our recently built multistorey buildings be in the model, assuming the dimensions of this new model were approximately those of the old one? That raised the question of exactly how large the old plan had been.

An examination of the photographs showing the model, with the people in the images serving as references, suggested that it had been around 3 metres long. A visit to the BSB foyer did not rule out this estimate.

As I studied the pictures, I was excited to recognise several buildings. In one undated image, I could see the stadium, the Open Air Theatre, Ad Block, Electrical Sciences Block (ESB), Mechanical Sciences Block (MSB) and BSB. In other images, I could see what appeared to be the Central Workshop, Taramani Guest House and Krishna and Cauvery hostels. Interestingly, the glass top of the table, initially raised in the middle like a gabled roof, had been changed to a flat one at some point.

Given the approximately 2-kilometre north–south measurement of the campus and the estimated 3-metre length of the model, a back-of-envelope calculation indicated that its scale had been between 1:500 and 1:1000.



Prof. Sengupto with visitors at the three-dimensional model, date not known. The stadium, OAT and a number of buildings can be recognised in this image. Note the gabled-roof construction of the transparent top.

But at those scales, the buildings would be very short. The height of the new Mandakini Hostel, the tallest building in IIT Madras today, may be estimated at around 35 metres. The model of Mandakini would be no more than 5 centimetres tall in the three-dimensional plan that we wish to create. Would the lesser structures stand out in our model?

Yet, in the 1960s' model, the buildings stand out quite clearly. How was this so? Consider the fact that in the first phase of construction at IIT Madras, the buildings were all only three storeys high or less. Ad Block, six storeys high, was the tallest building of that period. Admittedly, one cannot say with confidence what the height of the 'buildings' in the plan had been. But what if they had indeed been several centimetres tall? That would mean that the scale had been very different from the initially estimated value of 1:500 to 1:1000. That would imply in turn that the plan of the campus had been much larger than the estimated 3 metres.

Two possible explanations suggest themselves for this apparent contradiction: (1) One of the estimates, either the total length of the model or the height of the buildings, is wrong. (2) Only part of the campus, and not the entire campus, is depicted in the three-dimensional plan.

I found myself favouring the second explanation as more likely. After all, only constructions in the Academic Zone and the Hostel Zone are identifiable in the images.

But it could be seen in one photograph that the three-dimensional model had a title. 'Indian Institute of Technology', partly obscured in the photo, is the title. 'Madras' can be seen below this. Such a title could hardly have been provided for an incomplete model.



Prof. Sengupto talking about the campus to Minister of Education of Madras State, Mr. V.R. Nedunchezhiyan, 24 November 1967. The logo of IIT Madras and the title of the three-dimensional plan are partially visible in this photograph.

Another possibility occurred to me: Had there been two models, a complete one and a partial one? Remember, the gabled-roof glass top had been replaced with a flat top. Had the model itself changed?

And I found a Campastimes article that mentions a scaled model of the Institute Campus. It could not have been any other model than the one that graced BSB.



From the first page of Campastimes, Vol. I, No. 5, dated 15 December 1962. See the reference to the three-dimensional map, circled in red. Prof. Sengupto used the model to explain the campus to German President Lübke when he visited the institute in 1962. This reference simultaneously establishes the antiquity of the model and adds support to the idea that the model covered the entire campus.

No, the two-model theory is far-fetched.

We essentially face the question with which we started: What was the scale of the old three-dimensional map?

Heritage Centre Day Blooms



Flowers on the Red Silk Cotton tree on Delhi Avenue, 2 March 2026. This year the tree has broken with its tradition of blooming in mid-February.

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Your response to Letter from Heritage Centre is welcome.
 Please send mail to heritage@iitm.ac.in.
 The Heritage Centre is located in the ground floor of the
 Administration Building, IIT Madras.
 It is open on weekdays from 9.30 am to 7.00 pm
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