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## IISc, IIT-M deny being in loop over flyover

**Bosky Khanna**

**BENGALURU:** Contrary to Bengaluru Development Minister K J George's claims, the government had not consulted any experts before finalising its controversial steel flyover plan.

On Wednesday, George had told reporters the government and the Bangalore Development Authority (BDA) had taken the opinion of the Indian In-

stitute of Science, Bangalore, and Indian Institute of Technology, Madras before initiating work on the project.

That's just hogwash, it now emerges. He had also said a committee comprising experts from the two premier institutions would examine the progress and give feedback to the government. The experts are flummoxed, since no one from the government has

### 'Sir is busy'

*DH* called K J George repeatedly for his response to this story, but he did not take our calls. Around 4 pm, his assistant said he was busy having lunch.

cared to call them.

Sudhakar Rao, professor and chairman of the Depart-

ment of Civil Engineering, IISc, said his section had not been consulted. "No paper came to me, and I have not handled any paper from the state government," he said.

The other professors of the department — Ashish Verma, T G Sitharam and T V Ramachandra — echoed his thoughts.

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Had they been consulted, they said, they would have discouraged the steel flyover idea as it calls for the felling of 812 trees.

Chandra Kishen JM, professor and head of the Centre for Infrastructure, Sustainable Transportation and Urban Planning, IISc, said he had received no communication either. "The government has not sought any advice from us. And even if they had, we would have had to conduct an environmental and feasibility study before giving any opinion," he said.

Dr S Arul Jayachandran from the Department of Civil Engineering, IIT-Madras, has not heard from the authorities either. "I have read about the steel flyover in newspapers, but we were not consulted as claimed by the Karnataka government," he told *DH*.

Jayachandran also serves as Deputy Director of Steel Lab, CSIR-Structural Engineering Research Centre.

# Cost of concrete flyover just half that of steel bridge, says expert

## IRC tech panel member says alternative takes less space, time too

Rasheed Kappan

**BENGALURU: The Basaveshwara Circle-Hebbal steel flyover can actually be built using concrete at a cost of Rs 957 crore, almost half the amount quoted by the project contractor.**

This is the finding of an Indian Roads Congress (IRC) technical committee member, who based his calculations on the detailed project report (DPR) uploaded on the website by the Bangalore Development Authority.

The structural analysis, which questioned the hefty Rs 1,791-crore price tag for the initial 6.7-km structure, also found the proposed project time span of 549 days too long. The entire work, the member

concluded, can be completed in less than 300 days.

Here's how the cost was worked out if the flyover were to be made of concrete.

The six-lane, 24.2-metre-wide and 6,687-metre-long main structure will cover a total area of 1,61,825.4 sq metres. Add another 41,973 sq metres of ramp area and the total plan area will be 2,03,798.4 sq metres. The flyover cost at Rs 35,000 per sq metre of plan area will work out to Rs 713.30 crore. The addition of underpasses as mentioned in the DPR takes the total cost to Rs 956.44 crore.

### Excess pillars

The analysis found another glaring factor driving up the cost of the steel structure. The number of pillars are 40% in excess of the requirement.

The DPR estimates that a pillar is required for every 25-metre span of the steel flyover. So, for the 11,625 metres of the flyover and ramps, 466 pillars will have to be erected.

However, the IRC expert, R K Jaigopal, contends that the number of pillars can be reduced to 333 if 35-metre spans are considered. In effect, the project plan has 133 pillars in excess, due to which the cost for pile foundations has also gone up.

"Spans of 20-metre/25-metre cannot be called optimal. The agency should have worked out optimum spans which can be about 35-metre. This way, the number of piers (pillars) can be reduced and environmental damage due to more digging for piles minimised," he says.

Questioning the rationale

### 'Steel bridge toll Rs 150'

BJP leader and former deputy chief minister R Ashoka on Thursday said the state was planning to impose a minimum toll of Rs 150 per trip for using the steel flyover proposed between Basaveshwara Circle and Hebbal.

He was speaking on the sidelines of a BJP event in Bengaluru. Ashoka, however, did not reveal the source of his information but stated it was authentic.

that steel piers require less space than concrete, the expert reasons, "More than four to five times of pier area is required for piling and pile cap,

which needs to be barricaded. Then, where is the area saving by steel?"

The contention that steel pillars require less time to erect is also challenged. "Nowadays, an entire concrete pier is cast in one pour within a few hours. Then, why spend more money on steel? All these details should have been compared and discussed in the DPR."

The DPR shows that eight steel girders for the main span and three girders for the ramps will be manufactured in the workshops.

"Suppose all the girders are converted to concrete, the same can be manufactured in the casting yard. It will then make no difference and the cost can be reduced to half," explains the expert.

**DH News Service**