

LIFTING MALLS

Part - VII

The session surely spoilt my appetite. The presenter David Cooper had achieved his objective of shocking his audience of veterans who had gathered for the annual forum of Vertical Transportation Consultants held in San Francisco. The video clippings (from the various building security cameras) of the falls from escalators were gruesome, but very true. The image of the desperate mother

helplessly watching her young child fall will haunt me for years to come. David Cooper has spent the last eight years researching escalator falls around the world. It is sad that his pleas backed with data have still not managed to adequately shake-up the industry or the developers / owners.



The technical sessions at the forum included an early morning site visit to the San Francisco Shopping Centre. The mall in downtown San Francisco and next to the BART Powell Street Station is prime real estate. The visit was an eye opener at measures that could be taken to prevent fall hazards without affecting aesthetics. The handrails provided running parallel to the escalator handrails were a good deterrent. The stationary handrails complemented the moving escalator hand rail and made a lot of sense.

However I will admit that the main attraction was the spiral escalators. The 6 spiral escalators stacked contrastingly with 6 straight escalators was simply awesome. *The rumour is that the Developer subsequently*

retail feature

opted for a combination to cut down the prohibitive expenses.

It had taken 15 Mitsubishi engineers over 21/2 years to complete the design of the escalators for the San Francisco Shopping Centre. Precise alignments are key to any escalator installation and operation and becomes an even bigger challenge when the escalators are curved with



no straight lines available for alignment. The truss was shipped to site in seven sections and took nine months to assemble, install and commission. The dome of the mall was left open till the completion of



the hoisting work. Interestingly the lady who maintains the escalators today was involved with the installation 20 years back. The fact that she is indispensable is obvious from the fact that she hasn't had another assignment since then.

Spiral escalators were first installed by Mitsubishi in 1985 at the Tsukuba Shopping Centre in Japan. Since then there have been only 80 similar units installed worldwide. (Information provided by Mitsubishi,



USA as per a recent article published in Elevator World India puts the figure at over 500, in any case it a miniscule fraction of the total escalators installed globally) Costs are a major discouraging factor. The current estimated cost of each of the spiral escalators (as per Mitsubishi) at the San Francisco Centre is US\$ 1.8 million (*over INR 7.5 crores against INR 30 lakhs for a similar straight escalator*)

The numerous patents that have been registered for the technology involved appears to be another discouraging factor.





Which brings me to the question on the return on investment. What foot fall and conversion ratio would justify the investment? I could not get a conclusive answer to this million dollar question. The 6 spiral escalators at the San Francisco Centre are principally meant to service the Nordstrom. Considering the location and profile of the mall, most of the other outlets were obviously upper end.

I visited the Mall through various times of the day and the week to get a perspective of the footfalls and possible conversion ratio. While the footfalls were low



(even from a perspective of the other malls I have visited in the US or Europe) the conversion ratio also did not appear too high. It was obvious that a number of visitors were there for the ride. The fact that I managed uninterrupted and long conversations with attendants from the outlets was proof enough of the low sales. Of course the food outlets, as most food outlets are, were busy during the meal times.

The number of elevators provided were more than enough to take care of the total traffic even without the escalators. The mall also had other escalators at the second wing of the mall that housed the multiplex. Overall, with the traffic I had witnessed, the building was grossly over-elevated. I wondered at the design assumptions.

Which bring us back to the question of return on investment. I



am not sure that the spiral escalators at this mall have really contributed to any exponential increase in the revenues of the outlets. I would believe that spiral escalators, unless costs are brought down dramatically, will have to be considered as a style / aesthetic / luxury statement without considering any return on investment. Interestingly one of the store attendants with whom I interacted was a student of architecture on a part time job, who put it in perspective *"It is upto the Architect to be creative and not his to worry about the costs or return on investment"*. Definitely a worrisome thought! 😊

About the Author:

TAK Mathews is a Chartered Engineer, a member of the International Association of Elevator Engineers, of the National Association of Vertical Transportation Professionals (USA) and of the National Association of Elevator Safety Authorities International. He is also certified as a Qualified Elevator Inspector according to the norms of the American Society of Mechanical Engineers. He is the Principal Consultant at TAK Consulting (formerly TAK & Associates).

