31-03-2013 The Times of India

SUNDAY TIMES OF INDIA, CHENNAI *
MARCH 31, 2013

TIMES CITY

Under homes, metro treads cautiously

Slows Down Tunnel Work In Residential Localities

V Ayyappan | TNN

Chennai: Metro rail has decided to slow down boring machines and intensify monitoring while tunnelling under residential areas after buildings developed cracks at Mannadi. Engineers have decided to make the most of lessons learnt from the incident as tunnelling is goes to start under residential areas at a few places in the city.

Though metro's alignment mostly runs under three arterial roads – Poonamallee High Road, Anna Salai and 100 Feet Road – it veers away from the roads and crosses under densely populated areas at a few places, including Chintadripet, Anna Nagar and Saidapet.

TOI

SAFE AND STEADY: The metro rail network crosses under densely populated areas like Chintadripet, Anna Nagar and Saidapet

Tunnelling has started from May Day Park towards Central and will soon pass under houses at Chintadripet. Another machine will soon be launched to build a parallel tunnel from the park very soon. A machine has bored for more than 100 metres from Shenoy Nagar to Thirumangalam under a residential area while another machine will soon be launched to make a parallel tunnel. Machines are ready to begin tunnelling at Saidapet.

Metro rail uses the best tunnel boring machines designed to safely bore under crowded cities. "People do not know that the machines have been boring under their buildings," said an official. Nevertheless, metro's contractors have decided to intensify monitoring of buildings and settlement of soil on the surface when boring machine is at work under a residential area. Engineers have found that buildings in these locations are of moderate or poor quality. These measures are in addition to the existing system that monitors buildings for existing cracks, new cracks, tilting or sinking. Engineers would constantly monitor the impact as tunnel boring machines run slow at Chintadripet, said a senior official of metro rail.

"The impact of tunnel boring on the surface was within the accepted limits at Mannadi but buildings cracked because of poor quality of construction. It is normal for surface to settle a little when the boring machine is at work. We have instructed engineers to slowdown the machine and proceed after its impact on the surface is studied," he said. This will not hamper work because impact can be assessed almost immediately.

Metro rail's contractors consulted experts from IIT-Madras to make tunnelling safe after the Mannadi incident. "The professors studied the impact of tunnelling in the past and compared the results with that of the existing record to suggest changes to operation of boring machines," said an official with a construction firm that works for metro rail.

Sophisticated machines are used to check vibrations of buildings. An online monitoring system is also implemented by which impact on buildings is monitored at a control centre at the main site office of the constructor.