

# Nicoll Highway collapse

Geographical coordinates: 1°18'9.16"N 103°51'57.47"E

The **Nicoll Highway collapse** was a construction accident that occurred at approximately 3:30 p.m. Singapore Time (UTC+8:00) on 20 April 2004 in Singapore when a tunnel being constructed for use by MRT trains collapsed. The tunnel was part of the construction of the underground Circle MRT Line, near the Nicoll Highway MRT Station. The supporting structure for the deep excavation work failed, resulting in a 30-metre (100 ft) deep cave-in that spread across six lanes of Nicoll Highway. The collapse killed four people and injured three. The accident has delayed the construction end date for the MRT station.

## Causes

Investigations and probes into the collapse commenced immediately. It eventually was found that the most apparent cause of the collapse was that the retaining wall could not handle the stress of holding up the tunnel, forcing it to give way. This occurred near the Nicoll Highway MRT station under construction along the Circle Line and near the Merdeka Bridge.

## Consequences of the collapse

The accident left a collapse zone 150 m (490 ft) wide, 100 m (330 ft) long, and 30 m (100 ft) deep. Four workers were killed, with three more injured. Steel beams were twisted, with two construction cranes being swallowed up. A substantial chunk of the main highway running over the tunnel was also knocked out.

The rescue efforts were called off on April 23, 2004 because of the low chance of survival by that point, as well as danger to the rescue teams. There was also the increasing need to stabilize the ground around the accident site to reduce the risk of further collapses. All six lanes of the Nicoll Highway were heavily damaged, rendering the road unusable. The highway re-opened on December 4, 2004 after reconstruction efforts.

A committee of inquiry found main contractor Nishimatsu Construction Company and its officers as well as Land Transport Authority officers responsible for the collapse. Several other officers and subcontractors were reprimanded and issued warnings in connection with the accident. As a result of the accident, Stages 1 and 2 of the Circle line were delayed. Stage 3 of the line, Bartley to Marymount stations opened first on 28 May 2009. The partially built station structure was abandoned, and the affected station has been shifted about 100 metres (330 ft) away from the accident site. Eventually, Nicoll Highway MRT Station started operations on 17 April 2010.



## The victims

- Vadivil s/o Nadeson, crane operator

A Malaysian of Indian descent, his body was the first to be recovered. The 44-year-old had reportedly tried to escape by jumping out from his crane when the incident occurred. He was found caught between a pick-up truck and a container.

- Liu Rong Quan (Chinese: 刘荣权), construction worker

The body of the 36-year-old Chinese national from Jiangsu province was found wedged between the wheel and chassis of a 10-tonne truck. Liu had started working at the site just ten days before the incident. He left behind a wife and daughter.

- John Tan Lock Yong (Chinese: 陈陆勇), Land Transport Authority engineer

The third victim to be found, Tan was due to finish his contract with LTA at the end of 2004 and had planned to migrate to Australia or New Zealand then. He leaves behind his wife, a grown-up daughter and a son.

- Heng Yeow Peow (Chinese: 王耀标), foreman

The body of the 40-year-old Singaporean was never recovered. According to survivor accounts, Heng had selflessly hurried his workers to safety but was himself trapped when the collapse occurred. Heng left behind his wife, two young children, his 70-year-old mother and nine siblings.

## Criminal trials

Four men are facing criminal charges in the wake of the Nicoll Highway Collapse.

The first man being put on trial is Ng Seng Yoong who is a former project director of the Circle MRT Line who also monitored the excavation and design work in his other capacity as the Qualified Person on the site. He faces one charge of breaching conditions under the Building Control Act. Arguments were made that readings of instruments on site have indicated that things were not going as planned, but the warnings were not acted upon. <sup>NgFined</sup> On November 24, 2005, Ng was fined \$8,000 (SGD) by the court. <sup>trialsUnderway</sup>



Construction site of the Nicoll Highway MRT Station.

## References

- "First of Nicoll Highway criminal trials gets underway" <sup>[1]</sup>. Channel NewsAsia. 3 October 2005.
- "Ex-LTA project director fined over Nicoll Highway accident" <sup>[2]</sup>. Channel NewsAsia. 24 November 2005.

## External links

- IAP class probes Singapore highway collapse <sup>[3]</sup> — MIT report
- Special report <sup>[4]</sup> — Channel NewsAsia
- Nicoll Highway collapse <sup>[5]</sup> — Singapore Civil Defence Force
- Nicoll Highway Collapse <sup>[6]</sup> - Singapore Infopedia

## References

- [1] <http://www.channelnewsasia.com/stories/singaporelocalnews/view/171573/1/.html>
- [2] <http://www.channelnewsasia.com/stories/singaporelocalnews/view/180323/1/.html>
- [3] <http://web.mit.edu/newsoffice/2008/collapse-highway-0201.html>
- [4] <http://www.channelnewsasia.com/nicoll/index.htm>
- [5] [http://www.scdf.gov.sg/General/Information/Local\\_Major\\_Incidents/nicoll\\_highway\\_collapse.html](http://www.scdf.gov.sg/General/Information/Local_Major_Incidents/nicoll_highway_collapse.html)
- [6] [http://infopedia.nlb.gov.sg/articles/SIP\\_430\\_2004-12-17.html](http://infopedia.nlb.gov.sg/articles/SIP_430_2004-12-17.html)
-