



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

MRSE 2573 INTEGRATED OCCUPATIONAL, SAFETY AND HEALTH MANAGEMENT

GROUP CASE STUDY

-TUNNEL CONSTRUCTION TRAGEDY -



TEAM MEMBERS:

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PUDU UNDERPASS PROJECT

- Project Begin : 2009
- Project Complete : End of 2013
- Project Cost : RM129 million
- By Kuala Lumpur City Hall (DBKL)
- Consultant : Khairi Consult Sdn. Bhd.
- Contractor :
 - Pertama Makmur Sdn. Bhd.
 - AS Masa Sdn. Bhd
- 800m for 3 underpasses



PUDU UNDERPASS PROJECT

- Purpose :
 - > Upgrading of Jalan Galloway, Jalan Hang Tuah, Jalan Changkat Thambi Dollah
 - > Construction of two footbridge in Jalan Pudu and Jalan Hang Tuah.
- Underpass 1
 - > Vehicles from Jalan Bukit Bintang to Jalan Pudu
- Underpass 2
 - > Motorists from Jalan Pudu (Pudu Sentral) heading towards Cheras.
- Underpass 3
 - > Motorists travelling from Jalan Pudu to Jalan Changkat Thambi Dollah.



PUDU UNDERPASS PROJECT – UNDERGROUND TUNNEL COLLAPSE

- Tragedy Year : July 2014
- Sunk twice - 10.38am and 12.20pm
- We predict that the road will collapse further along the tunnel line.
- The collapse has damaged Syabas water pipes.
- It is learnt that two idle excavators were in the tunnel when the incident occurred but no casualties have been reported.



IMPLICATION OF THE TRAGEDY

- Traffic jam at Jalan Pudu and Hang Tuah
- Roads closed for 2 weeks
- Monorail Service between Imbi and Hang Tuah station halted
- Damage SYABAS water pipe



TEMPORARY ACTION TAKEN AFTER THE TRAGEDY

- Divert Road
 - > Traffic from Jalan hang Tuah to Jalan Imbi diverted to Jalan Pudu
 - > Traffic from Pudu raya diverted to Jalan Imbi
- Monorail – Extend Shuttle Service
 - > KL Sentral to Hang Tuah.
 - > Imbi to Titiwangsa
 - > KL Sentral to Titiwangsa
- SYABAS agree to shut the water valve connecting to the pipes involved.

HAZARD IDENTIFICATION RISK ASSESSMENT & RISK CONTROL (HIRARC)

HAZARD	RISK	CAUSE	ACTION
Ground, Monorail Pillar & Station	Further soil collapse	Weak Foundation	<ul style="list-style-type: none"> • Check on strengths of pillars before continue monorail service • Assess ground condition to ensure sinkhole no impact other areas • Fill up sink hole with sand to strengthen the ground
Electrical Cables	Electrocution	Exposed under ground cable	<ul style="list-style-type: none"> • Use high-tension nylon belt and crane to cradle the cables
Water Pipe	Water Pipe Burst	Soil Cave In	<ul style="list-style-type: none"> • Seal off water pipes • Pump out water from the cave in sites

