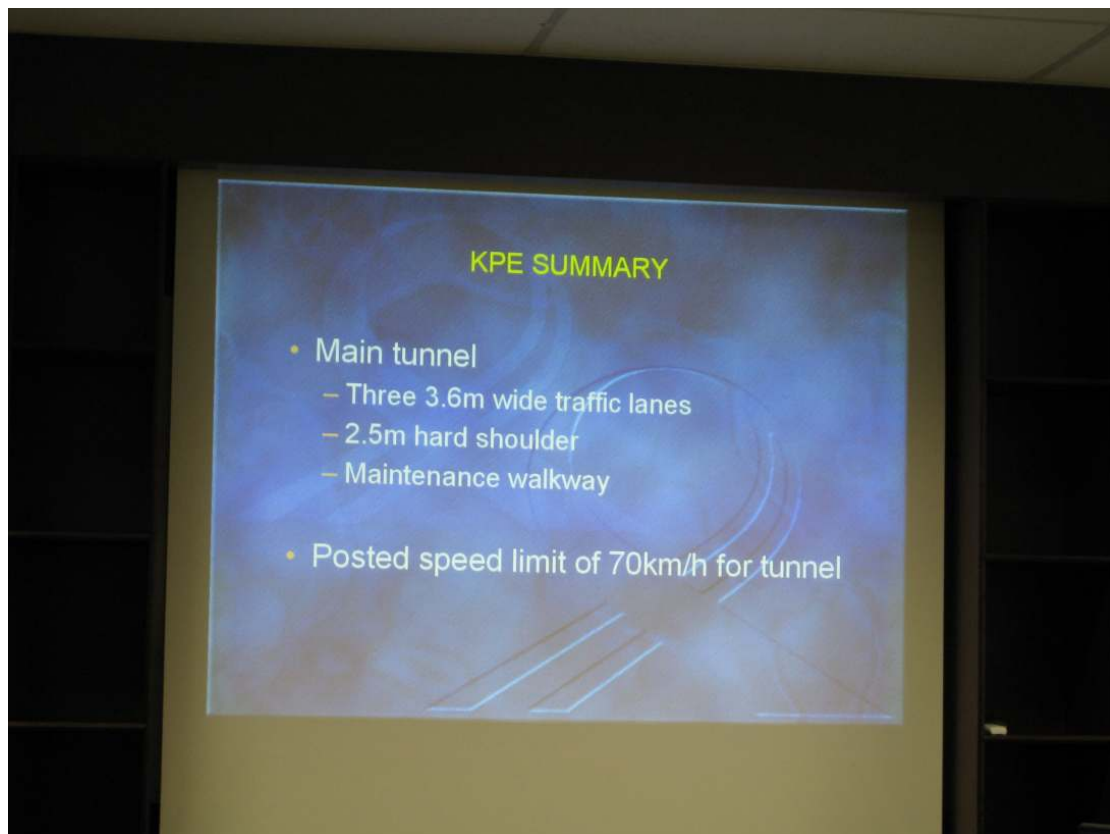


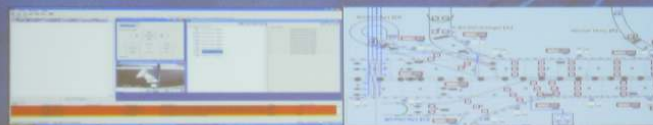
附錄 2.KPE 高速公路交控中心簡報



KPE OPERATION CONCEPTS

- Monitoring and Control
- Detection and verification
- Response and recovery

MONITORING & CONTROL SYSTEM



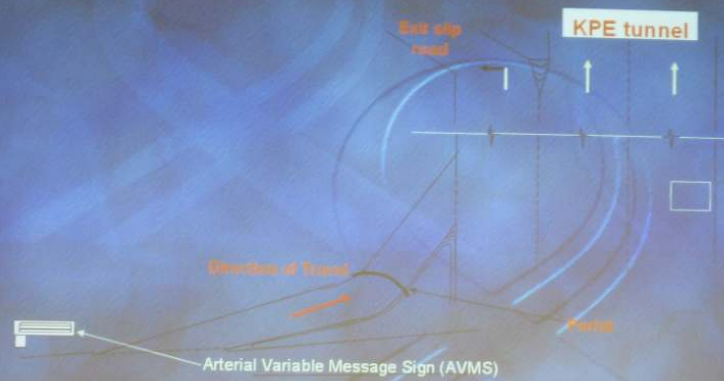
ITPMS Graphic User Interface

TRAFFIC MONITORING & MANAGEMENT

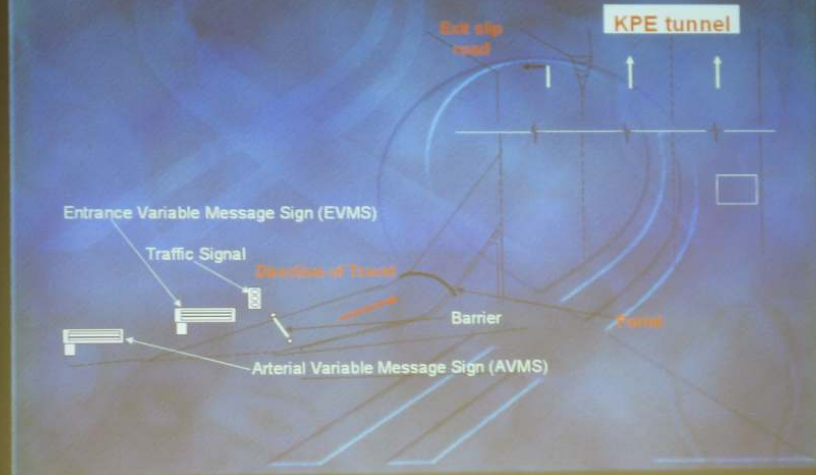
Integrated Traffic & Plant Management System (ITPMS)

- CCTV & AID camera system for traffic surveillance
- Speed cameras, Lane Use Signs and Variable Speed Limit Signs to regulate traffic
- Variable Message Signs, Directional Signs, RBBI and PA system to disseminate information
- Electronic Road Pricing (ERP)

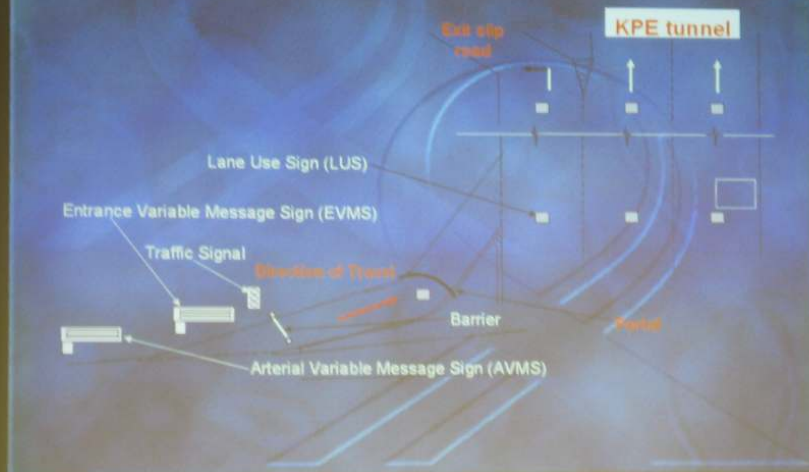
TRAFFIC MANAGEMENT FACILITY



TRAFFIC MANAGEMENT FACILITY



TRAFFIC MANAGEMENT FACILITY



TRAFFIC MANAGEMENT FACILITY



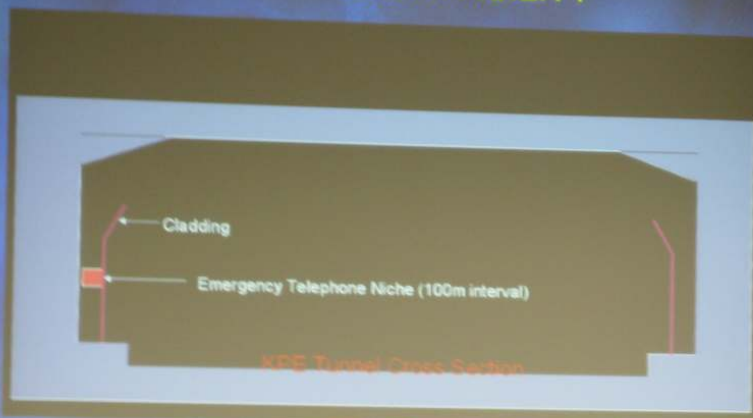
ENVIRONMENTAL MONITORING & CONTROL SYSTEM

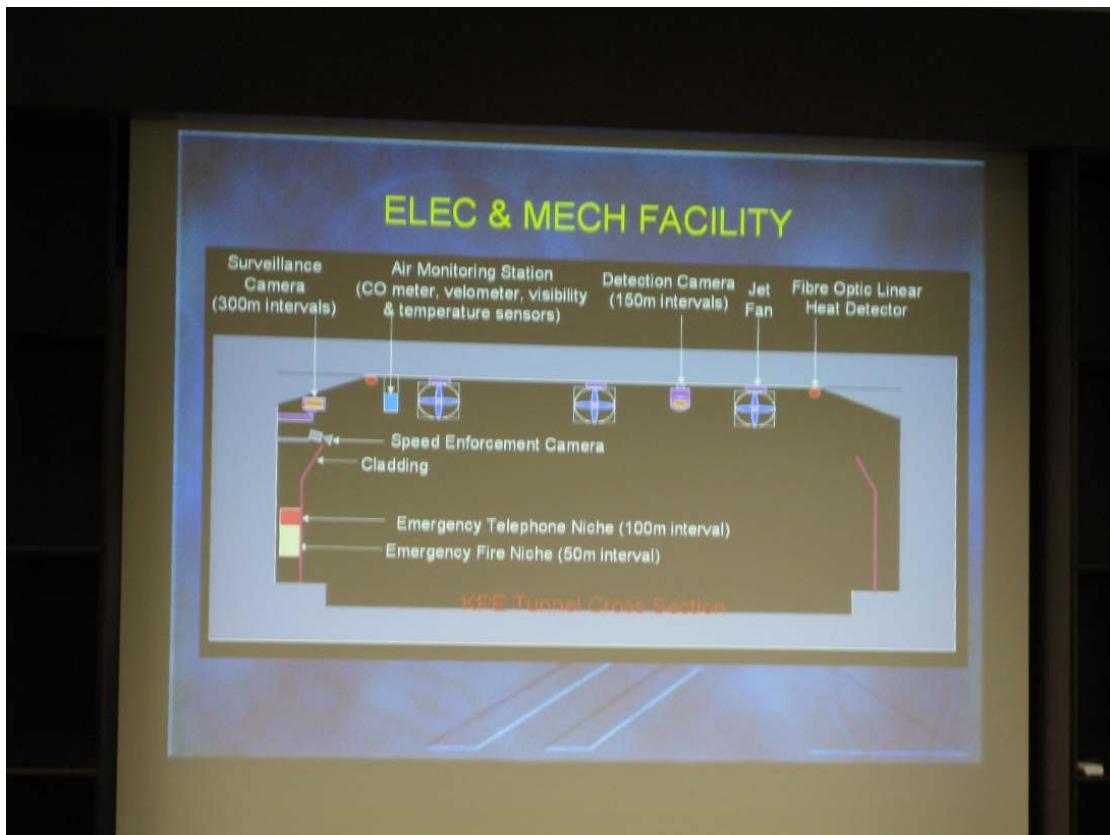
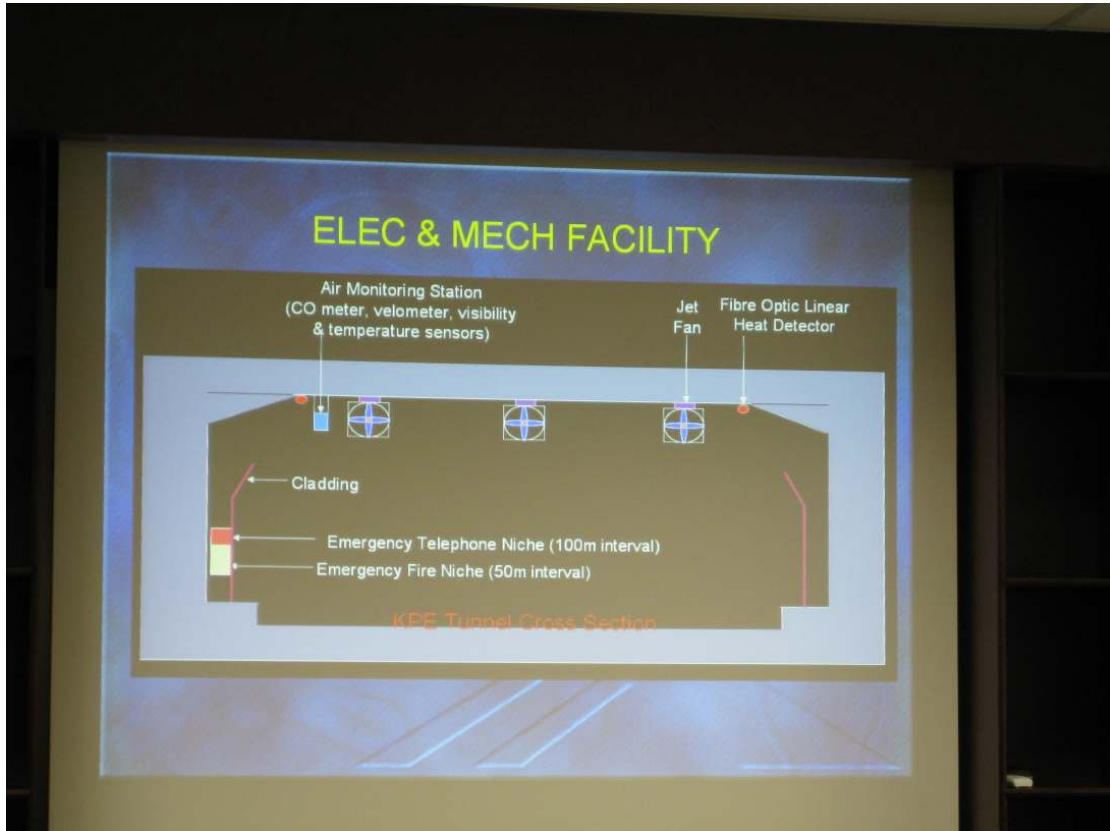
- **Monitoring:**
 1. Carbon Monoxide (CO) detectors
 2. Visibility meters
- **Control – Ventilation Control System**
 1. Jet fans
 2. Tunnel Ventilation Fans

INCIDENT DETECTION SYSTEM

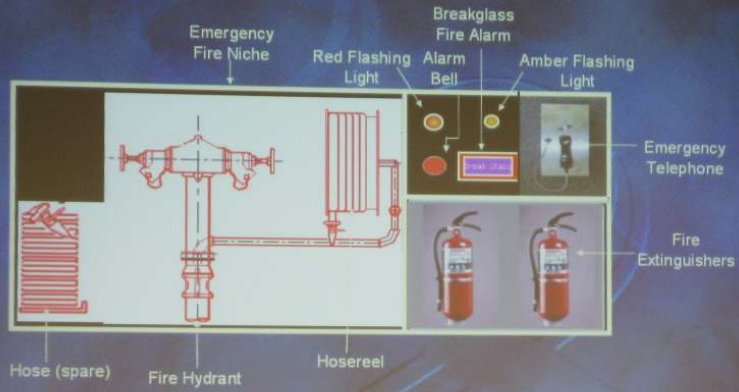
- Fire detection system
 1. Linear heat detector
 2. Manual alarm activators
- Traffic incident detection system
 1. Automatic Incident Detection (AID) Cameras
 2. EETS
 3. CCTV
 4. Patrolling by VRS & LTM
 5. Public feedback, SPF, SCDF

ELEC & MECH FACILITY

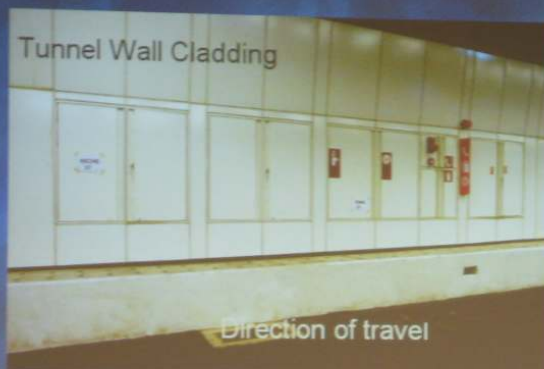




EMERGENCY FIRE NICHE



EMERGENCY FIRE NICHE



INCIDENT VERIFICATION

- **CCTV**
Eyes of OCC operators
- **LTA Traffic Marshalls**
- **Vehicle Recovery Services**

INCIDENT CLASSIFICATION

- **Major**
 - Requires closure of tunnel and evacuation of motorists
 - Requires assistance from SPF and SCDF
- **Serious**
 - Partial / localised lane(s) closure
 - Requires assistance from SPF and SCDF
- **Minor**
 - Partial / localised lane(s) closure
 - Does not require assistance from SPF and SCDF

INCIDENT MANAGEMENT

- Manage planned and unplanned incidents
- For planned incidents, key consideration is to minimise inconvenience to motorists
- For unplanned incidents, fast response to incidents & co-operation with external agencies (i.e. SCDF / SPF) are important to facilitate swift rescue & recovery efforts

INCIDENT MANAGEMENT

Coordination between ITSC and KPE OCC to achieve integrated traffic management

- Scope of interface
 - (i) At expressway interchange - synchronised effort in incident management (e.g. KPE and PIE)
 - (ii) At arterial road - co-ordination between KPE and the surface traffic signal system

INCIDENT RESPONSE & MANAGEMENT

- Disseminate information to motorists
- Activate field response teams to incident site
- Carry out traffic control at incident site
- Effect tunnel closure where necessary
- Liaise with ITSC OCC to manage impact on traffic
- Facilitate rescue and investigation works by SCDF and SPF

NOTIFY EXTERNAL AGENCIES

For major incident, KPE OCC will convey the following information to SCDF/SPF:

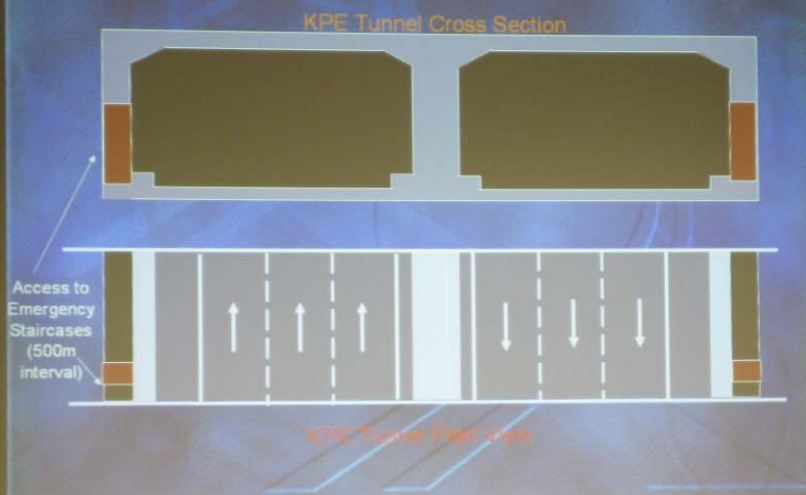
- a. Location of incident & CCTV camera to view
- b. Number of casualties (where possible)
- c. Nearest cross passage door upstream of incident site for response teams to link up
- d. Access route to reach incident site

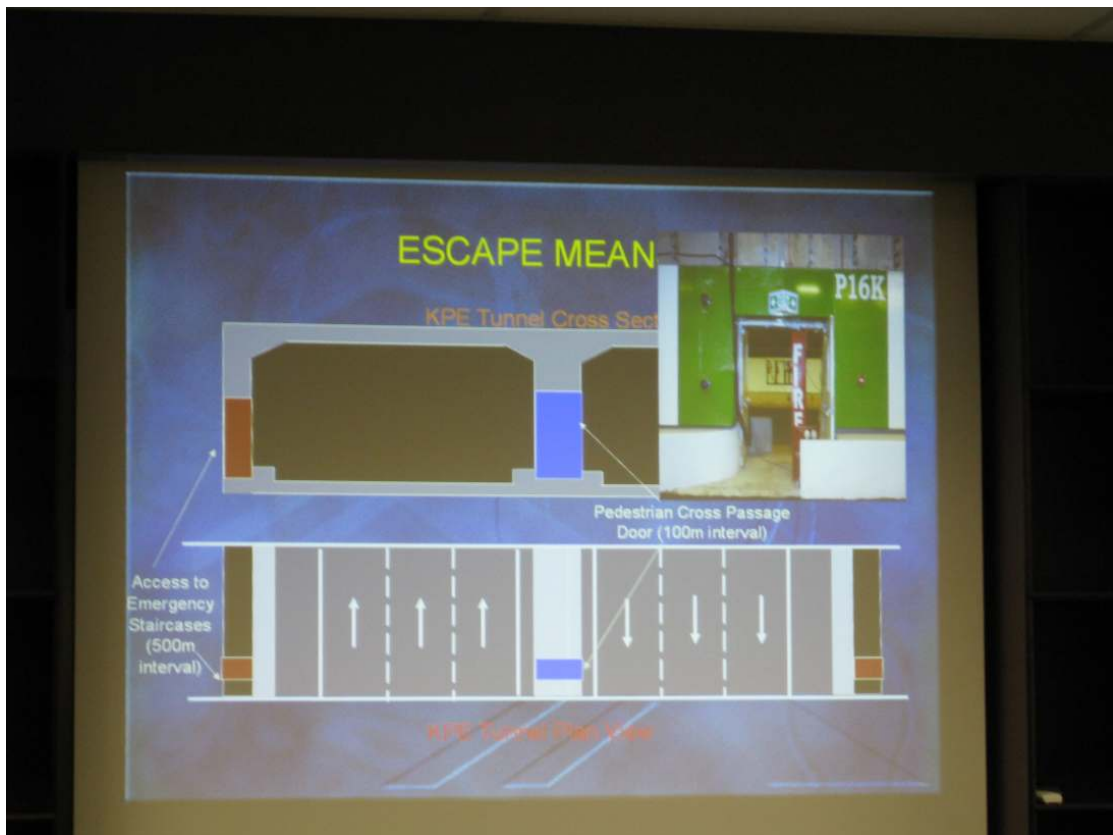
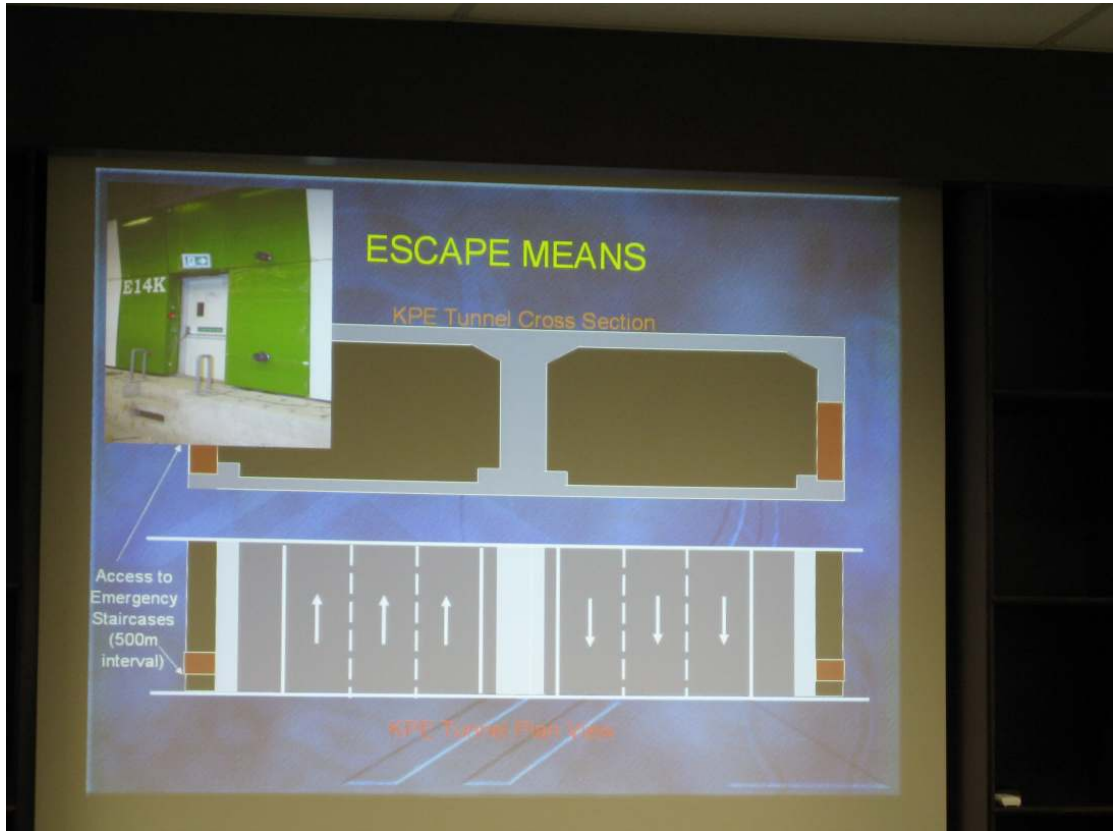
TUNNEL EVACUATION

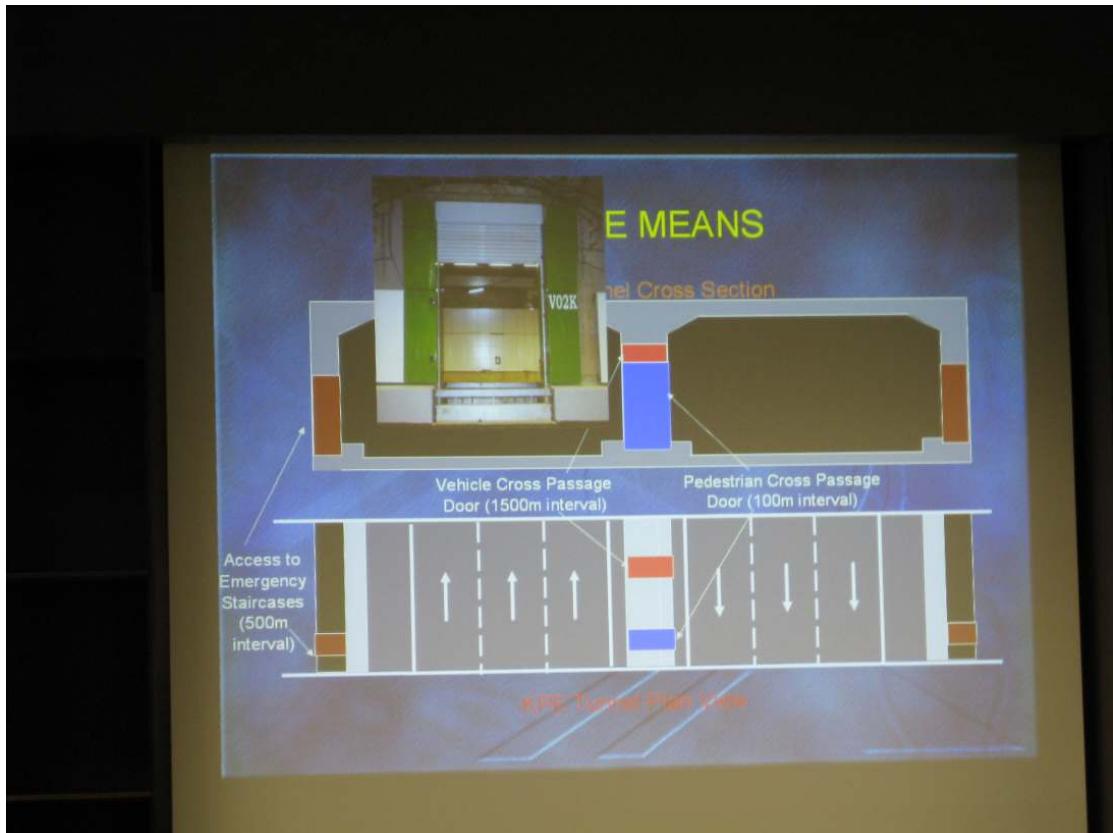
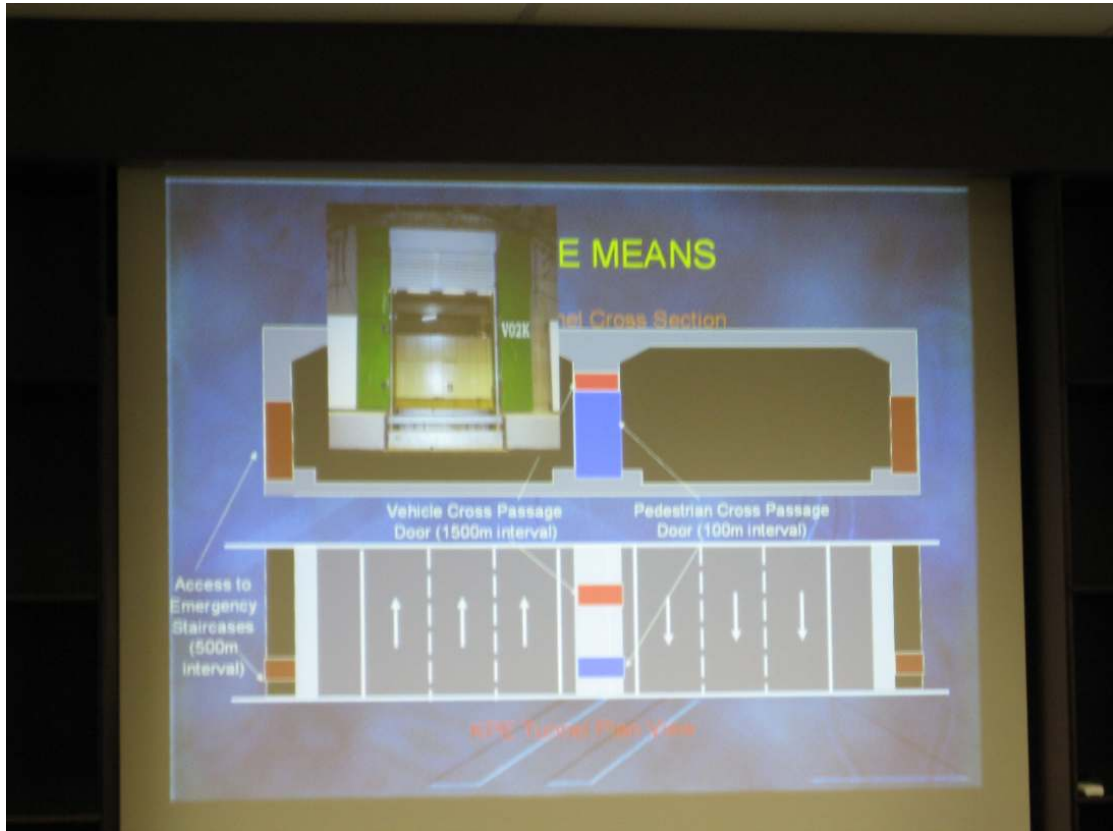
May be necessary for MAJOR (fire) Incident
Facilities provided:

- Emergency Staircases (500m interval)
- Pedestrian Cross Passage Door (100m interval)
- Vehicle Cross Passage Door (1500m interval)

ESCAPE MEANS







ESCAPE STAIRCASE EXIT



Identification of escape staircase from street level



INCIDENT MANAGEMENT ROLES & RESPONSIBILITIES OF AGENCIES

Close interaction between LTA, SCDF and SPF/TP

Agency	Major Roles & Responsibilities
LTA	<ul style="list-style-type: none"> Manages traffic-related incidents Provides initial response for emergencies before arrival of SCDF/SPF Provides technical expertise Effects tunnel closure & traffic diversion
SCDF	<ul style="list-style-type: none"> Incident Manager for Civil Emergency Fire fighting and rescue operations Paramedic services HazMat containment & recovery
SPF	<ul style="list-style-type: none"> Incident Manager for Security Emergency Maintains law and order Traffic control Security & investigation

INCIDENT CLEARANCE & RECOVERY

- Assess extent of damages
- Carry out necessary site reinstatement works
- Restore traffic operation