Underground 1999
Lateral capsule on underground rails
Vehicle condition
Vehicle Selection
Condition Monitoring
Wear and Tear
Wear and Tear
Dynamic track stiffness/loads
Safe Loading
Wear and Tear
Wear and Tear
Spring supplied hydraulic clamps
Roadway condition
Roadway conservation and maintenance
Removal of water on roadways
Introduction design
Tyre Damage
Tyre selection
Safe loading
Tyre fastening
Tyre pressure
Tyre Wear Long
Medical condition
Medical Check
Investigation and medical assessment
Medical Support System
Medical Check
Fatigue
Fatigue Prevention System
Fatigue Management
Real time, in-cab monitoring
Gallery areas
Gallery Prevention System
Real time, in-cab monitoring
Safety Gate
Safety Gate
Unauthorised operation of TBM
Unauthorised operation of TBM
Key control system
Control Authority Handover
Control Authority Handover
Systems health warning system
TBM self diagnostic system
Unauthorised movement of TBM
Unauthorised movement of TBM
Stop Motion in the Headlind
Front Lateral Gallery extrusion
Front Lateral Gallery extrusion
Signaler disorientation
Signaler disorientation
Signaler reporting and monitoring safety
Safe Gate on top of material trolley
Personnel control in search
Visual cues
Real time, in-cab monitoring
Excessive / Over crowded Road
Excessive / Over crowded Road
Adhesion in wet / Loading Dock (SBM)
Fence group protection and grids including
Trucks and trailer matching
Secure loads before transport
Ball Fly plates in Hatches
Entrapment or positioning of personnel in an unsafe place
Stop Shifting device
Safe Speed
Avoid Mixing with Low Type Pedestrians
Gradual Braking
Manoeuvring
Stop Motion in the Headlind
Safety chain on trailer
Safe Gate on material trolleys
Operator risk assessment updated
Operator risk assessment updated
Safe Speed
Audio alarm
Arrow lighting
Use of technology and Data
Windscreen wipers
Sun visors
Protection and safe processes for Operator and Pedestrians
TBM warning devices for operating personnel
Reflective clothing
Reflective clothing
Safe lights
Outdoor Observation System
Accessories
Reflective strips on TBM
TBM Lights
Lighting Prevention System
Reflective strips on TBM
Emergency Stop
Service Brake
Manual emergency stopping
Use of technology and Data
Automatic emergency stopping
Physical Service
Lighting Prevention System
Emergency Stop
Service Brake
Manual emergency stopping
Use of technology and Data
Automatic emergency stopping
TBM Lights
Physical Service
Emergency Stop
Service Brake
Manual emergency stopping
Use of technology and Data
Automatic emergency stopping
Fire Prevention Measures (SBM)
Emergency response and response training
Safety Gate
Fire Prevention Measures (SBM)
Emergency response and response training
Safety Gate
Recovery of material
Fire Prevention Measures (SBM)
Emergency response and response training
Safety Gate
Recovery of material

pedestrians,
lights,etc.
personal collision.
Stage of the roadway
Pedestrian Stage Phase
Phase the following
Pedestrian Stage
today.
pathpartial materials,
Pedestrian Stage Phase
across lane of
Pedestrian Stage
today, can will can
Pedestrian Stage
are diagonal to the
Pedestrian Stage
Pedestrian Stage
roadway, and to make
Pedestrian Stage
their way across
Pedestrian Stage
intersection.