



**„Security of Mass Transportation“
View of CDV - Transport Research Centre
in the Czech Republic**

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Director of CDV**

Security of Mass Transportation

View of CDV - Transport Research Centre on Czech Priorities

Security of Mass Transport in our View:

- Security measures against terrorism or crackpots,
- Security measures against destructive sport fans, extremists, vandals,
- Security measures against natural disaster.

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Security measures against terrorism or crackpots:

- People/vehicles protection
 - Active checking – e.g. airport passenger security
 - Passive checking – e.g. Metro/Railway/Airport building full-range passive spatial video checking
- Infrastructure protection

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Metro/Railway/Airport building full-range passive spatial video checking



Berlin, March 2009

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Security measures against terrorism or crackpots:

- Infrastructure protection
 - „mechanical“ attack – rail demounting, tunnel and bridges damage
 - Spatial visual monitoring
 - Diagnostics methods – electric, acoustic, spectroscopy



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Security measures against terrorism or crackpots:

- Infrastructure protection
 - chemical/biological attack – enclosed places (metro)



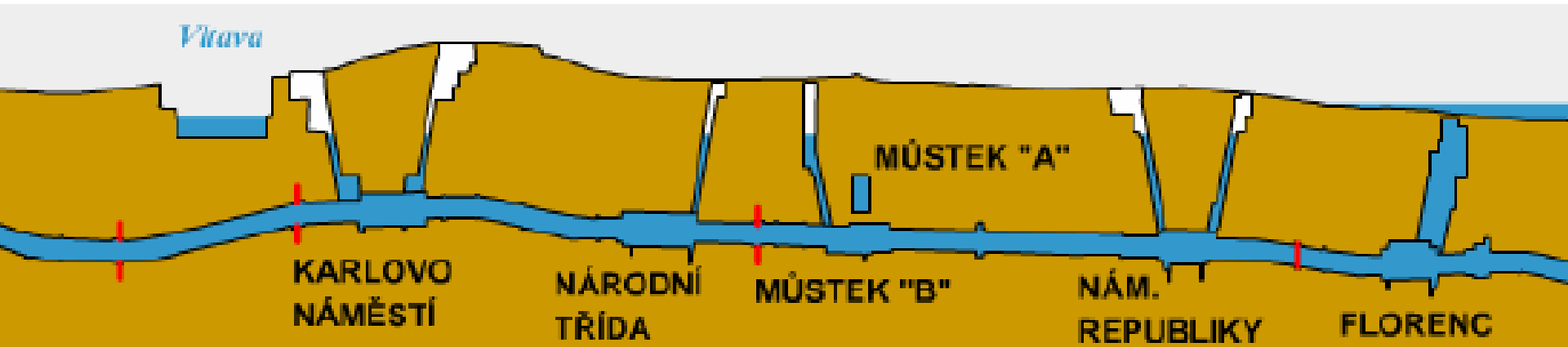
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Security measures against terrorism or crackpots:

- Infrastructure protection
 - chemical/biological attack – enclosed places (metro)
 - Air quality continuing detection



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- Security measures against destructive sport fans, extremists, vandals:
 - Behaviour of rabble and individuals study and effecting – psychological influencing



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- Security measures against natural disaster



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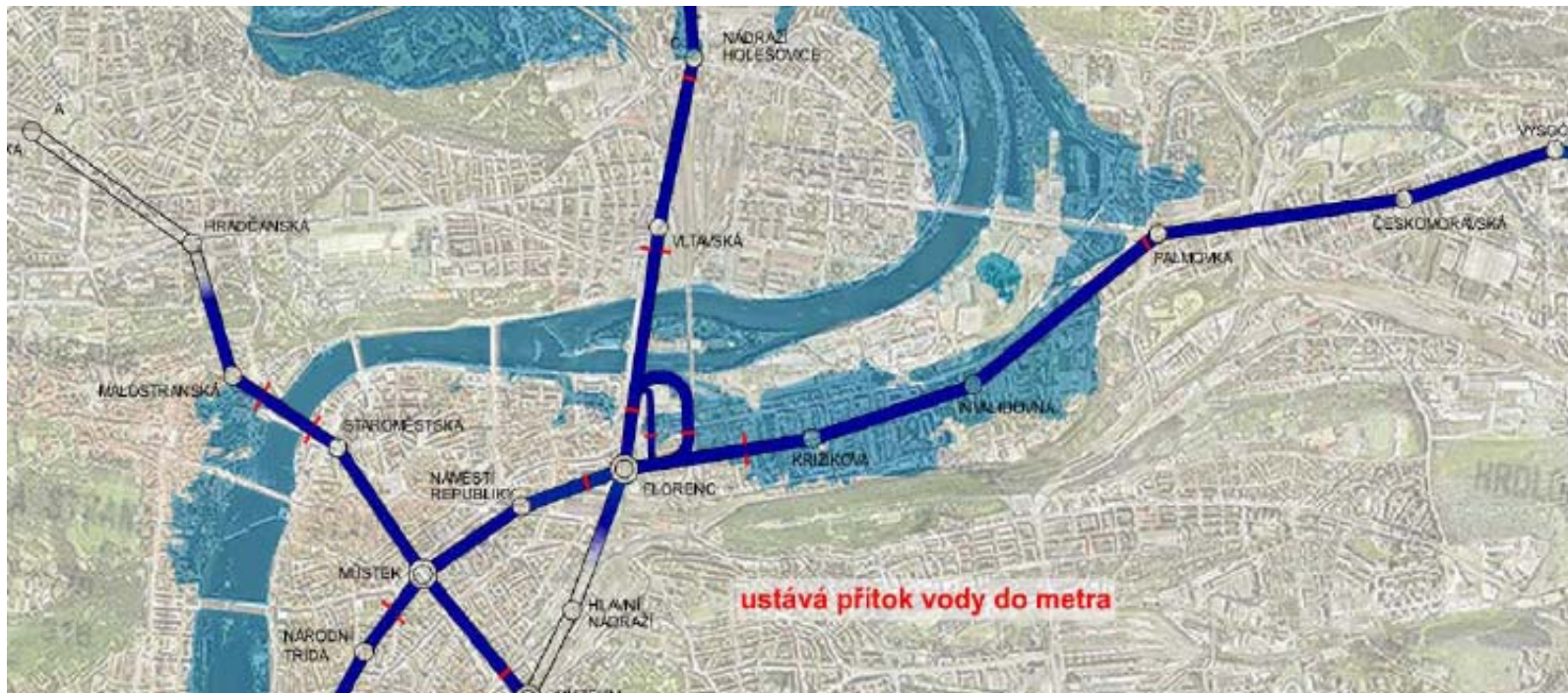
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- Security measures against natural disaster:
 - Fire
 - Fire resistant structures:
 - Concrete pavements in tunnels
 - Fire resistant kinds of concrete in tunnels
 - Floods
 - Modelling of floods in the specific areas
 - Integrated Transport Vector Map for local authority departmental needs as a geographical database of transport infrastructure network for all transport modes – input of relevant design of infrastructure
 - Off-line rescues forces monitoring in order to evaluate the training efficiency for future use and preparation of crisis plan
 - On-line monitoring

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- Security measures against natural disaster:
Floods
 - Modelling of floods in the specific areas
 - Integrated Transport Vector Map



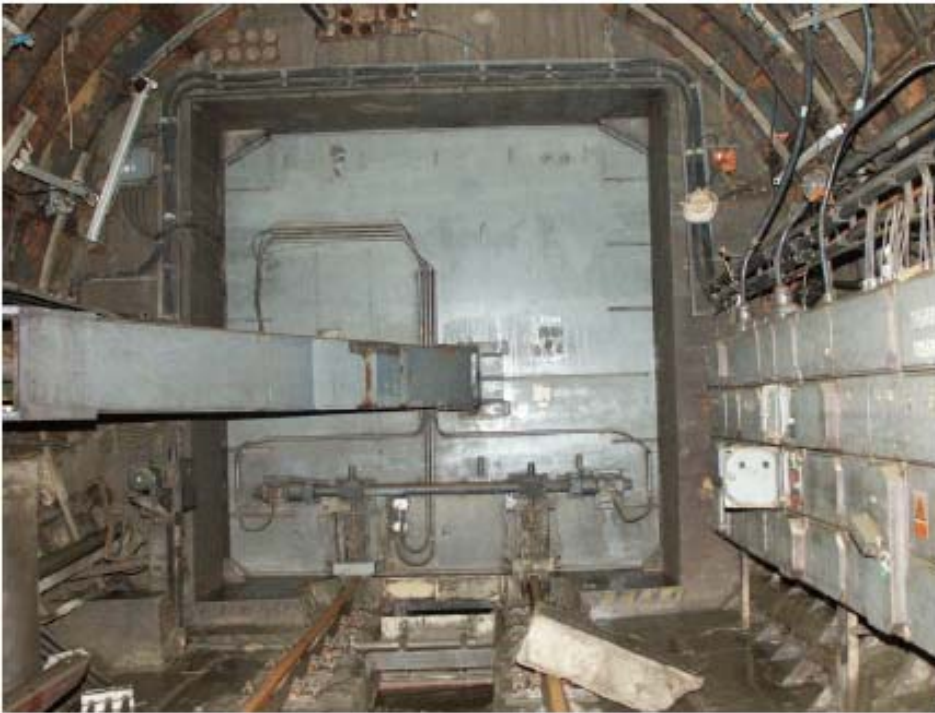
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- Security measures against natural disaster:

- Floods

- Modelling of floods in the specific areas
 - Integrated Transport Vector Map – input of relevant design of infrastructure



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- Security measures against natural disaster:
 - Floods
 - On-line monitoring



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- Involvement of CDV – Transport Research Centre in security measures research and development:
 - Division of Transport Development:
 - Passive spatial video detection
 - Application of vector maps
 - Division of Transport Infrastructure & Environment:
 - Diagnostics methods of structures integrity (acoustic emission, non-linear spectroscopy)
 - Mixtures for fire-resistant concrete in tunnels
 - Continuing monitoring of air quality
 - Division of Safety and Transport Engineering
 - Human aspects, behavioural rabble and individuals study

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Thank you for your attention



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