

# Road safety audit as a proactive tool for road infrastructure safety management

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- History of road safety auditing in Hungary
- Training courses and their content
- A practical example



# What is RSA?

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Independent  
detailed  
systematic and  
technical safety check

relating to the design characteristics of  
a road infrastructure project and

covering all stages  
from planning to early operation







Kierowco



zwolnij !





# Some key dates in Hungary

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- 2004 – The first road safety audit course is organized
  - 2005 – Road Safety Audit Guidelines (RSAG) published
  - 2009 – RSAG updated as Road Technical Specification
  - 2010 – An amendment of the Law on Road Transport was adopted by the Parliament
  - 2011 – Government decree amending the EU directive (2008) on RISM
  - 2013 – RSA group in the Chamber of Engineers is established
  - 2022 – New government decree amending the EU directive (2019)
  - 2023 – New guidelines under review covering all stages of RISM
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# Scope of the Hungarian decree

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- Trans-European road network
- Motorways
- Other primary roads
- Other roads, subject to the decision of the client (e.g. EU funding)



# RSA training courses

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- 2004: with Polish experts from Cracow University of Technology
- 2007 and 2009: with Dutch experts (Ministry of Transport and Royal Haskoning)
- 2010: Initial (5 days) and updating (3 days) courses with exam
- 2012: new courses (7+2 days) based on new legislation with exam (all four pillars of the directive, textbook)
- 2015: updating the teaching material, new textbook
- 2016: basic trainings (10 days), Refreshment training (2 days)
- 2022: trainings combining in-person and online sessions

# RSA Courses

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## □ Methods of the courses

- Lectures
- Case studies, examples
- Workshops with group work
- Individual homework followed by discussion
- Book (2012, p.350): Safety of the road infrastructure

## □ Exams (min 70% required)

- Test (multiple choice questions)
- Assignments (2-3 audits)



# Curriculum – basic course

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| Module | Item                                  | Hours |
|--------|---------------------------------------|-------|
| 1      | Road infrastructure safety management | 2     |
| 2      | Road safety impact assessment         | 7     |
| 3      | Road safety audit                     | 2     |
| 4      | Targeted road safety inspection       | 2     |
| 5      | Human factors                         | 2     |
| 6      | Functional classification of roads    | 2     |



| <b>Module</b> | <b>Item</b>   | <b>Hours</b> |
|---------------|---|--------------|
| 7             | Role of speed and its impact on safety                        | 2            |
| 8             | Typical road safety deficits                                  | 3            |
| 9             | State-of-the-art solutions in road infrastructure             | 3            |
| 10            | Safety issues of pedestrians, cyclists, disabled people       | 2            |
| 11            | Audit and inspection of urban intersections                   | 6            |
| 12            | Audit and inspection of rural road sections and intersections | 6            |



| <b>Module</b> | <b>Item</b>   | <b>Hours</b> |
|---------------|---|--------------|
| 13            | Audit and inspection of suburban road sections                    | 4            |
| 14            | Audit and inspection of urban road sections                       | 5            |
| 15            | Road safety inspection on the field                               | 5            |
| 16            | Road accident data registration & analysis                        | 4            |
| 17            | Network wide safety assessment & periodic road safety inspections | 5            |
| 18            | Safety measures in road work zones                                | 2            |
| 19            | Recent changes in road design guidelines                          | 4            |
| 20            | Road safety trends in Hungary and in the world                    | 2            |
|               | In total  | 70           |

# Follow-up course

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- Auditors need to review their licence after 5 years
- Topics:
  - Latest changes in relation to RISM
  - Latest changes in guidelines
  - New solutions (e.g. video-based conflict analysis or autonomous vehicles)
- 16 hours



# Hungarian Chamber of Engineers

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- Auditors have to register
- HCE gives authorization based on exam
- RSA group was established in 2013
  - Serve as a common platform for auditors
  - Regular meetings
  - Exchanging best practices
  - Recommendations for updating regulations



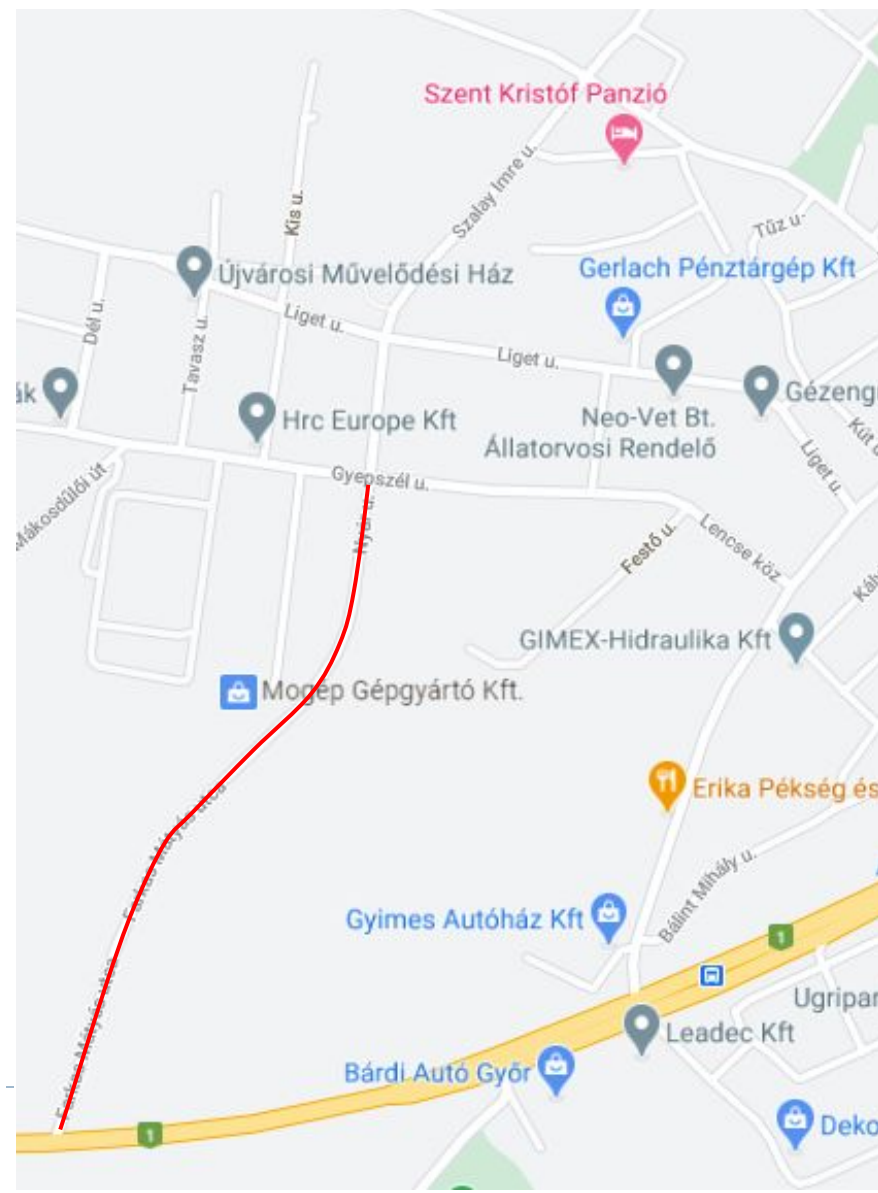




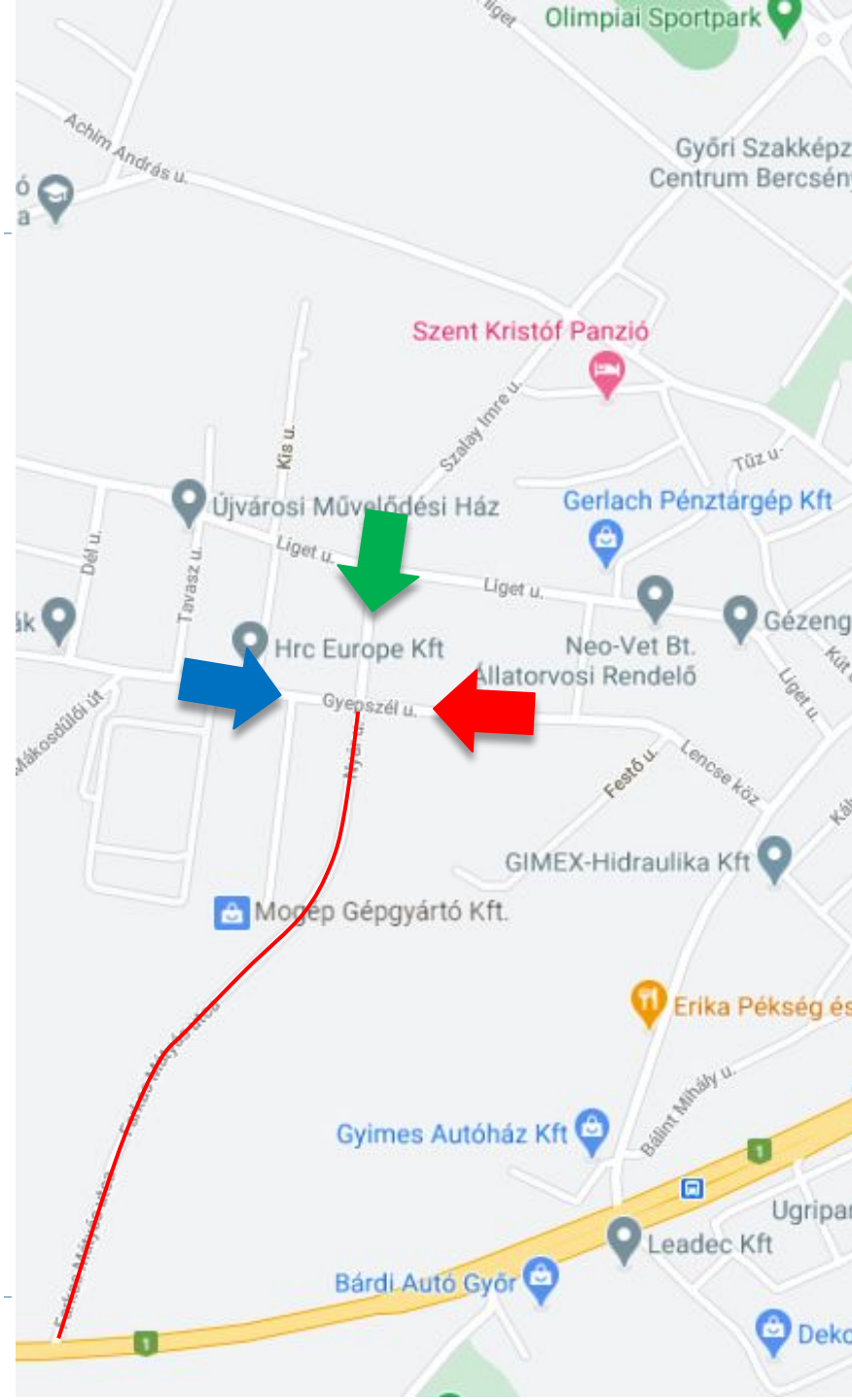
# Case study

# Example – RSA planning phase

- New construction
- 2\*1 lanes
- 2019
- 2 phases
  - Planning phase
  - Pre-opening

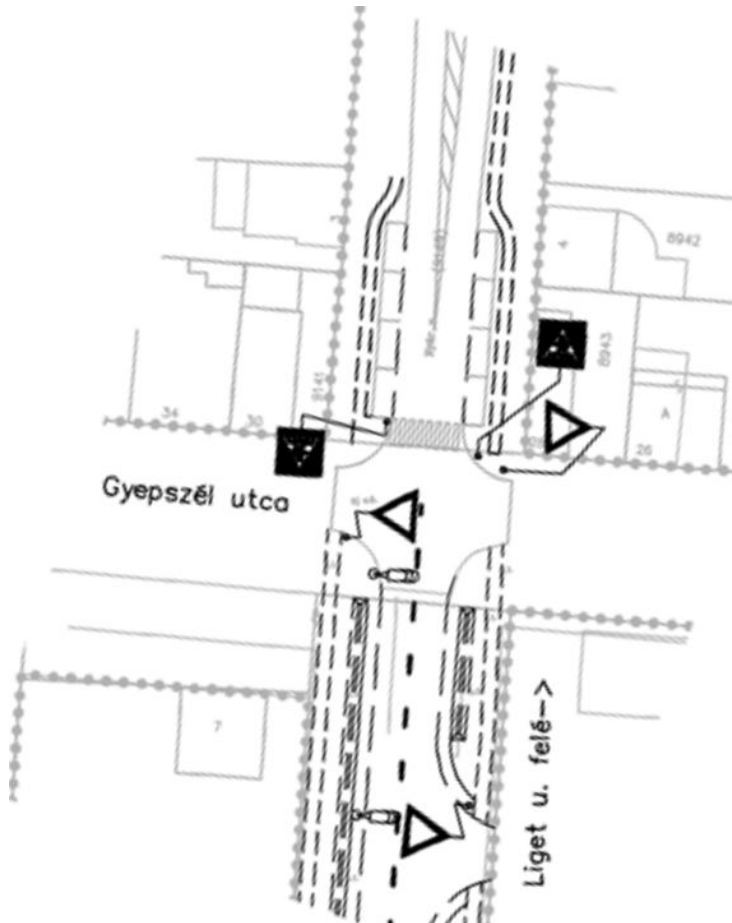


# Example Before the project



# Example – RSA planning phase

PLANNED



RSA  
recommendation



# Example – RSA opening phase

## Fél évvel korábban átadták az 1-es főút kikötését Győrben - fotók, videó

Néhány órán belül felkapcsolják a lámpát és indulhat a forgalom Győrben a Radnóti utca új kikötésénél az 1-es főút és Újváros, Sziget között.



KÉPFELTÖLTÉS

EZT NE HAGYJA KI  
Felfújta beloldali rivalizált a DK -



- The new road was opened **half year before the deadline**
- RSA team was not informed
- RSA report had to be done immediately

# Example - RSA „pre-opening phase”



# Example - RSA recommendation was partly accepted

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# Example – current situation





# Example – current situation

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# Conclusions

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- Discussion and protocol should be done after each RSA phase.
- Monitoring of the project's progression is important!
  - Site visits (possibly)
  - Regular communication with the client



Thank you for your attention!  
Dziękuję za uwagę!