

Overview of activities carried out by the Hungarian Public Road Nonprofit Plc. over the last years and forthcoming challenges

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T O W A R D S M O R E V I A B L E R O A D S



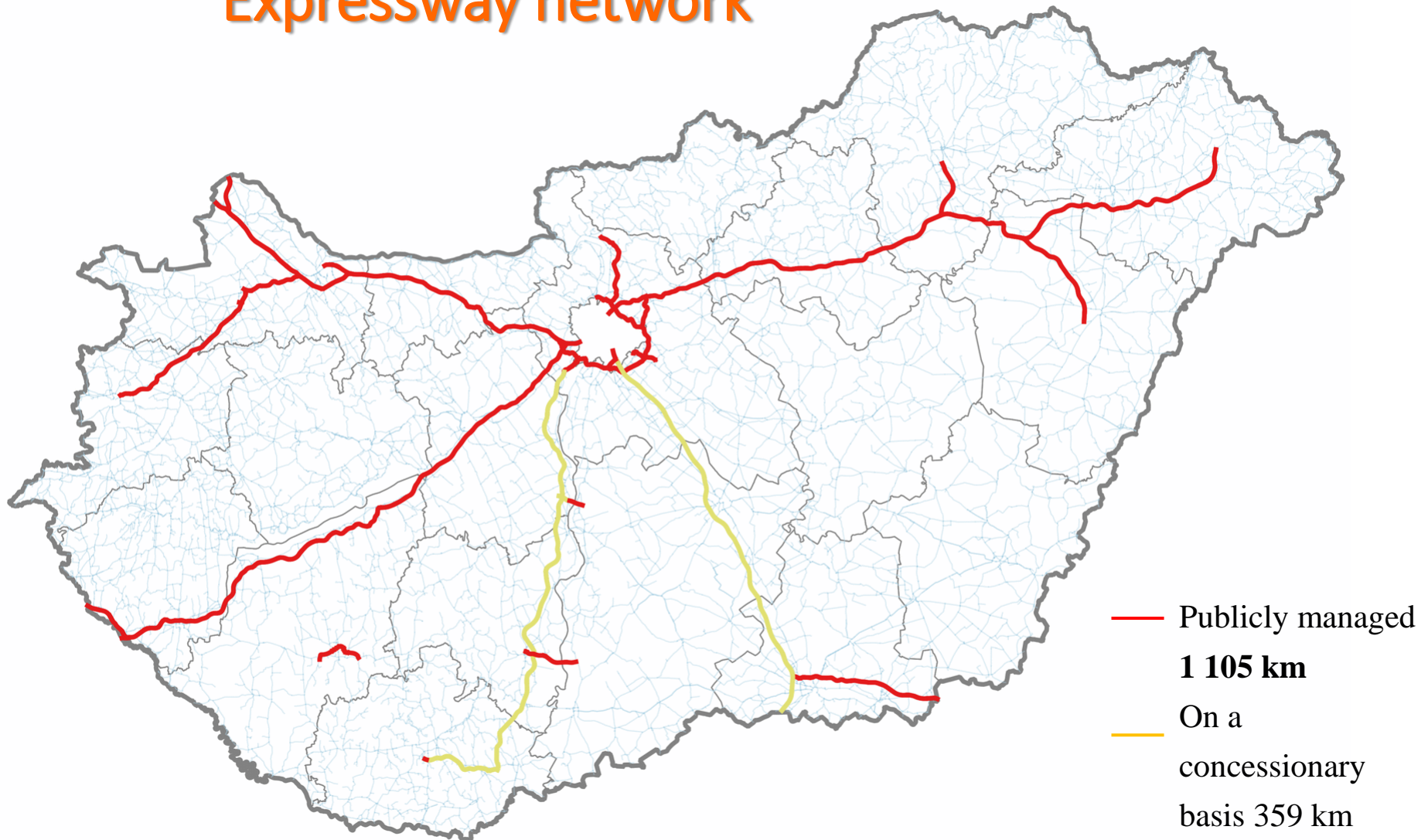
H U N G A R I A N P U B L I C R O A D N O N P R O F I T P L C .

Transit routes in Europe

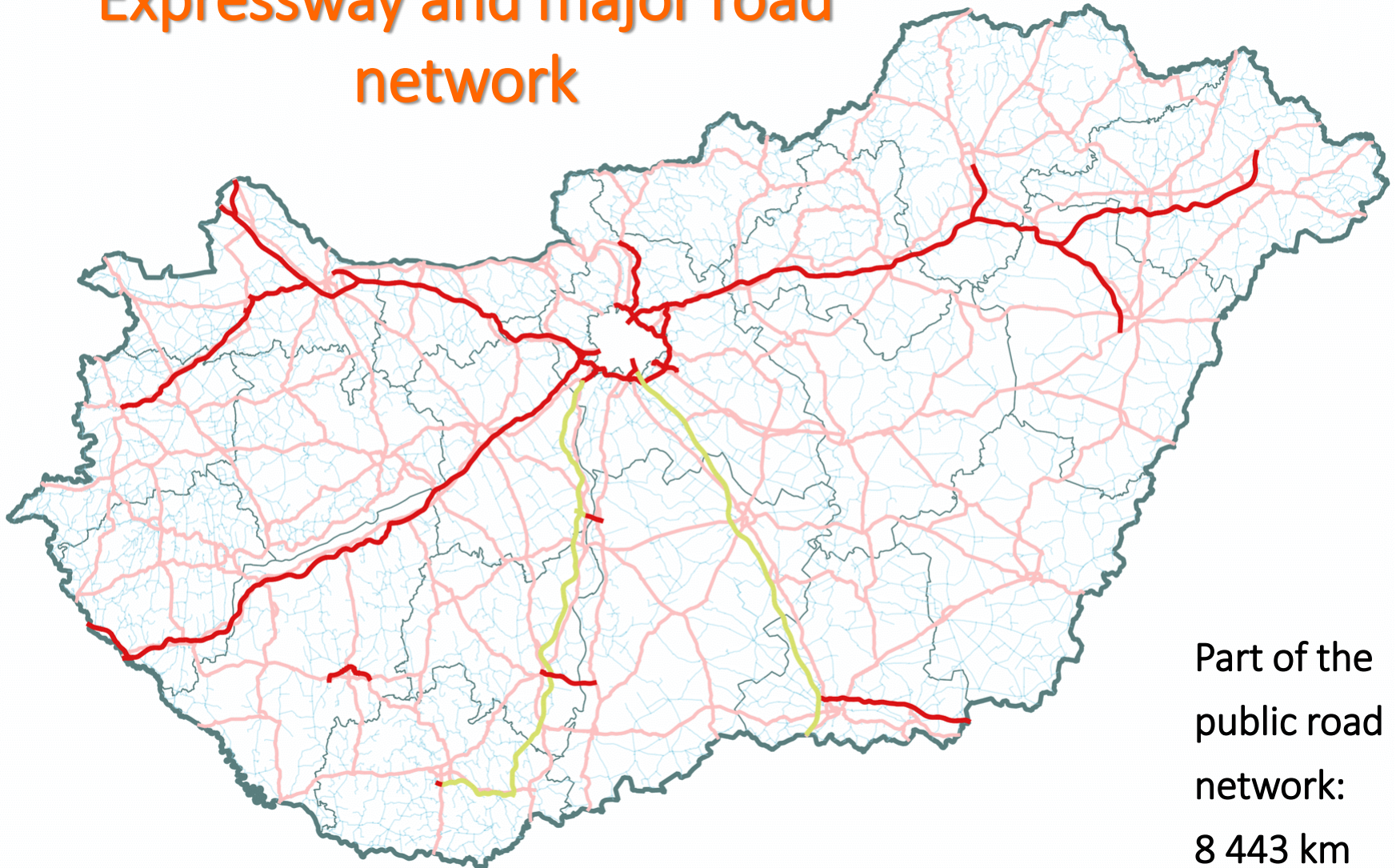
Hungary and the public road network operated by the Hungarian Public Road Nonprofit Plc.- due to its location - has a key role in the European transport systems.



Expressway network



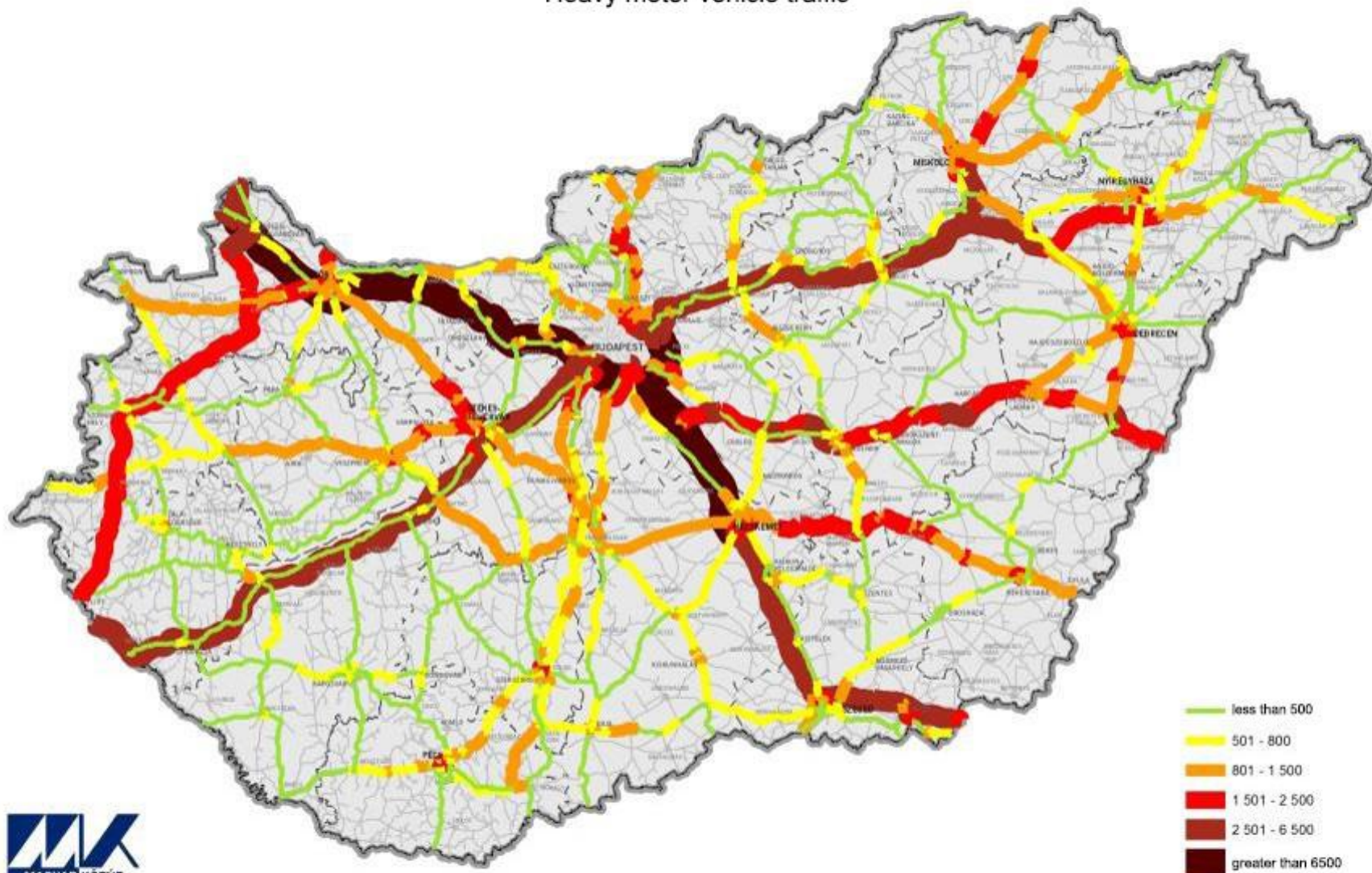
Expressway and major road network



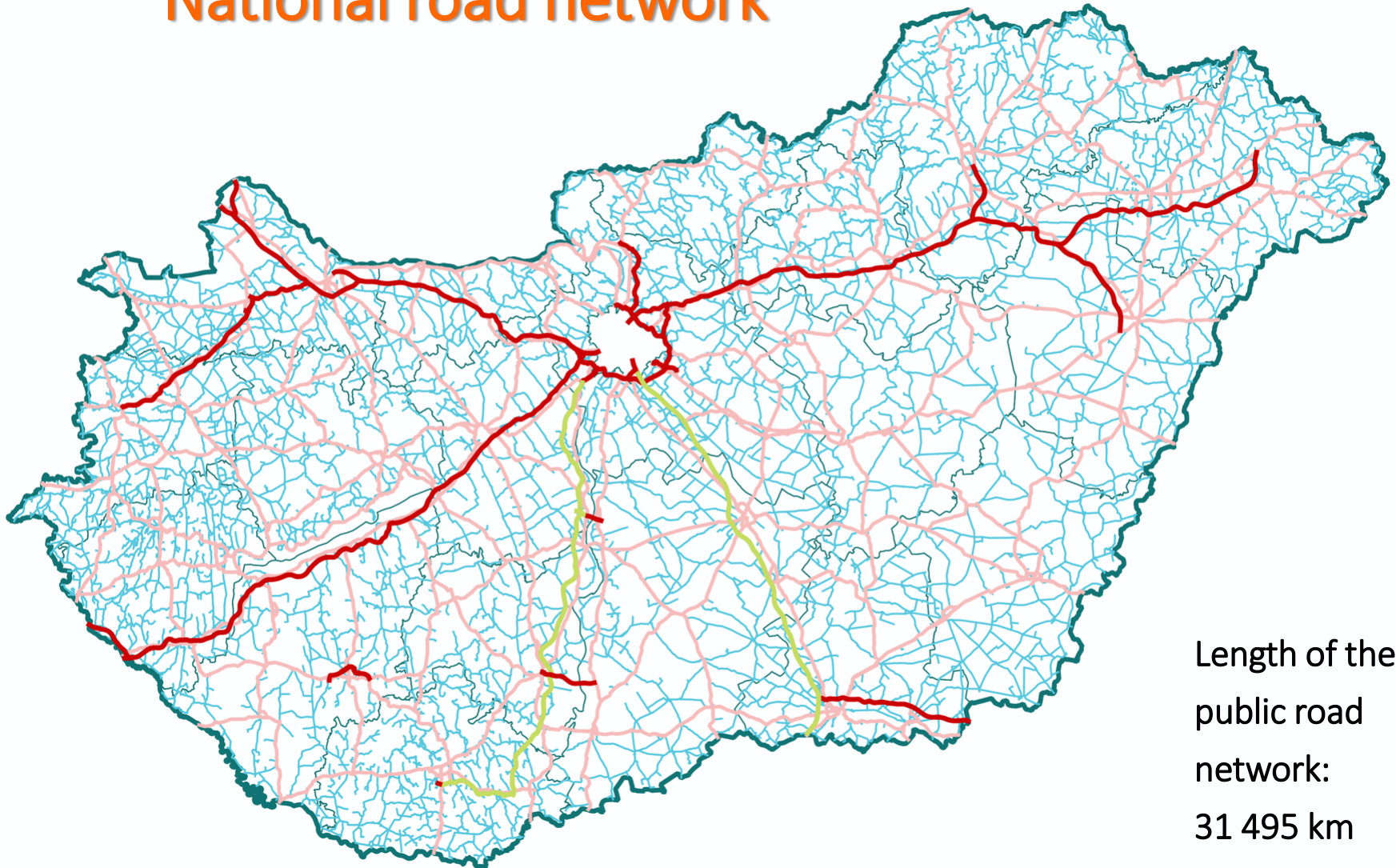
Part of the
public road
network:
8 443 km

Heavy vehicle traffic on the Hungarian expressway and major road network in 2015

Heavy motor vehicle traffic



National road network



Length of the
public road
network:
31 495 km

7 307 road bridges



Organizational structure of the Hungarian Public Road Nonprofit Plc.

Headquarter (Budapest)

- 19 County Directorates
- 93 Engineering Centers (16 for motorways + 77 for public roads)



- Own employees: 5 574
- Employees involved in the public works program: 1 590

The main lines of activity

Operation

- Operation of roads and bridges
- Winter road maintenance
- General operation
- Management tasks



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Maintenance

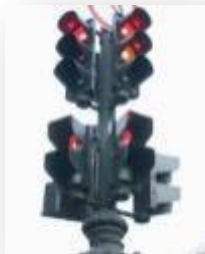
- Pavement maintenance
- Maintenance of ditches, roadside constructions, earthworks
- Maintenance of road accessories
- Maintenance of bridges and other engineering objects
- Other environment protection related activities



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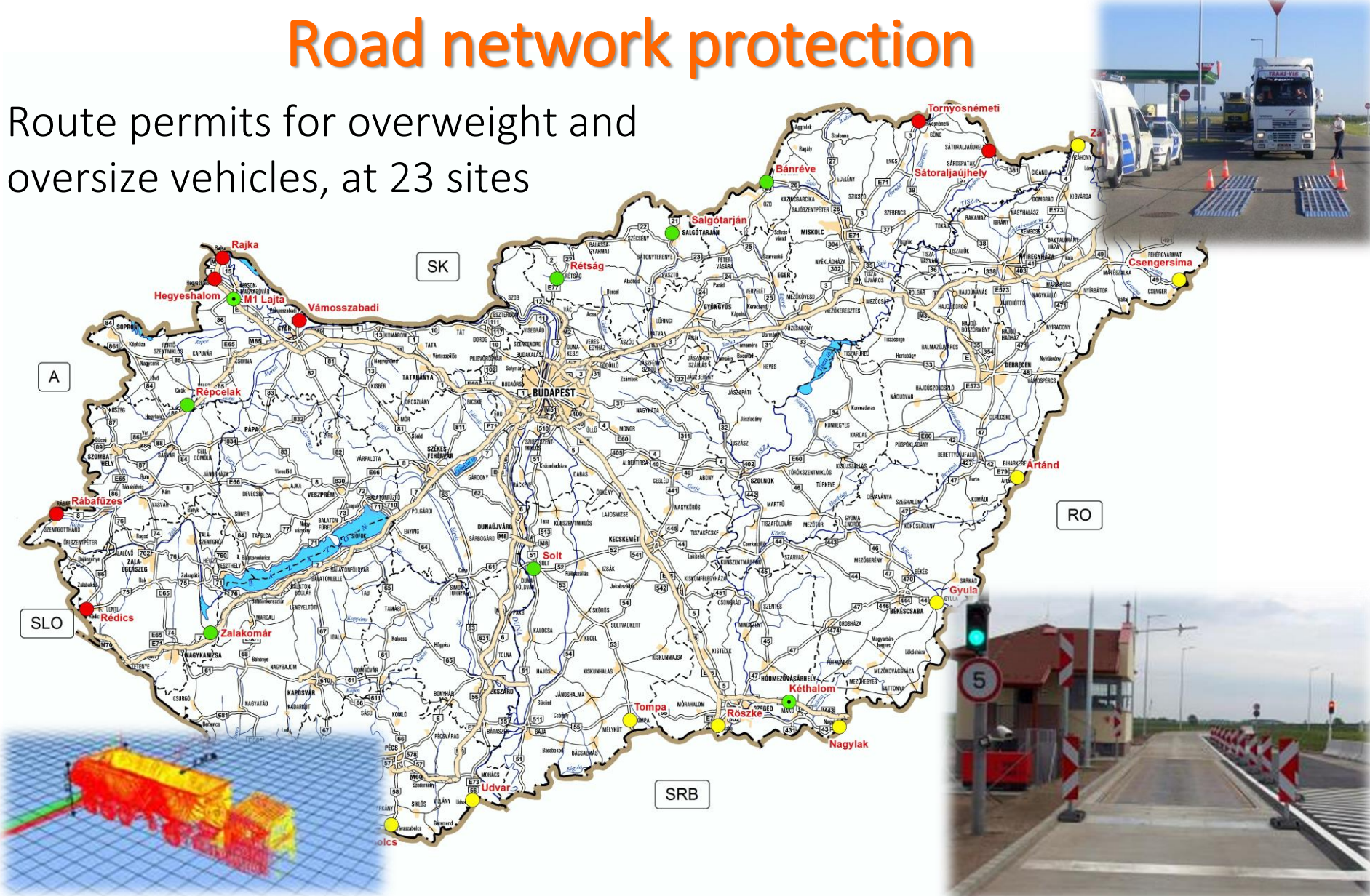
Road related technical and financial activities

- Road network protection
- Quality inspection
- Operation of the databank
- Operation of the transport collection
- Provision of professional trainings

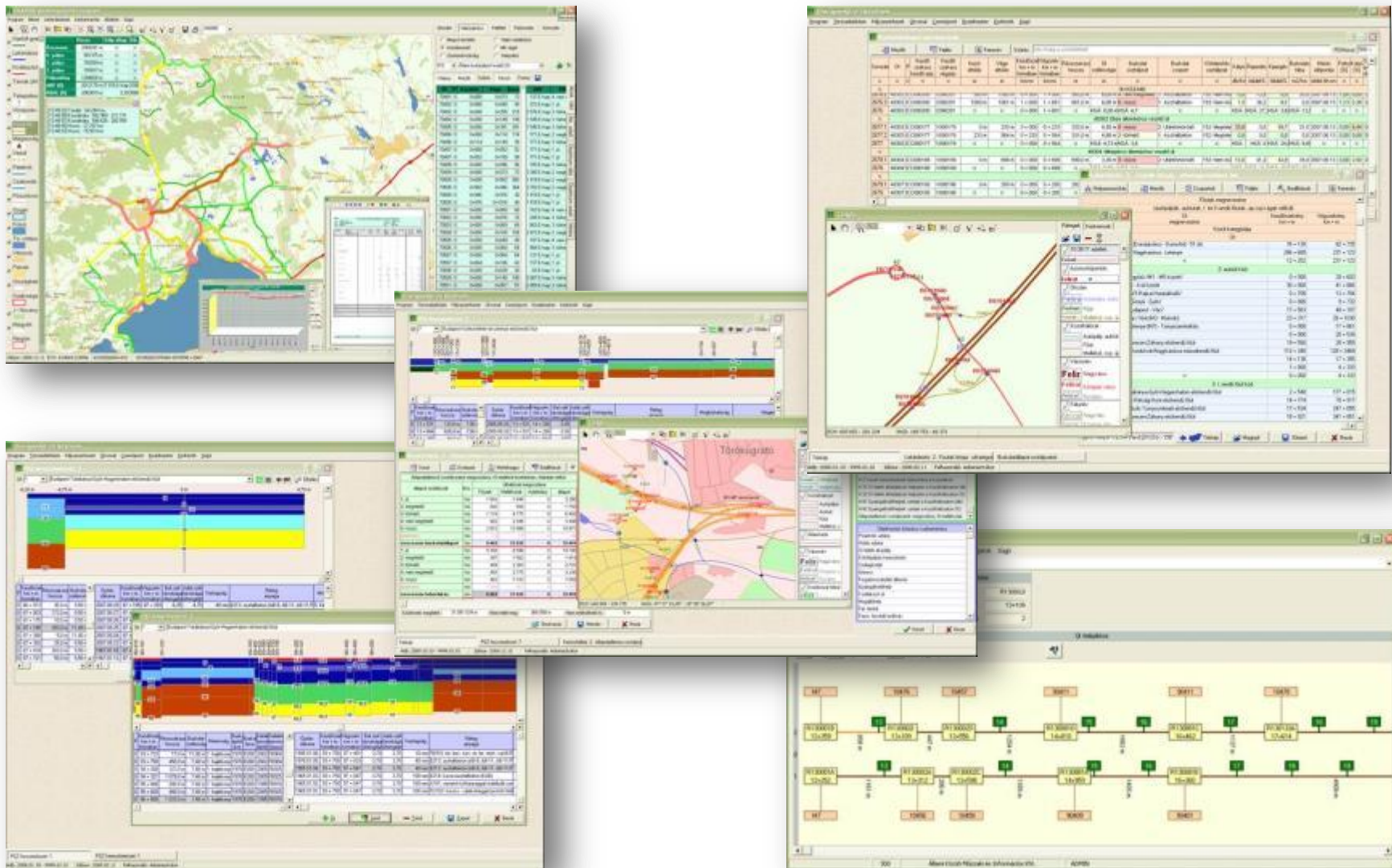


Road network protection

Route permits for overweight and oversized vehicles, at 23 sites



National Road Databank



ROAD USER INFORMATION SERVICES



Térkép **Esemény lista**

[47 II. rendű főút] • 24 km

 **Baleset**
Baleset (Teljes lezárás, mindkét pályán)
márc. 25 Hajdú-Bihar megye

[4 I. rendű főút] • 224 - 227 km

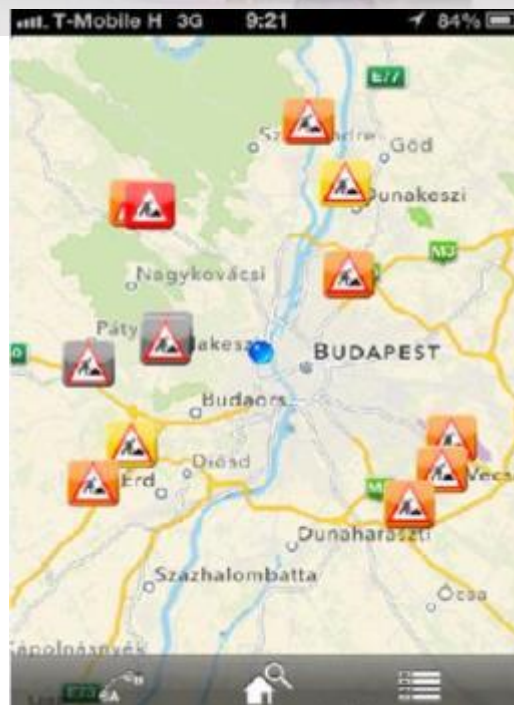
 **Útkarbantartási munkák**
Útkarbantartási munkák (Félpályás lez...
márc. 13 Hajdú-Bihar megye

[48 II. rendű főút] • 1 - 4 km

 **Útkarbantartási munkák**
Útkarbantartási munkák (Félpályás lez...
márc. 13 Hajdú-Bihar megye

[4811 összekötő út] • 0 - 2 km

 **Útkarbantartási munkák**

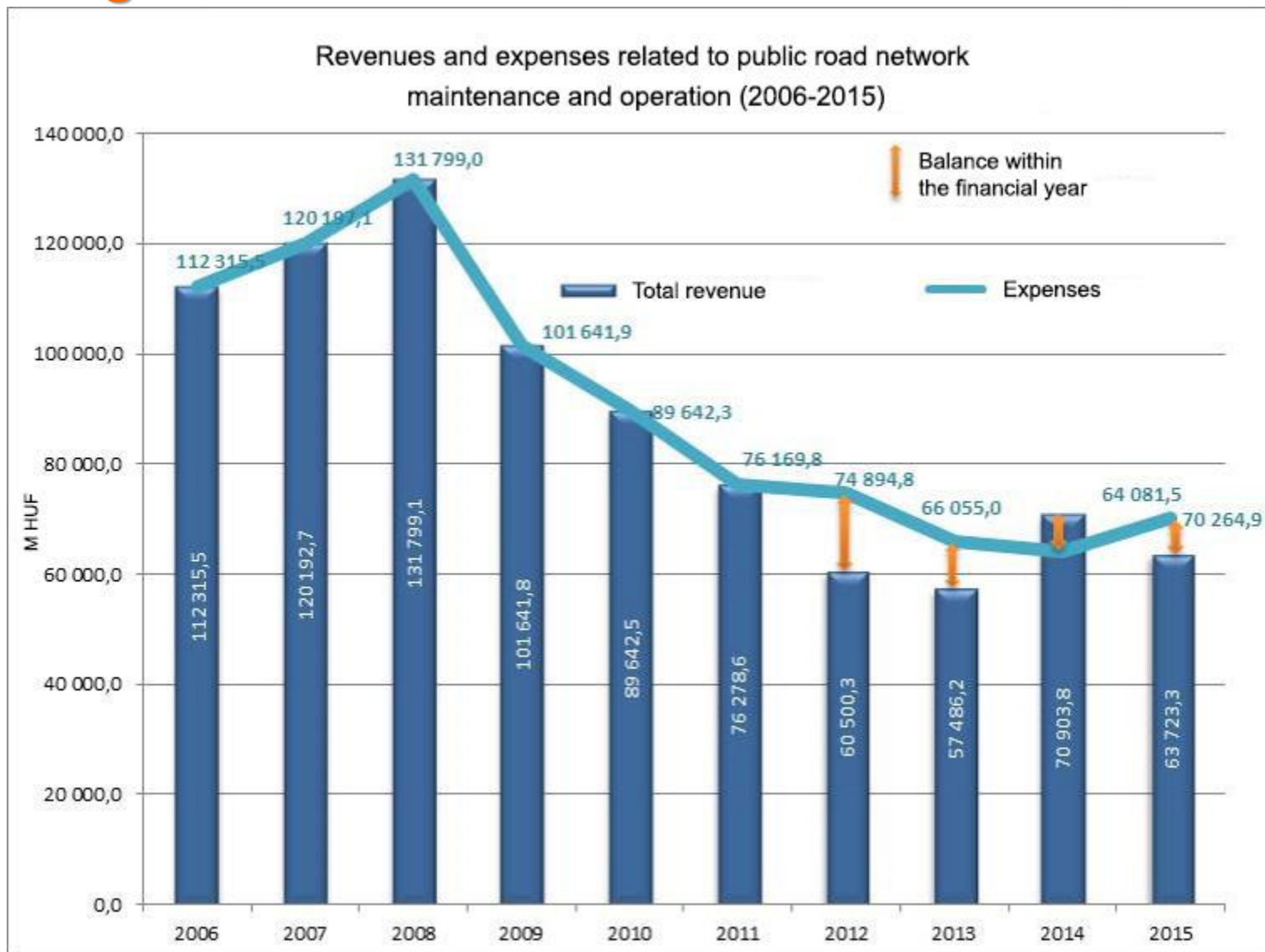


Traffic detection cameras

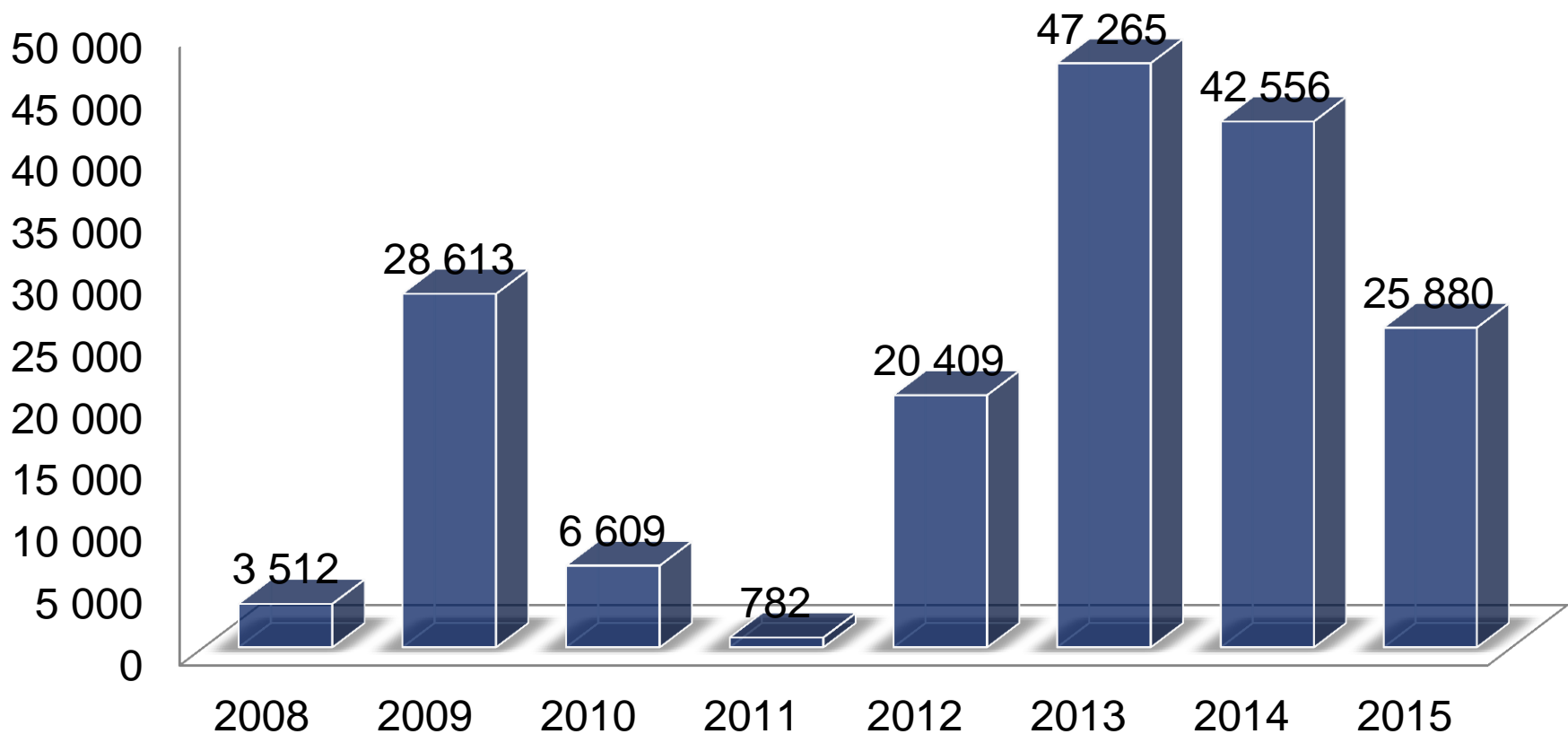
- Number of cameras
- on motorway s: 270
- on other public roads: 430



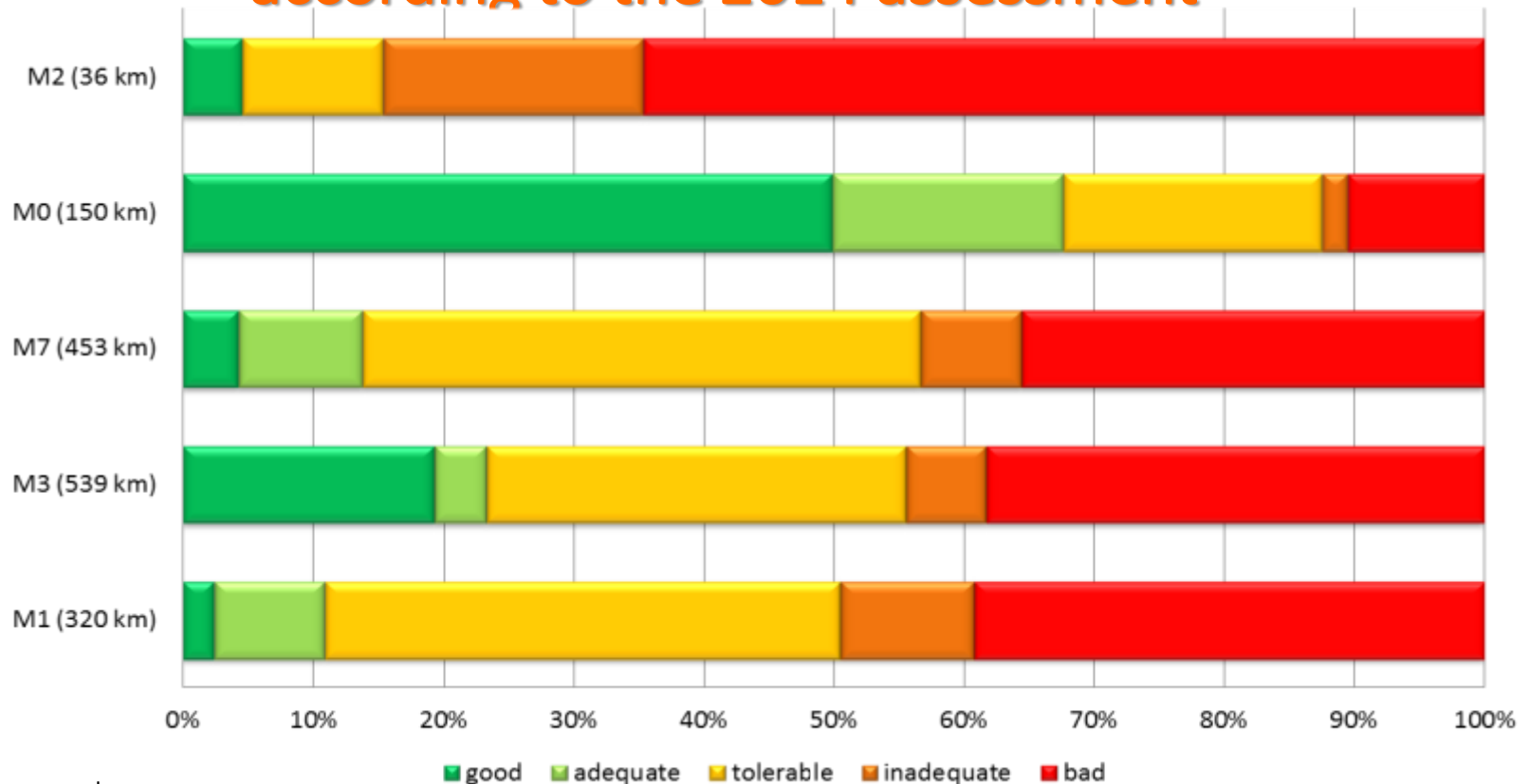
Changes occurred in the financial structure until 2015



EU funds used for the public road network 2008-2015 (net M HUF)

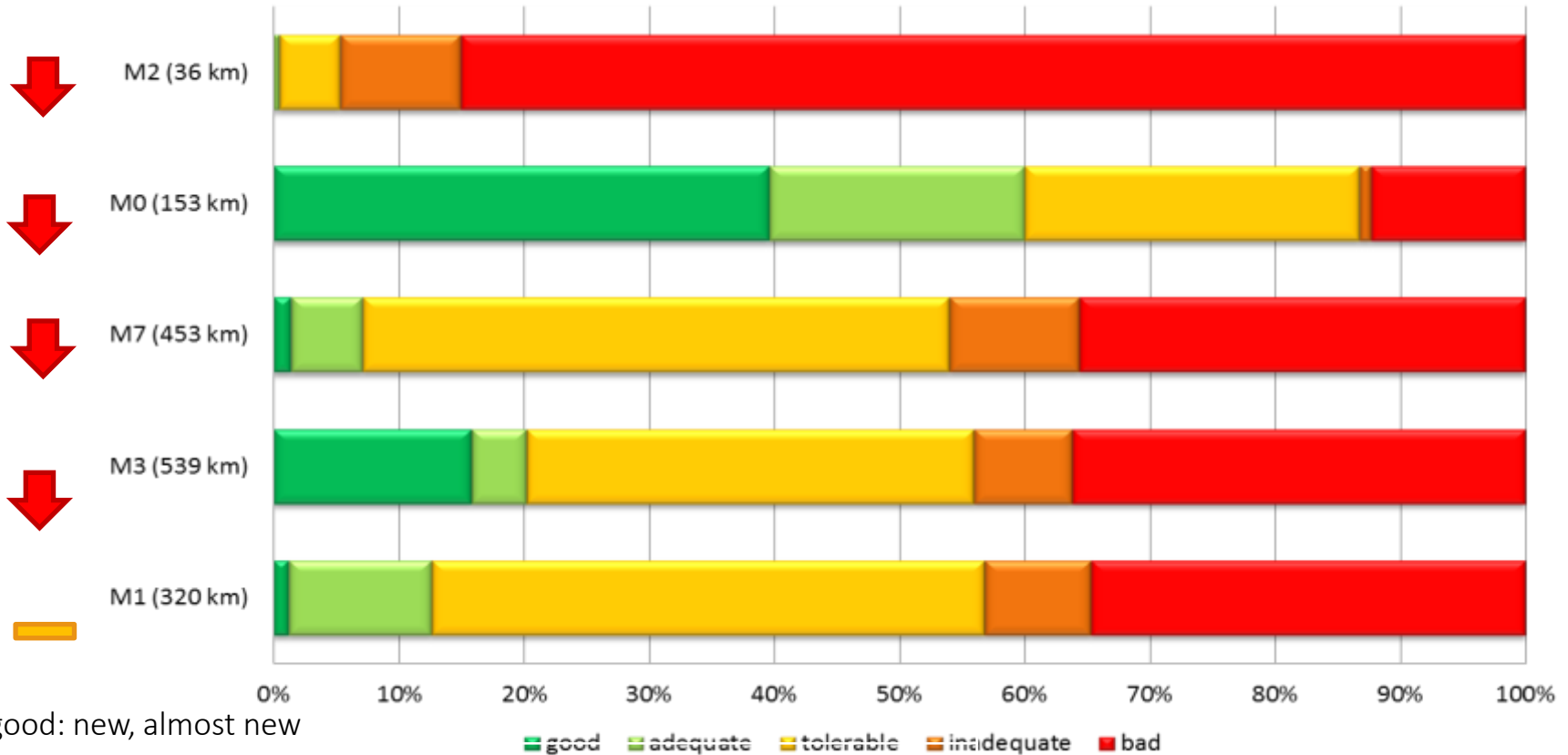


Pavement condition on the main motorways according to the 2014 assessment



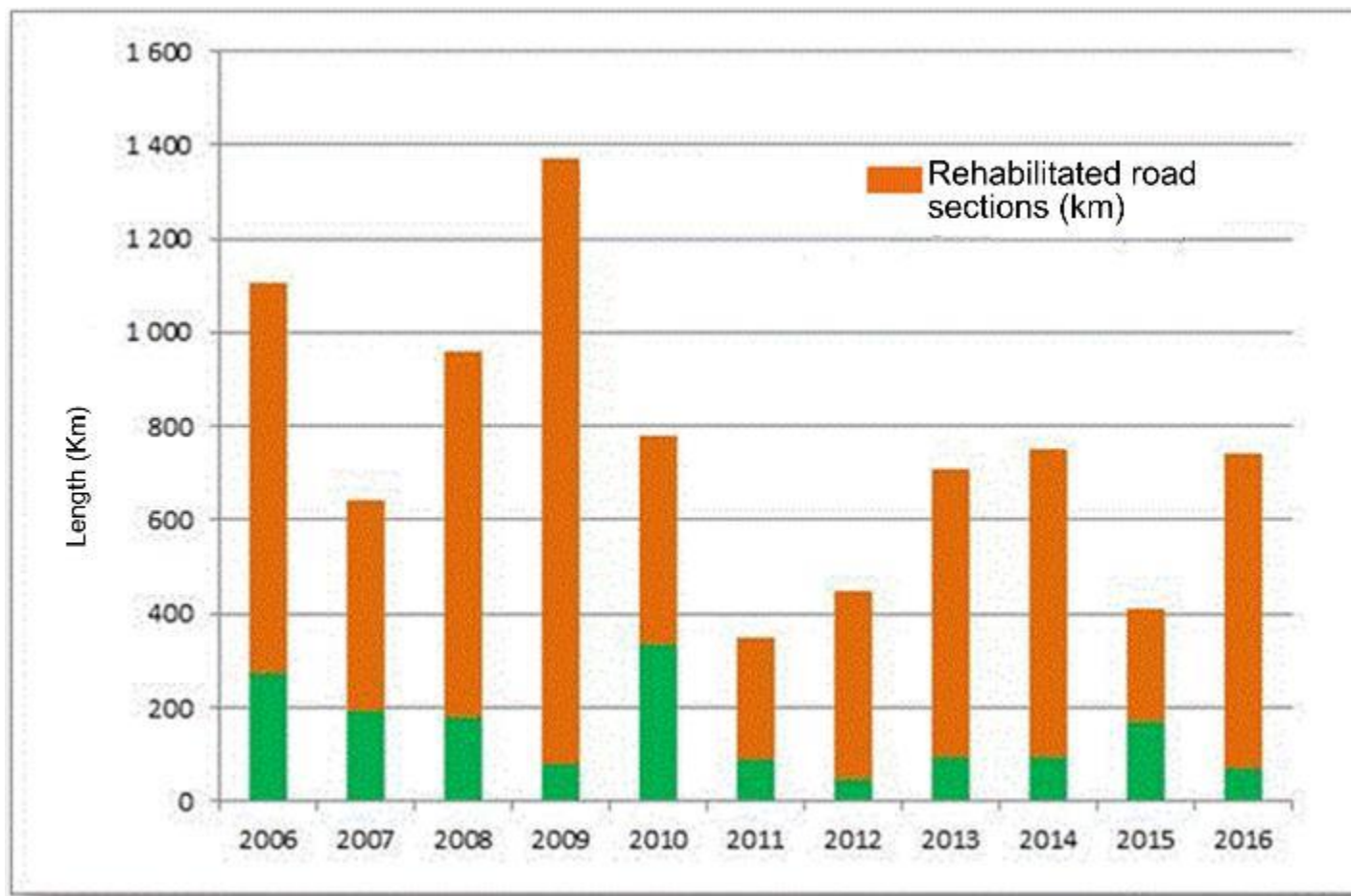
1. good: new, almost new
2. adequate: slightly used or aging surface –no need for action
3. tolerable: action needs to be considered
4. inadequate: action is needed
5. bad: urgent action is needed

Pavement condition on the main motorways according to the 2016 assessment



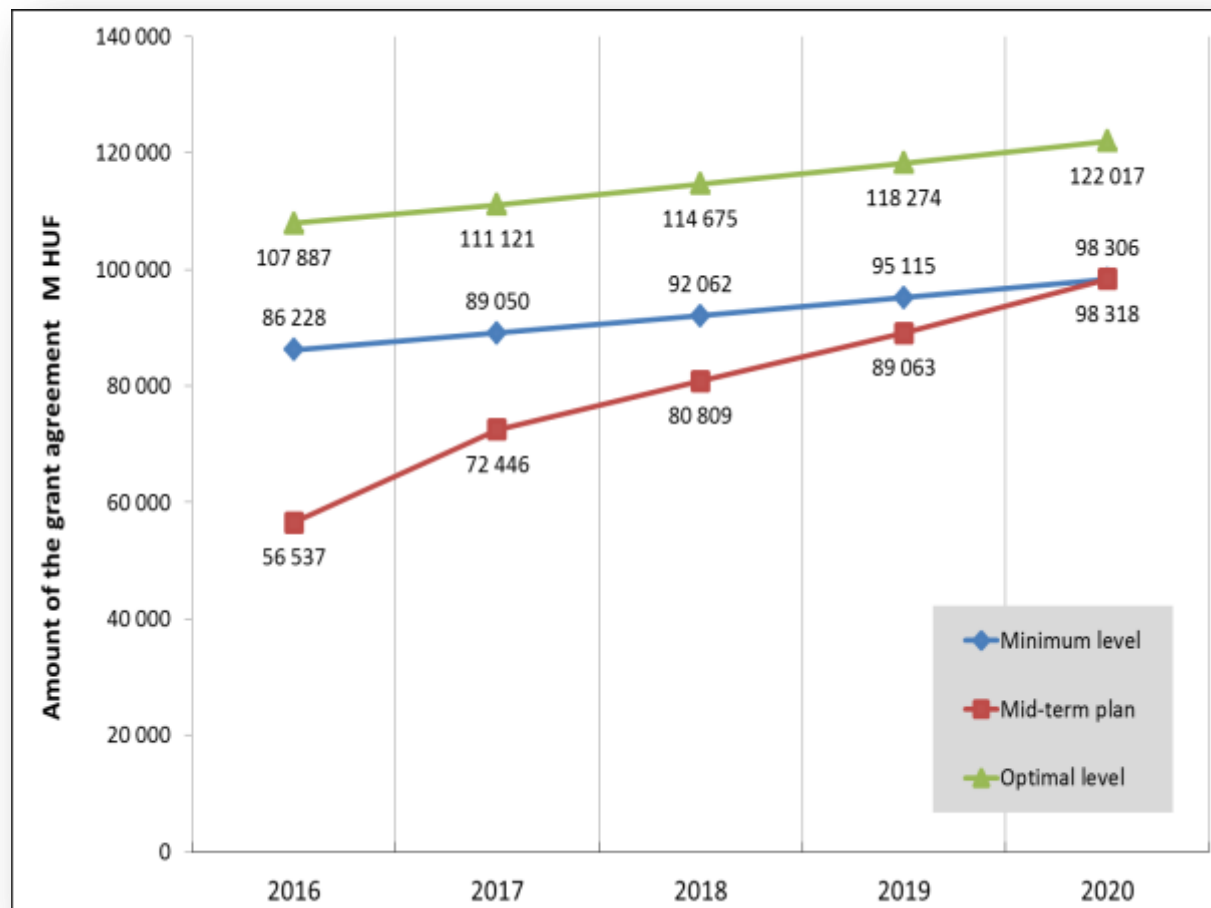
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The breakdown of actions carried out on the public road network between 2006-2016



Future plans and opportunities

The total budgetary resources allocated by the government to the Hungarian Public Roads Nonprofit Plc. until 2020 amount to 400 billion HUF.



Priority duties of the 5 year grant agreement on operation and maintenance

Activities directly connected to traffic safety:

- repair of accidents involving pavement surface defects,
- ensure visibility for traffic signs
- maintain the cleanliness of pavement surfaces and accessories
- removal of vegetation disturbing the traffic safety

Creation of aesthetically good environment for the public roads:

- increased volume of work related to grass cutting and ragweed control

Drainage on public roads, cleaning of pits, environmental protection

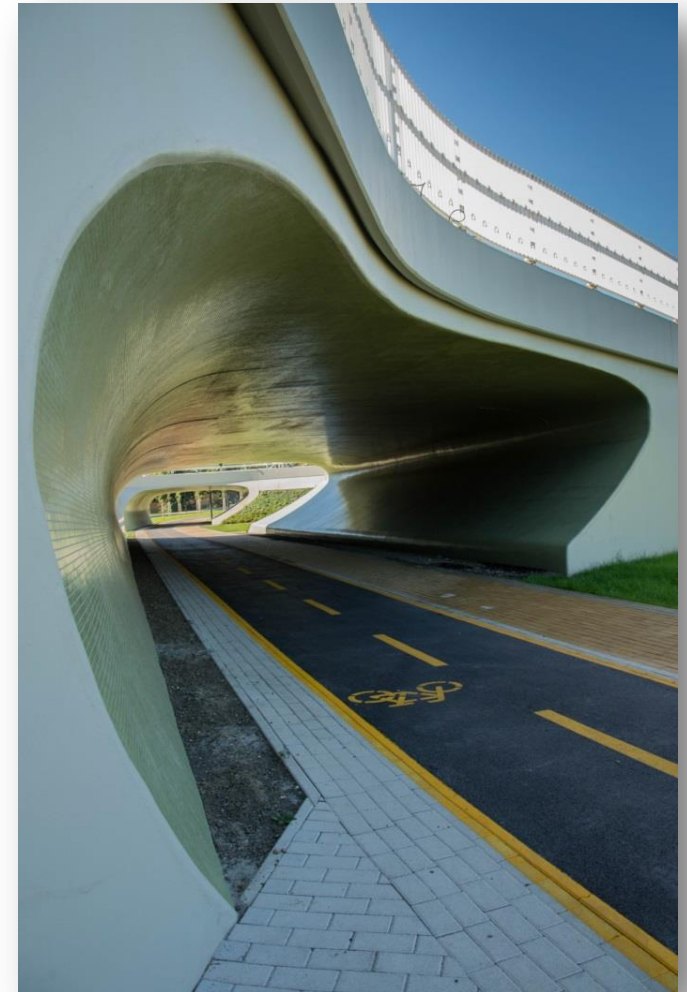
Additional plans and opportunities

- Regularly planned, scheduled maintenance
- Development of human resources
- Upgrading and maintenance of machines
- Site development plans



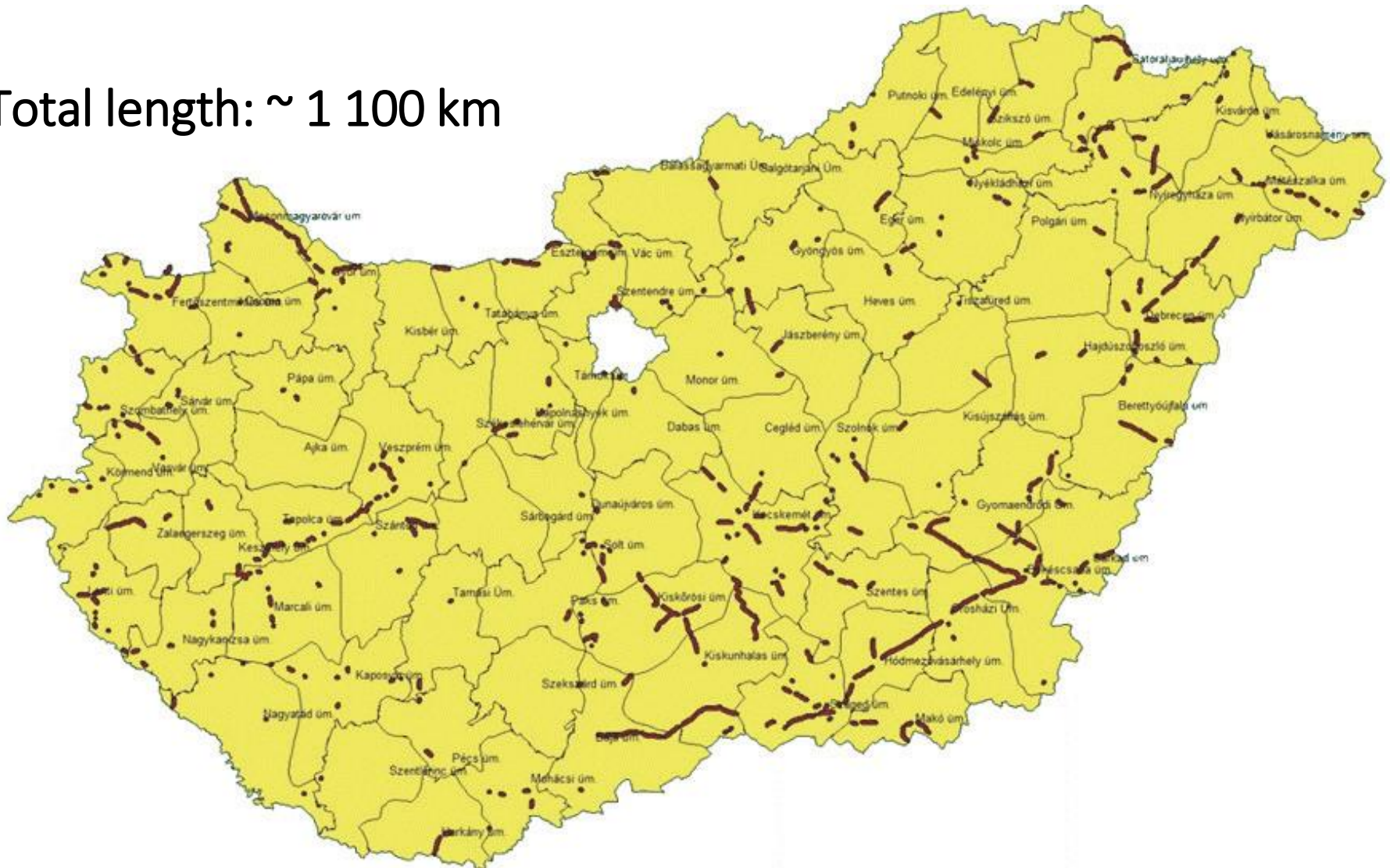
New challenge: The operation of cycle routes

- Development of operational concept
- Detailed assessment of the network
- Preparation of IT-systems
- Procurement of new machines



New challenge: The operation of cycle routes

Total length: ~ 1 100 km



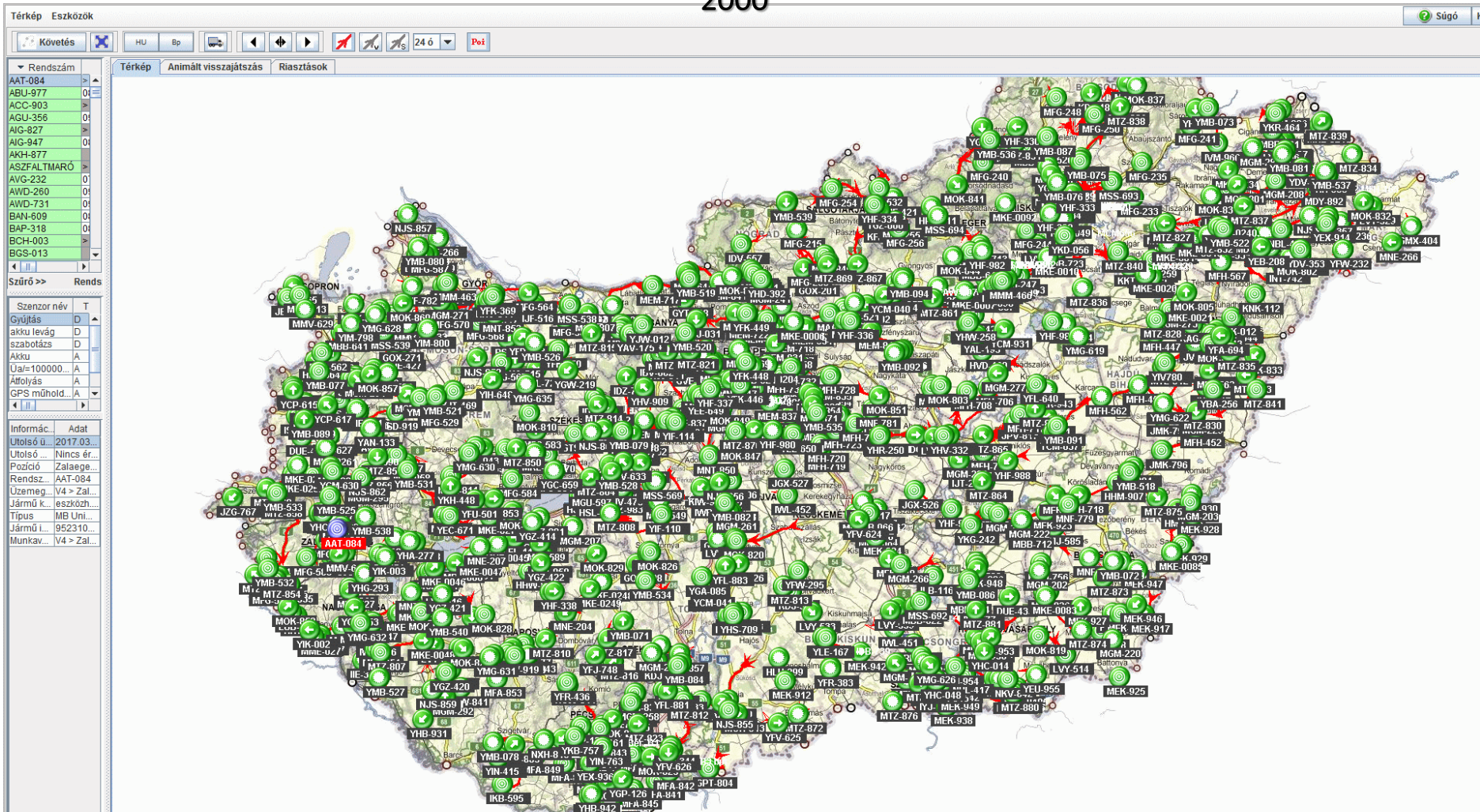
Further actions

- In 2016, a corporate governance system was introduced, our current task is to further integrate it into the production processes
- Dispatch communication system integrated to the corporate governance system
- Development of the road patrol system
- Elaboration of a field work management system
- Function enhancement of the fleet management system
- Development of road meteorological stations (network densification)



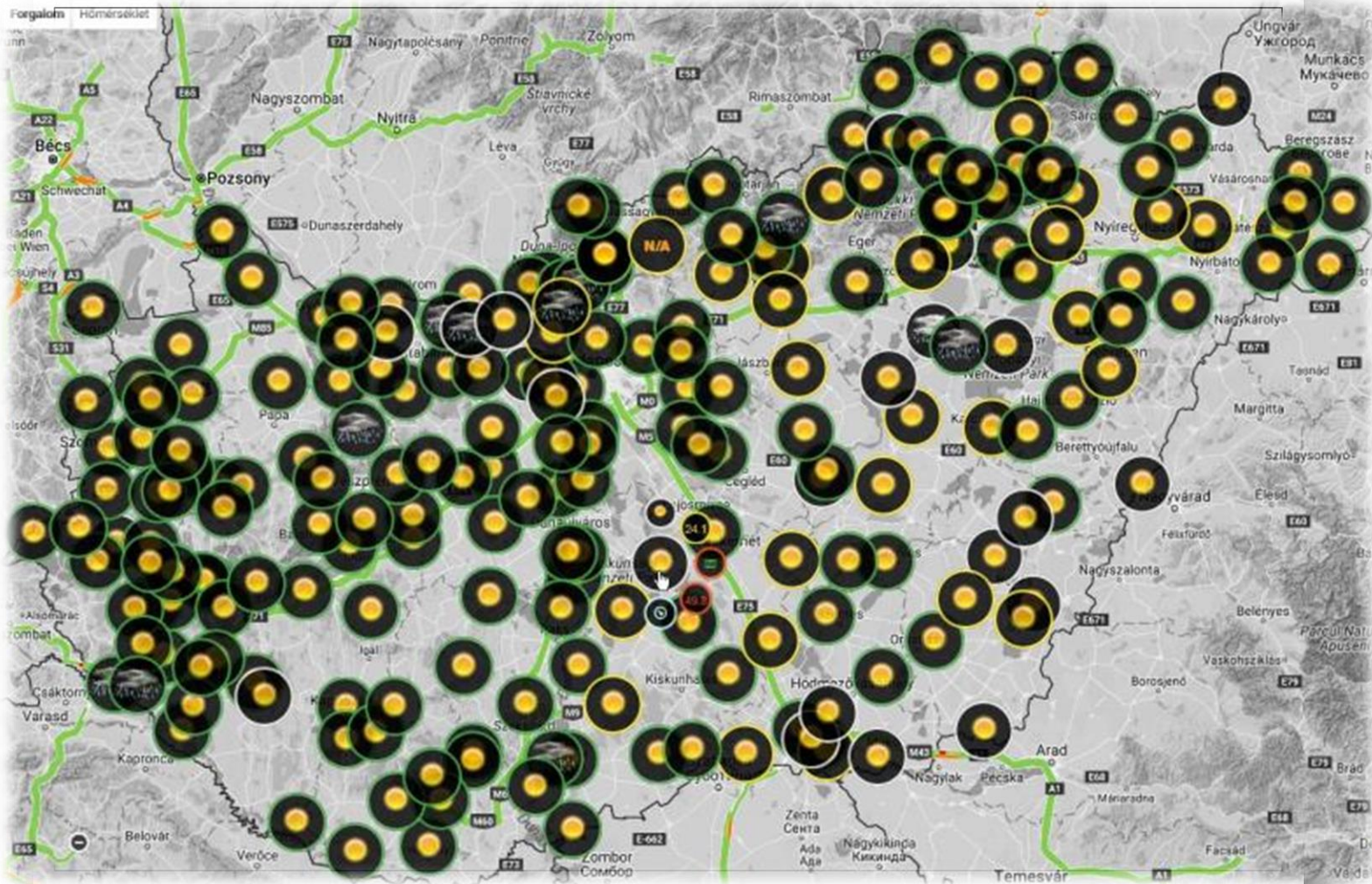
Vehicle tracking system (FMR)

The total number of vehicles with installed vehicle tracking system:
2000



The locations of road meteorological stations

133 stations on the expressway network, 222 stations on the national roads

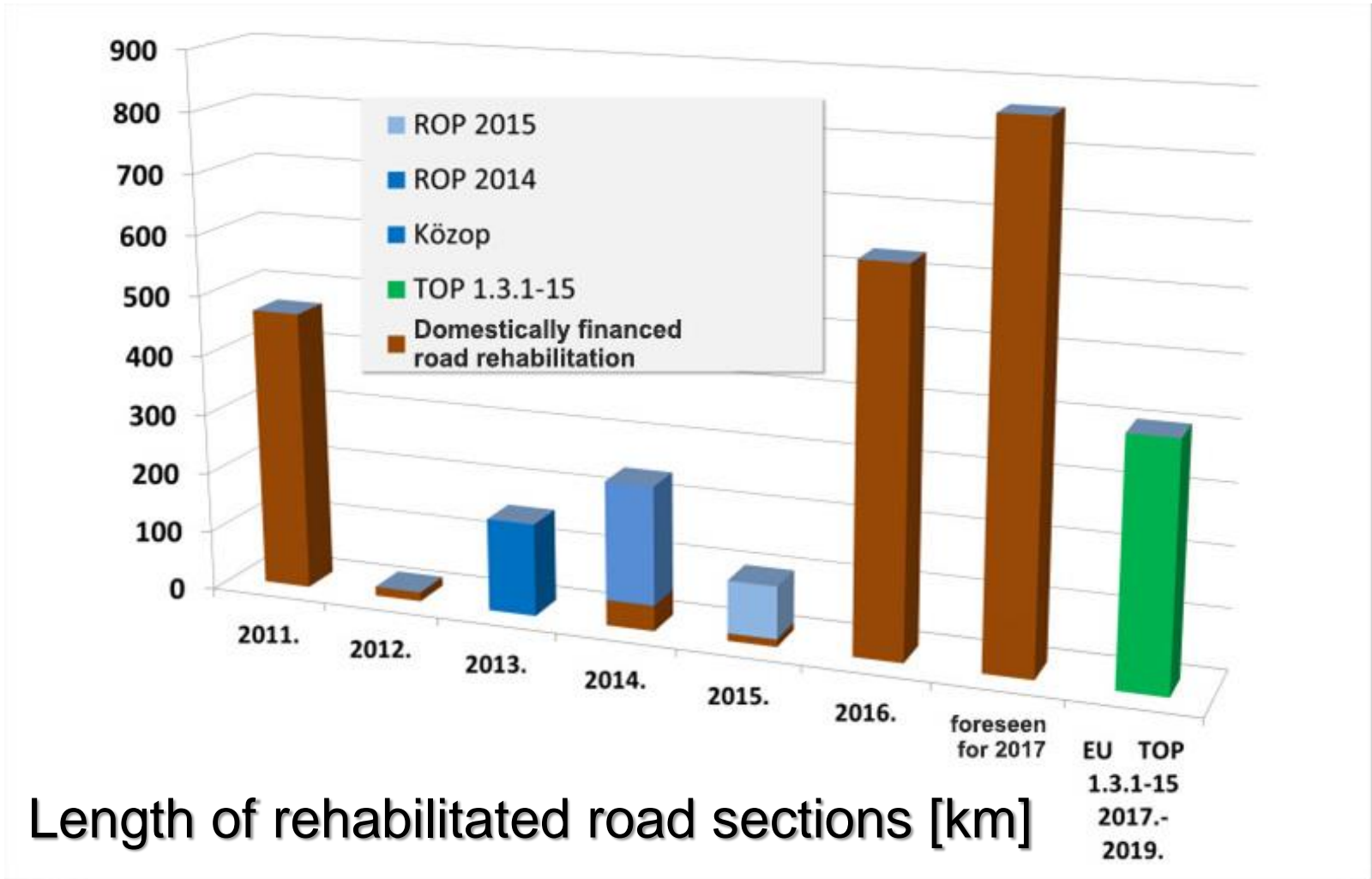


Pavement maintenance

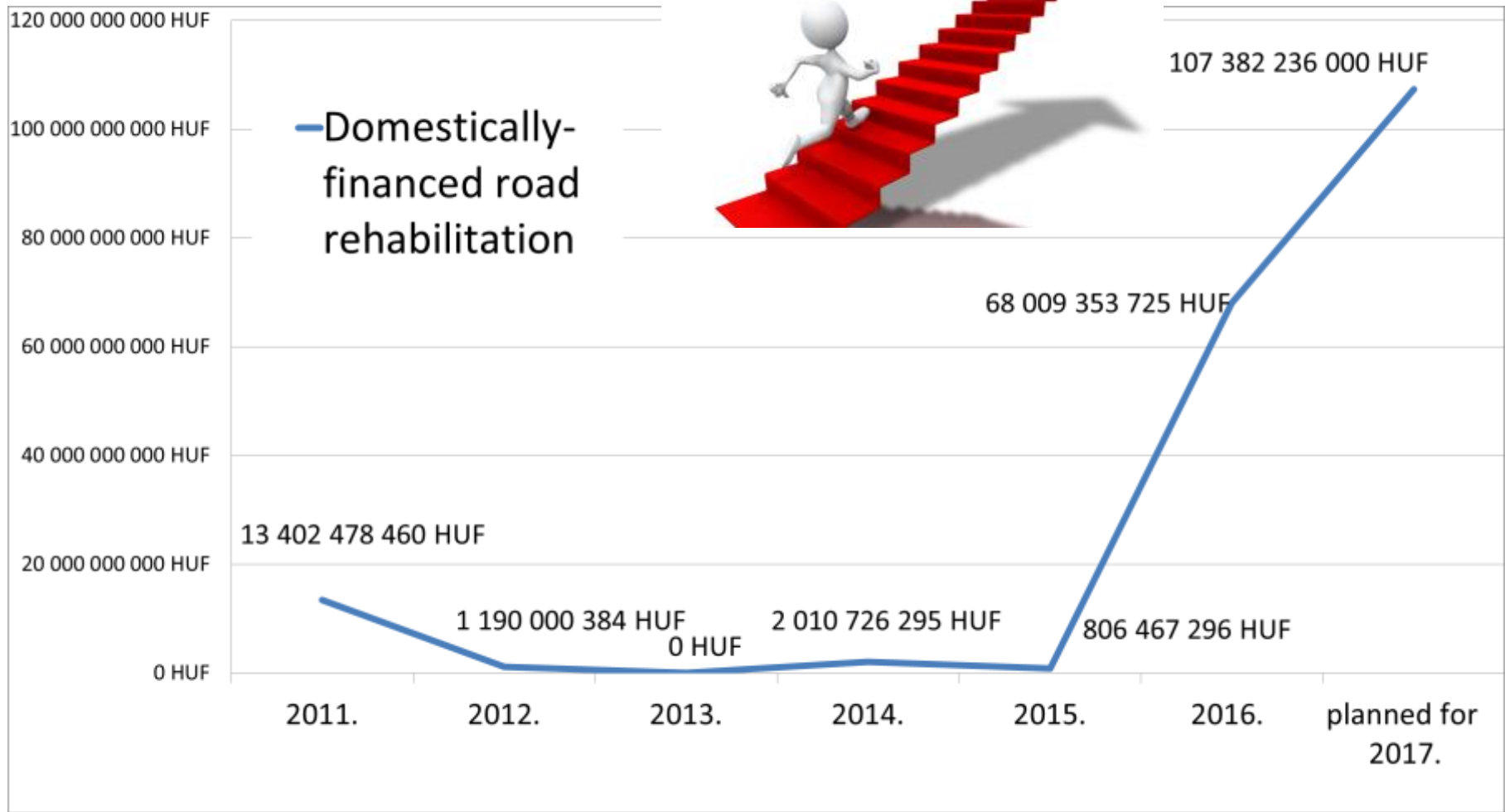
- Consolidated basis for the financing of public road maintenance
- Allocation of resources for the rehabilitation of the public road network



Allocation of resources for the rehabilitation of the public road network



Allocation of resources for the rehabilitation of the public road network



Allocation of resources for the rehabilitation of the public road network

Complex Road Rehabilitation Program of 2016

69 billion HUF from grant amount

- ✓ 171 locations
- ✓ 562 km
- ✓ rehabilitation of major and minor road sections

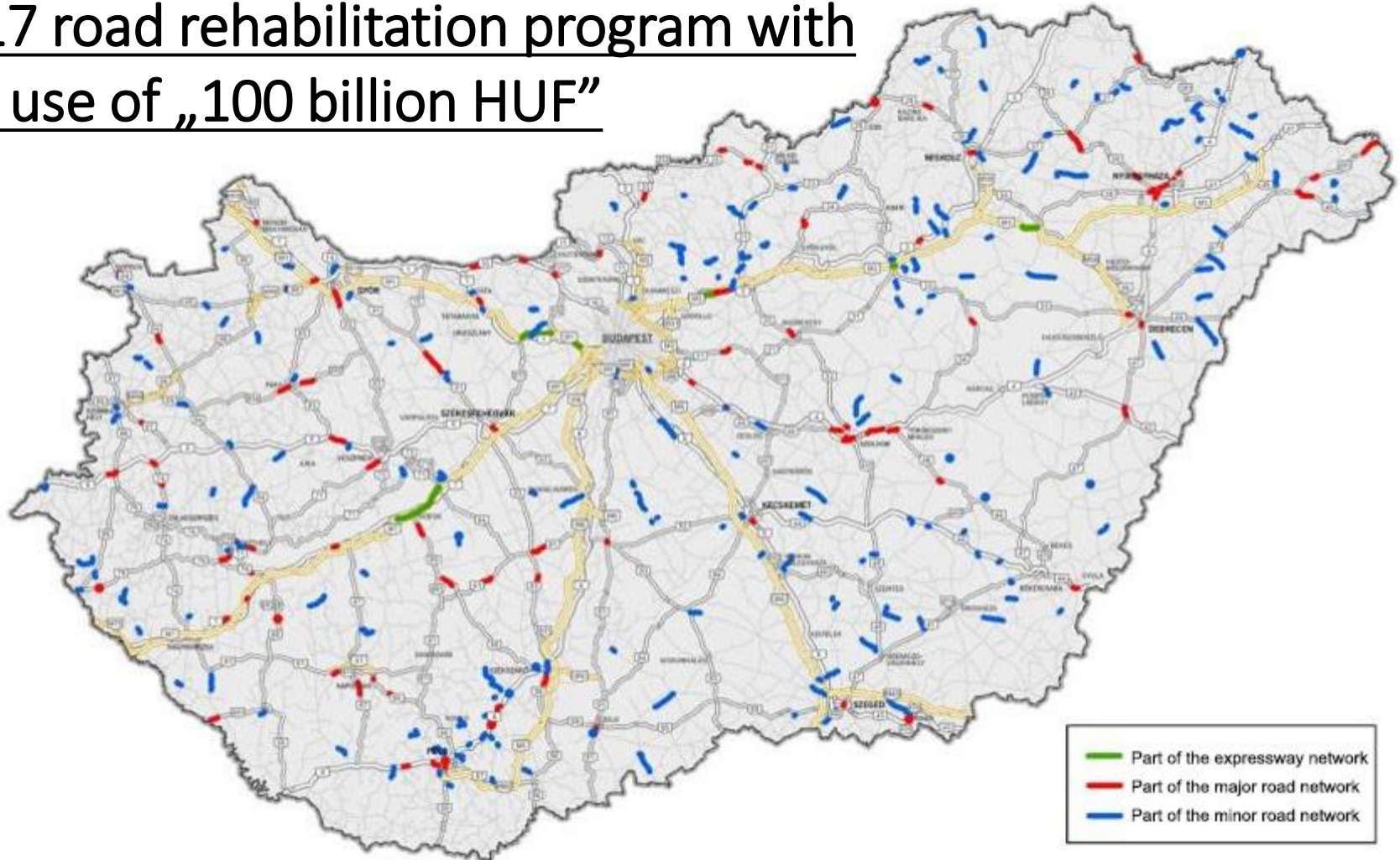
Road and Bridge Rehabilitation Program of 2017

100 billion HUF from grant amount

- ✓ 354 road sections,
- ✓ 843 km
- ✓ 15 bridges will be rehabilitated

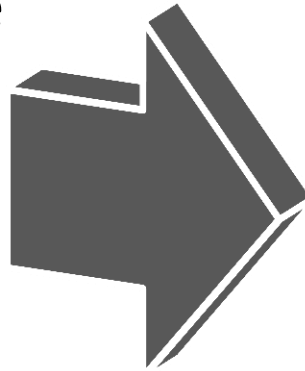
Allocation of resources for the rehabilitation of the public road network

2017 road rehabilitation program with the use of „100 billion HUF”



Allocation of resources for the rehabilitation of the public road network

The total length of the national road network: approx. **31 000 km** The average age of the pavements: **35-40 years**.



The total length of road sections rehabilitated last year: 640 KM, the cost was approx. 69 bn HUF. The average age of the pavements needs to be reduced to 20 years.



The annual length of road sections to be rehabilitated: approx. **1 600 km** .

The optimal amount of resources to be used for the rehabilitation:
min. 165-180 bn HUF

Allocation of resources for the rehabilitation of the public road network 2014-2020



In case of the tender document No. TOP-1.3.1-15
The call for tender provides for a global amount of 44.074 bn HUF, the grants have been awarded to 34 projects. Accordingly, 155 road sections, with a total length of 402,506 km will be rehabilitated.

The grant applications have been submitted for 71 projects, for a global amount of 66.842 bn HUF.

Road and bridge rehabilitation projects foreseen for 2017

2014-2020 - TOP 1.3.1-16



By April of 2017, our Company submitted grant applications for 4 counties, with the following amounts:

- Baranya County: 1.826 bn HUF
- Csongrád County: 0.918 bn HUF
- Heves County: 1.335 bn HUF
- Szabolcs-Szatmár-Bereg County: 2.814 bn HUF

Further tender opportunities: Tolna County – 70 million HUF, GyMS County – 49 million HUF

The role of Intelligent Transport Systems (ITS) in road management



- CONNECT, Easyway and CROCODILE projects
- traditional monitoring systems (road meteorological stations, traffic monitoring cameras, vehicle detection loops)
- truck vehicle parking management system based on image processing
- C-ITS pilot system

Systems implemented along the M1 motorway

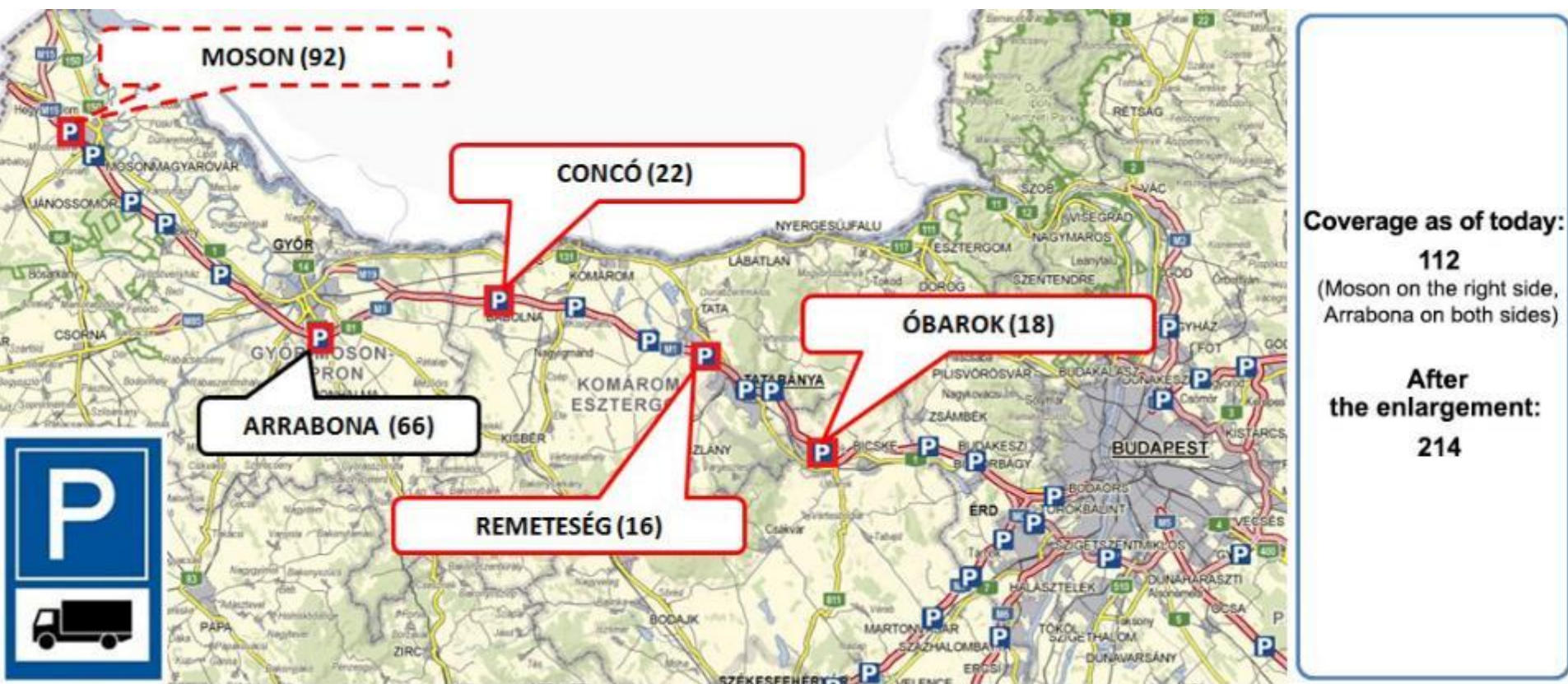
- truck vehicle parking management system based on image processing



C-ITS pilot system enabling the direct communication between the vehicle and the infrastructure

System development - II. phase (CROCODILE project)

Operation of information systems





ITS – Development trends: 2010/40/EU – ITS Directive

At European level, the framework of the ITS-developments is provided by the Directive 2010/40/EU (ITS Directive). The directive, in its articles (2) and (3) defined the priority areas and actions related to the application of the ITS-systems, as follows:

I. Optimal use of road, traffic and travel data

- a) the provision of EU-wide multimodal travel information services;
- b) the provision of EU-wide real-time traffic information services;
- c) data and procedures for the provision, where possible, of road safety related minimum universal traffic information free of charge to users;

II. Continuity of traffic and freight management ITS services

III. ITS road safety and security applications,

- d) the harmonized provision for an interoperable EU-wide eCall;
- e) the provision of information services for safe and secure parking places for trucks and commercial vehicles;
- f) the provision of reservation services for safe and secure parking places for trucks and commercial vehicles.

IV. Linking the vehicle with the transport infrastructure.

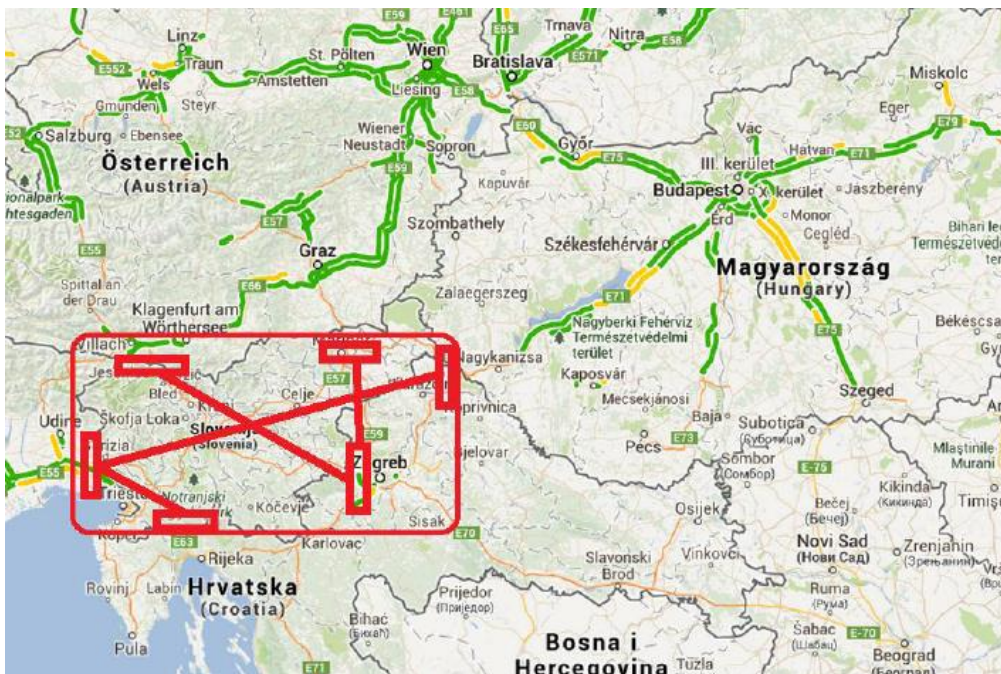
Cooperative systems (C-ITS)

Operation of information systems



- Alerts about accidents, unexpected incidents
- Alerts about weather conditions
- Congestion forecasts
- Alerts about on-going works on roads
- Information on lane usage, VMS signs
- Application of variable speed limits within the vehicles
- Ensuring the continuity of services
- Navigation

Transnational traffic management – cooperation between 5 countries (I-HR-SLO-A-HU)



**Thank you for your kind
attention.**

József Attila Szilvai

Deputy Chief Executive Officer, Head
of Technology
Hungarian Public Road Nonprofit PLC.

H U N G A R I A N P U B L I C R O A D N O N P R O F I T P L C .