Measurements on Lithuanian State Road Network

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• 1st of July 2019 new structure of Lithuanian Road Administration was approved.
STATE ROAD NETWORK

- Major Roads: 1,750,71 km
- National Roads: 4,927,684 km
- Regional Roads: 14,559,243 km
MEASURING PAVEMENT CONDITION

KEY SPECs

• 3 point lasers for IRI and MPD measurement (in front of the vehicle)
• Pavemetrics LCMS-2 3D lasers for transversal evenness, surface defects and point cloud
• Inertial and GNSS measurement system OxTS Survey+
• Ladybug5 camera for spherical view

ADVANTAGES OF NEW EQUIPMENT

• The amount of surveyed road network increased 3 times from 5100 km/year to 15300 km/year
• Fast identification of pavement distress, man-made objects and horizontal marking
• Fast data processing
CONDITION OF STATE ROADS

MAIN ROADS
PAVEMENT CONDITION INDEX (PCI) > 3

435 km

NATIONAL ROADS
PAVEMENT CONDITION INDEX (PCI) > 3,5

1474 km

REGIONAL ROADS
PAVEMENT CONDITION INDEX (PCI) > 4

??? km
MEASURING BEARING CAPACITY

CURRENT SITUATION

• Lack of historical data
• Focus on quantity (500 km yearly) has an impact on quality
• Using data for determining type and scale of construction works

MOVING FORWARD

• Considering new equipment for faster data collection
• Setting bearing capacity equivalent for each layer of road structure
• Further use of data in the design phase
MEASURING LAYER THICKNESS

CURRENT SITUATION

- Uneven distribution of layer thickness on old roads
- Measuring thickness with GPR in combination with FWD
- Often inaccurate thickness data of unbound layers

MOVING FORWARD

- Road Doctor Survey Van to start measures in 2020
- Improving accuracy and efficiency (less cores for calibration)
- One run two-point measurements of a pavement thickness in a lane
- 3D surfaces suitable for design engineers and quality check

source: www.roadscanners.com
MEASURING SKID RESISTANCE

- ViaFriction to replace old SRT-3 in 2020
- Quality check of asphalt pavements & monitoring skid resistance on network level
- Skid resistance as a parameter for determining road condition (need for resurfacing of existing pavements)

source: www.viatech.no
OTHER IMPORTANT AREAS

Determination of sound absorption/reflection in situ

- Quality control according to EN 1793-5 / EN 1793-6
- Investigating decrease of functionality of noise barriers over time

Monitoring bridge condition

- Real-time monitoring of bridges and viaducts during static or dynamic tests or under natural traffic

Measuring retroreflection of vertical signs

- Sign inspection at fixed periods

source: www.bqttech.com