State-of-the-art in monitoring road condition

ir. Margo Briessinck
Agency for Roads and Traffic, Flanders (Belgium)

&

Dr. Michael Moffatt
Australian Road Research Board (Australia)
State-of-the-art report

Técnicas de vanguardia para la supervisión del estado de la carretera y la interacción carretera/vehículo
Why measure road condition?
Why measure road condition?
Why measure road condition?

- assess construction quality
- benchmark current condition
- predict of future condition
- report asset value
- report key performance indicators
- assess service providers
- guide future maintenance needs
Why measure road condition?
Structure of the report

- parameter definition
- measurement methods
- indicators
- references
Scope of the report
Surface evenness
Surface texture

© Road Research Institute, Lithuania

© Australian Road Research Board
Friction
Traffic noise

© Müller-BBM, Germany
Rolling resistance
Surface defects

- cracking
- potholes
- delamination
- ravelling
- edge break
- bleeding
- spalling
- patching
- polishing
Surface defects – survey methods

© Québec Ministry of Transport, Canada

© Australian Road Research Board

© Australian Road Research Board

© Québec Ministry of Transport, Canada
Structural condition
Deflection measurement
Traffic Speed Deflectograph

developed by Greenwood Engineering
Quality management
Quality management

- sensor & equipment
- collection process
- data processing & verification

© Australian Road Research Board
Single pass data collection
Single sensor – multiple data

• e.g. Pavemetrics LCMS
  • cracking
  • deformation
  • surface defects

• integration of 3rd party sensors

© Australian Road Research Board
Intelligent Pavement Assessment Vehicle
Case studies

1. Quality control of data

2. Potential prioritisation of repairs using WLP parameters

3. Development of construction acceptability limits

4. Use of probe vehicles
Next report...

Update
- evenness bicycle paths
- friction
- rolling resistance
- noise: OBSI
- TSD
- light-weight deflectometer
- case study: FWD for quality control

New
- imaging capturing technology
- PPS, 3D laser
- traffic speed drainmeter
- ground penetrating radar
- in-vehicle technologies
- ...
- case studies
Thank you!

Contact:

margo.briessinck@mow.vlaanderen.be
michael.moffatt@arrb.com.au

#PIARCseminar