

## TAKE CONTROL OF PAVEMENT ASSESSMENT:

# Using better data for optimal road maintenance decision-making

### The challenges

Conventional road pavement condition surveys are traditionally performed manually. In general, these inventories are expensive, error-prone, slow, resource-intensive, and therefore, infrequent. Other key challenges include:



Maintenance funding **is typically insufficient** for long-term sustainable road asset management with the existing decision-making tools currently in use.<sup>1</sup>



**No visual validation data exists** to support programming and making data-driven decisions.



**Data is critical** for capital improvement plans and maintenance budgeting, yet accurate and up-to-date data is hard to obtain.



Road users may report pavement deterioration, but the **overall consumer experience remains poor** and more extreme remediation efforts are required.

**The solution? Pavement condition analysis requires high-quality data and a reliable methodology to support decision-making.**

<sup>1</sup> <https://www.infrastructurereportcard.org/wp-content/uploads/2017/01/Roads-Final.pdf>

### Vaisala RoadAI: Effortless data collection

Unlike traditional pavement condition assessment, RoadAI is a user-friendly tool that enables the operator to collect data using a smartphone without the need for the presence of a second person in the vehicle.



Easy-to-read, comprehensive, accurate, **granular data**



**4X faster** data collection and processing than other methods



**1/2 the price** of traditional pavement analysis



**Objective and consistent** in analyzing pavement conditions

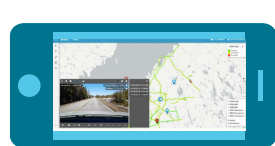


Tested and proven; **over 100,000 road miles** inspected globally

**Existing process: from survey to resurfacing takes 2-4 years. RoadAI process: From Computer Vision “survey” to surface dressing can take just 6 months to 1 year.**

### Data analysis with artificial intelligence

RoadAI combines effortless mobile data collection with artificial intelligence analysis.



1 phone



A fleet vehicle



Artificial intelligence analysis



**The right data for the right decision**

- Visual data is scanned for defects using artificial intelligence and assessment can be verified by the user from the accompanied visual data.
- Automation and machine analysis remove human error and subjective assessment.
- The system detects multiple different defects including both severe and moderate defect types.

#### Defect categories

##### Cracking

- Alligator
- Longitudinal
- Transverse
- Wheel track

##### Potholes

- Minor
- Moderate
- Severe

##### Fretting

- Moderate
- Severe

##### Other Defects

- Settlement or subsidence
- Edge deterioration
- Bleeding
- High friction surface and surface deterioration

#### Fixes

##### Sealing

- Longitudinal
- Transverse

##### Patching

- Area
- Spot

### Data-driven decisions

With better pavement condition data comes better decision-making. RoadAI empowers users to:

- Increase efficiency of data collection
- Prioritize road maintenance projects
- Optimize maintenance budgeting
- Reduce the cost of pavement surveys and resources
- Save time recording network conditions and exiting vehicles
- Improve road user experience
- Support third-party claims with concurrent data