Real-time Data from Digital Road Inspection with Connected Cars

SCAN ME

The i-Probe Advantage

Predictive Maintenance	Rapid road condition data collection over a given time period. When analyzed holistically, this historic data **shows deterioration severity and rate over time** which allows for more **accurate inference**. This consequently enables more **efficient budgeting and resource allocation**.
Cost Reduction	Early detection of road distresses ***before*** **advanced deterioration** saves time and resource allocation.
Efficiency	Data collection vehicles can be operated from 6 mph **up to 70 mph** without sacrificing sensory measurement accuracy. Even large road networks can be **covered multiple times periodically with minimal staff**.
Innovation	**Custom-developed algorithm** converts road condition data into deterioration mapping and categorization. **Unique system integrating cameras and physical sensors** with custom dashboard capturing location and historic data.
Data Accuracy	Sensor detection system and geolocation mapping **accurate within few meters**.
Expert Analysis	**Team of transport engineers and consultants process and analyze data** into: types of distress, deterioration severity levels and priority, actionable maintenance / rehabilitation steps, and additional value-added analysis customized for the user.
Partnerships	Strategic partnerships with large automakers enable broad access to connected cars to allow for **more precise and reliable data**.

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SCAN ME

The i-Probe Advantage:

Greater Efficiency, Cost Savings, Quality Information

The i-Probe Advantage in Data Integrity

In multiple survey trials of the same road segment, i-Probe detection results* were **statistically similar** to the outcomes of a conventional inspection vehicle using **International Roughness Index (IRI)**.

In statistical precision and recall trials, the i-Probe system of road deformity detection (car built-in sensors and data processing algorithm) correctly identified and categorized road deformities with **over 70% accuracy**. When coupled with the integrated dashboard video monitoring function, **detection achieved 100% accuracy.**

*Road Surface Monitoring (RSM) mean value

The i-Probe Advantage in Value Creation

Other companies use connected car data to capture road conditions but only i-Probe **as a service** can:

- Predict road deterioration from historical data inference
- Verify sensor data with integrated video capability
- Provide rapid reporting (70 mph operation) with minimal staff (1 driver only)
- Achieve up to 100% accuracy in detection results
- Interpret raw data into actionable intel by pavement consultants

i-Probe's consultant team of pavement specialists interprets data into actionable intel.

The i-Probe Advantage for Road Management Agencies and Municipalites

Average road surface condition monitoring is carried out by visual inspections which are subjective and inconsistent. i-Probe offers a **quantifiable value scale for condition monitoring** allowing collection of **objective, uniform, and consistent data**. For road management agencies and municipalities, i-Probe also enables:

- **More accurate road maintenance plans**
- **Predictive inference in future deterioration**
- **Greater informed action**
- **Rapid, cost-effective, quantitative road data**
- **Value-added outsource solution to road inspection**

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