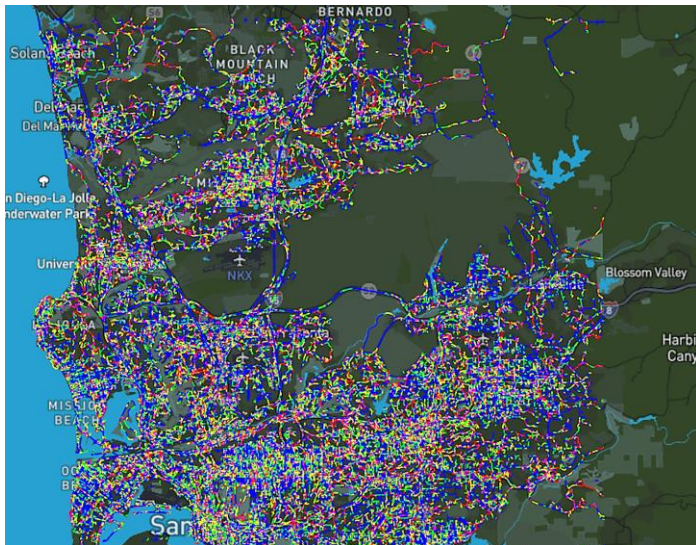


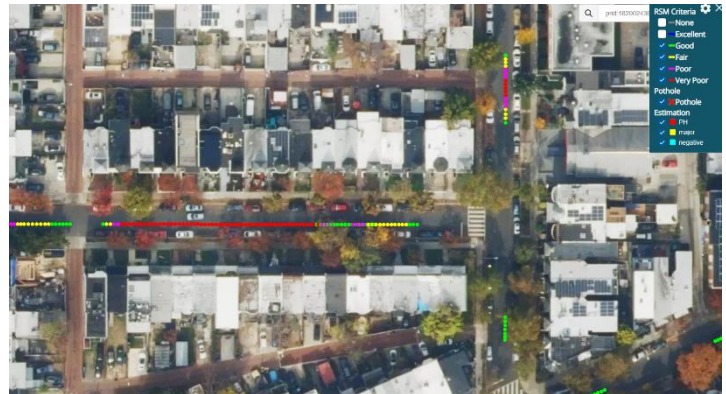
Concept

i-Probe’s Road Condition Monitoring Big Data Analytics Service (RoCoMo-BDAS) applies the power of Big Data to road maintenance.

We leverage road roughness data collected from the ever-increasing tens of thousands of connected vehicles on the road today. When our unique algorithms are applied to the data, we can now determine pavement condition insights and generate mapping to a high degree of accuracy.



RoCoMo-BDAS wide-area mapping of San Diego region.



Sample of pavement conditions on close zoom satellite basemap view.

For greater results, use with i-Probe’s Customized Inspection Vehicle service. Learn more here:

Advantage



Wide area coverage

RoCoMo lets you capture data from a single corridor to entire regions in an instant. Specify a time period of data capture for more accurate readings or to compare historic data trends.



No hardware, no field inspections

Let road users do the inspections for you. Reduce costs of maintaining equipment assets or staff deployment. The data of an entire road network can be delivered to you without performing a single inspection.



Robust data security and privacy

All data collected and transmitted from connected vehicles are protected by UTM security and stored in AWS cloud systems. Identifiable user data undergoes anonymization.



Consistent and reliable data

RoCoMo’s machine-based detection and algorithms eliminate human subjectivity and error, improving data integrity. RoCoMo enables you to gain insight through trends in consistent datasets.



Flexible and customizable output

Customizable applications for mapping, database, and reporting. Multi-format exporting of data. To an extent, integration compatibility with various pavement management systems.



Value-added expert input

i-Probe’s in-house team of maintenance engineers and consultants process data and prepare value-added analysis customized for each user.

How it works - Elements

A Connected Vehicle (CV) is a regular production vehicle that is connected to the internet and can send information collected by various sensors on the vehicle to a cloud server in real time. Some estimates predict that over 90% of cars on the road will be CVs by 2035. Late model production vehicles today are typically CVs, and the number is only increasing.

i-Probe enjoys a strategic partnership with Honda Motor Company. Through this partnership, i-Probe has limited access to anonymous, secure, and aggregated data on road roughness collected from tens of thousands of Honda CVs in the United States alone. This aggregate raw data can then be analyzed to determine pavement condition insights over any specified time period.

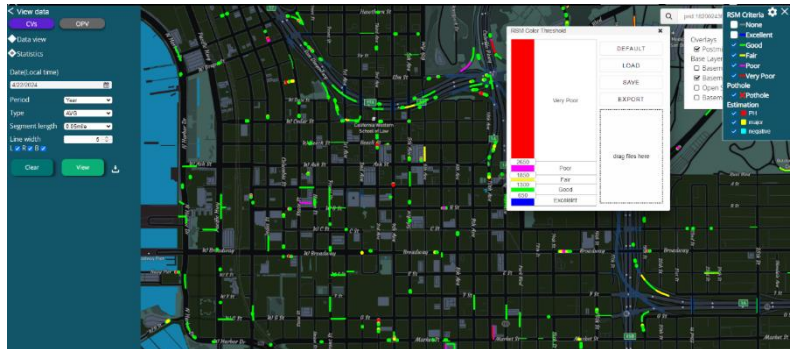
How it works - Process

The sensors, such as the accelerometer, equipped in late-model CVs detect road roughness and vibration patterns. This data is then transmitted in real time to a secure cloud server.

Road roughness data is stored in a secure server, processed, aggregated, and anonymized. Data captured from the target area during the specified time period is extracted for processing.

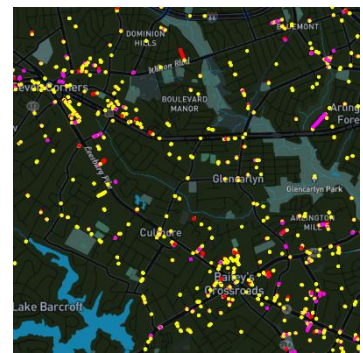
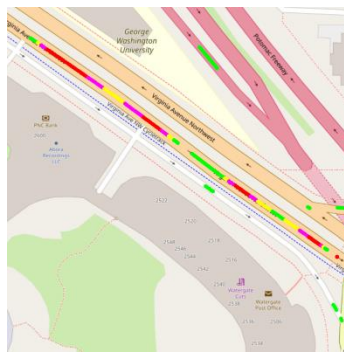
i-Probe applies its unique algorithm to the aggregated roughness data to determine type of pavement defect and severity. This information is then mapped and listed in a user database.

Defect mapping and all data is uploaded to the user side cloud portal. The portal is equipped with a suite of customizable tools and output methods. As a value addition, i-Probe engineers can prepare customized reports for the user that highlight priority information.



Screenshot of RoCoMo-BDAS user side cloud portal interface with sample mapping tools.

Sample mapping outputs



Learn more about RoCoMo-BDAS and request a demo at www.i-probe-inc.com.

