Road Surface Condition Monitoring system

A demonstration experiment of Road Surface Condition Monitoring system using vehicle probe data in America.

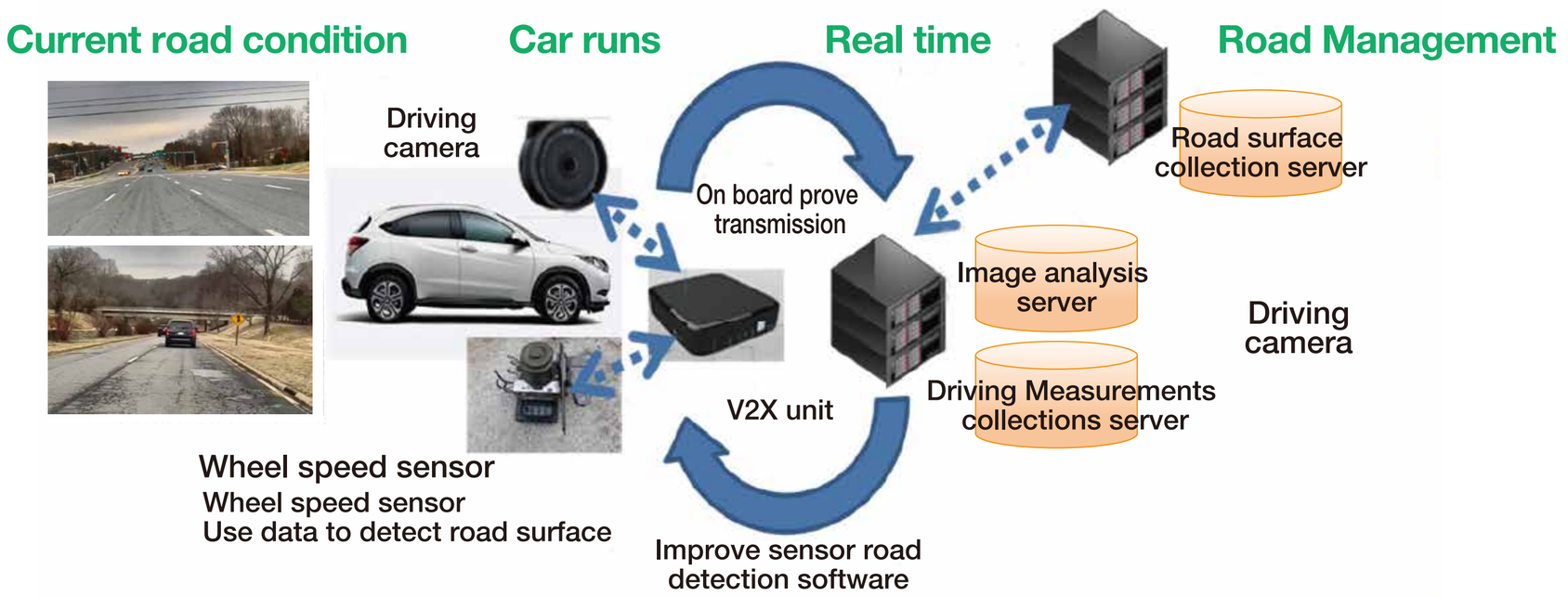
*This survey project was commissioned by Japan Ministry of Internal Affairs and Communications

Purpose / Target

A potential examination of a judgement system of road maintenance necessity, from vehicle probe data (locations, CAN(Controller Area Network) data) helps to analyze flatness of road surface to predict road condition deterioration

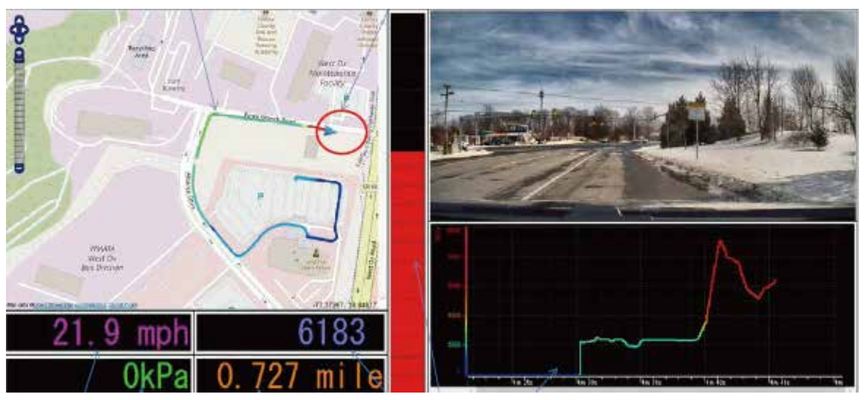
Summary of installations

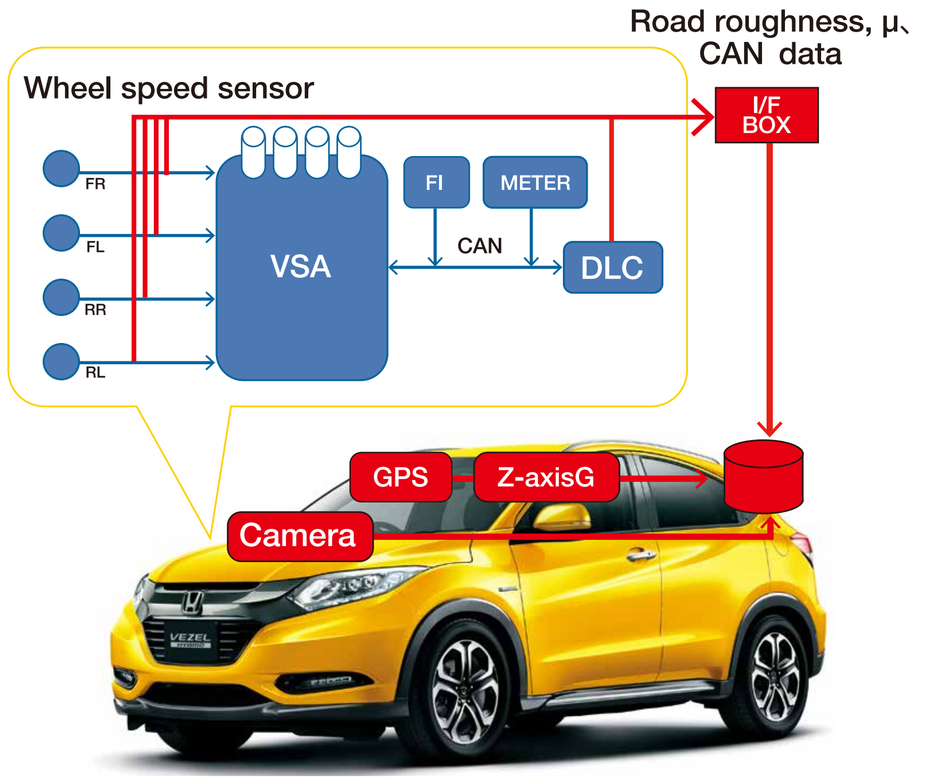
Road surface roughness is detected from data variations of wheel speed sensors and vehicle
The measurement vehicle is equipped with VSA* Wheel speed sensor , vehicle motion sensor and front camera to detect road conditions. sensors, road surface data is transmitted to a server using vehicle communication function with a vehicle positioned data.
Transmitted data is analyzed for deterioration growth to judge the necessity of maintenance.



Function / Mechanism

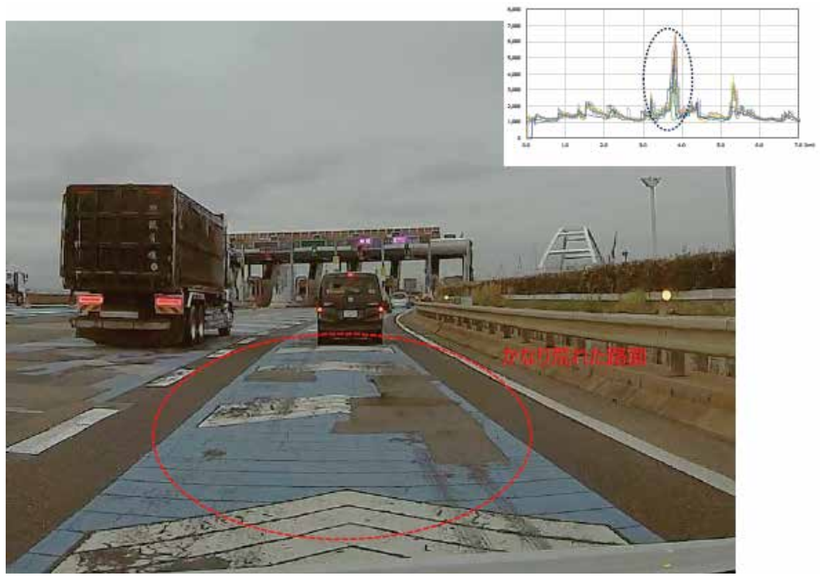
The measurement vehicle is equipped with VSA* Wheel speed sensor , vehicle motion sensor and front camera to detect road conditions.
*VSA: Vehicle Stability Asist





Effect/Performance

Correlation is confirmed between road roughness and examined over 10,000km driving in Japan and the US.



Road condition which has a large roughness

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