Toyota Mobility Foundation to study vehicle data to inform road maintenance inspection in Akaiwa City, Okayama

Akaiwa City, Japan (July 23, 2019) – Together with Akaiwa City, the Okayama Prefecture, Okayama University, and the local Akaiwa City Police, the Toyota Mobility Foundation (TMF) is holding a conference to discuss studying connected-car data to inform road maintenance.

Currently local governments identify road maintenance needs based on observations from their regular patrol that focuses on maintaining safety and security in daily life, preventing traffic accidents, and securing natural disaster evacuation routes as needed. Recently, natural disasters in Japan have caused infrastructure damage that require additional budget and resources, putting a financial strain on local governments.

Some local governments utilize vehicle behavior data and/or images collected from vehicle video cameras to collect information about road surface conditions. These tend to be larger-sized local governments that have sufficient financial resources to cover the cost. Limited financial resources preclude most small- and medium-sized local governments from the ability to utilize such data. These financial limitations combined with the aforementioned need for infrastructure repairs caused by natural disasters have made it more difficult for small- and medium-sized governments to provide proper road inspection and maintenance, thus requiring a solution.

This conference in Akaiwa City focuses on developing a sustainable low-cost system for road maintenance to provide a case study for small- and medium-sized local governments. The study attempts combine connected car data and image data from vehicle video cameras. This combination enables local government to shorten lead time to uncovering dangerous road infrastructure issues. Furthermore, it enables local governments to expand the types of issues they can detect. Currently, only road surface problems are identifiable. In the future, additional issues such as fallen trees and broken traffic signs should be identifiable as well. Finally, other conference topics will include traffic safety, traffic congestion, and safe mobility in the case of natural disasters, among others. This topics and initiatives discussed at the conference aim to lead to safer and more resilient towns.

Outline of the Study

Timeframe:
July 2019 - March 2021

Location:
Akaiwa City, Okayama Prefecture, Japan

Initiatives:

- Collect connected-car data
- Collect images from vehicle video cameras installed on local government vehicles
- Possibly collect existing infrastructure data such as bridges, plumbing, and sewage from the local government administration
- Possibly collect image data from non-profit organizations such as those that support in natural disasters

About Toyota Mobility Foundation

The Toyota Mobility Foundation was established in August 2014 to support the development of a more mobile society. The Foundation aims to support strong mobility systems while eliminating disparities in mobility. It utilizes Toyota's expertise in technology, safety, and the environment, working in partnership with universities, governments, non-profit organizations, research institutions and other organizations to address mobility issues around the world. Programs include resolving urban transportation problems, expanding the utilization of personal mobility, and developing solutions for next generation mobility.

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