

# Publication of a Probe Data Research Report by the Collaborative Research of Japan, the United States, and Europe

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## 1. Introduction

“Probe” is a term that means exploration and investigation. In the road traffic field, the data obtained from various on-board sensors of car (probe data) is extracted outside and then processed and analyzed to utilize it widely for services in the road traffic field. In our country, automotive manufacturers collect the travel record data from car navigation systems (travel path) to utilize it for traffic congestion forecast services of each manufacturer. In addition, the Ministry of Land, Infrastructure, Transport and Tourism collects travel record data and behavior record data (sudden behavior such as sudden braking) through the ETC 2.0 service for use in identifying the locations of traffic congestion and evaluating frequent accident locations.

The Ministry of Land, Infrastructure, Transport and Tourism, the United States Department of Transportation (US-DOT), and the European Commission (EC) have been sharing information on ITS (Intelligent Transport System) for a long period of time based on a memorandum of cooperation. Among such information, they have been conducting a research on probe data as one of the priority fields and published “Assessment Report of US-Japan-Europe Collaborative Research on Probe Data” on the website of the US-DOT in November 2016. The collaborative research on probe data was initially conducted between Japan and the United States, and these two countries prepared a joint research report in 2013.<sup>2,3</sup> After that, the European Commission participated in this joint research, and the research results were summarized in this trilateral report.



Figure-1 Outline of ETC 2.0

## 2. Report

This report was published as a 172-page document summarizing the conditions in Japan, the United States, and Europe concerning the definition of probe data, conditions of probe data in each country, major use applications, prioritized use applications, relationship with international cooperation field such as international standards, and future development. Since this document is written in English and can be downloaded from the website of the US-DOT, it serves as a useful reference for developing countries where the probe system has not yet been deployed.



Figure-2 Joint research report

## 3. Conclusion

Probe data is moving from the stage of research to the stage of actual deployment and utilization. Since it is expected to be used to generate look-ahead information for automatic driving (information out of the detection range of on-board sensors such as objects in the direction of travel), we will work to advance further research while utilizing the cooperative relationship among Japan, the United States, and Europe.

For details, refer to the following:

- 1) Website of US-DOT  
[http://ntl.bts.gov/lib/60000/60100/60123/FHWA-JPO-16-326\\_2\\_.pdf](http://ntl.bts.gov/lib/60000/60100/60123/FHWA-JPO-16-326_2_.pdf)
- 2) NILIM document No.820  
[http://www.nilim.go.jp/lab/bcg/siryoutnn/tn\\_nilim.htm#900](http://www.nilim.go.jp/lab/bcg/siryoutnn/tn_nilim.htm#900)
- 3) Website of US-DOT  
[http://ntl.bts.gov/lib/51000/51100/51168/US-JP\\_Probe\\_Data\\_Final\\_Report\\_v8\\_2\\_FHWA-JPO-13-091\\_.pdf](http://ntl.bts.gov/lib/51000/51100/51168/US-JP_Probe_Data_Final_Report_v8_2_FHWA-JPO-13-091_.pdf)